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# Exploring parents' perceptions of preschoolers' risky outdoor play using a socio-ecological lens

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**ABSTRACT**

Outdoor play with its risks is necessary for optimal child development. Increasing attention is being paid to factors influencing children's opportunities for risky outdoor play, with parent/guardian (hereafter parent) perceptions being an important, under-researched topic. This research explored parents' perceptions of preschoolers' risky outdoor play. Interviews were held with 19 parents of preschoolers in Nova Scotia, Canada. Bronfenbrenner's ecological model was used to consider levels of influence related to parents' perceptions of risky outdoor play. A qualitative descriptive approach identified key themes from interviews. Microsystem-level factors influencing parents' perceptions included children's age, size, ability to self-assess, and comfort with risk. Mesosystem-level factors were children's companions and supervision during play. Exosystem-level factors included neighborhood location, perceived safety, and house type. Macrosystem and chronosystem-level factors included how parents' perceptions of weather and season affected children's play, and the influences of higher societal expectations of injury avoidance on children's play over time. Findings can be used to inform strategies to promote children's quality outdoor play through understanding the factors influencing parents' perceptions of preschoolers' risky outdoor play.

**KEYWORDS**

risky play; outdoor play; ecological model; preschool; loose parts; parent perceptions

## Introduction

There is increasing attention, internationally, on the importance of providing children with opportunities for unstructured active outdoor play, given its contribution to their physical, cognitive, social and emotional development, and overall health and wellbeing (Sandseter and Kleppe 2019). In Canada, this growing interest has been fueled by ParticipACTION's Position Statement on Active Outdoor Play (Tremblay et al. 2015) which expresses that, 'access to active play in nature and outdoors – with its risks – is essential for healthy child development' and recommends, 'increasing children's opportunities for

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self-directed play outdoors in all settings – at home, at school, in child care, the community and nature.' The Position Statement was part of a larger national effort towards supporting outdoor play in Canada through interdisciplinary research, policy, and practice partnerships (The Lawson Foundation, n.d.). Notably, the Council of Chief Medical Officers of Health provided a statement endorsing and supporting the Position Statement on Active Outdoor Play (Pan-Canadian Public Health Network 2018). As a result, diverse sectors are aligning their efforts around outdoor play research, practice, policy, and advocacy, with leaders and organizations collaborating intentionally to promote an outdoor play movement across Canada (Outdoor Play Canada 2019).

With this growing outdoor play movement in Canada, there is a need to better understand the role of key influencers in supporting children's opportunities for unstructured active outdoor risky play, hereafter referred to as risky outdoor play. Parents and/or guardians (hereafter parents) have an important role in shaping opportunities for their children to engage in risky outdoor play (Gray et al. 2015). Although studies have explored parental perceptions related to both children's outdoor play and risky play (Boxberger and Reimers 2019; Jelleyman et al. 2019; Little 2010, 2015; McFarland and Laird 2018), a qualitative approach has not yet been used to examine parents' perceptions of preschoolers' risky outdoor play through the lens of an ecological model.

## Background

Physical activity in early childhood is essential for children's physical, cognitive, social and emotional development, and health and wellbeing throughout life (Carson et al. 2017; Timmons et al. 2012). The benefits of outdoor unstructured play for children's growth and development are also well recognized (Sandseter and Kleppe 2019). 'Free play' or 'unstructured play' (hereafter unstructured play) refers to occasions when adults are not regulating children's play or interacting with them, but may be present to supervise (Hoffman 1997). Unstructured play allows children to guide their play based on desires, providing the opportunity for children to develop their own interests (Viega, Neto, and Rieffe 2016). A recent paper highlighted the significant contribution of time spent outdoors to children's overall level of physical activity and recommended that more physical activity interventions involve time spent outdoors (Larouche et al. 2019).

Risky play includes thrilling and exciting forms of physical play that involve uncertainty and have the potential for physical injury (Sandseter 2009; Sandseter and Kleppe 2019). There are eight categories of risky play: play with great heights; play with high speed; play with dangerous tools; play near dangerous elements; rough-and-tumble play; play where children can explore alone; play with impact; vicarious play (Kleppe, Melhuish, and Sandseter 2017; Sandseter 2007, 2009; Sandseter and Kleppe 2019). During risky play, children explore their boundaries, learn about their own capacities through mistakes, and develop persistence and resilience (Nikiforidou 2017). The value of risky outdoor play to children's health has been highlighted in a systematic review (Brussoni et al. 2015), appeared in the Position Statement on Active Outdoor Play (Tremblay et al. 2015), is recognized in the Encyclopedia on Early Childhood Development (Sandseter and Kleppe 2019) and is touted by national organizations

such as the Lawson Foundation, the Canadian Public Health Association (CPHA) and Outdoor Play Canada.

Increasing advocacy efforts toward the value of unstructured outdoor play and risky outdoor play have been fueled by historical declines in children's unstructured outdoor play and risk taking during play, in part due to changing communities and societal values (Burdette and Whitaker 2005; Fjørtoft 2004; Karsten 2005). Societal norms have shifted toward greater supervision, and concerns regarding safety and injury prevention are increasingly influencing children's opportunities to engage in risky outdoor play (Karsten 2005; Lee, Macvarish, and Bristow 2010; Malone 2007).

Research has indicated that independent outdoor play is likely more active than outdoor play supervised by parents or other adults, suggesting that parents are a key influencer of children's active outdoor play (Aggio et al. 2017). Parents' perceptions of risk affect their children's freedom for engaging in risky play (Sandseter et al. 2020). Many parents recognize the benefits of risky play and understand it offers the opportunity for children to learn important skills (Jelleyman et al. 2019; Lewis 2004; McFarland and Laird 2018). Changing parental attitudes toward child safety and supervision, and helping parents understand safe risk, however, has been suggested for improving children's opportunities for unstructured and risky play (Murray and Williams 2020; Tremblay et al. 2015; Veitch et al. 2006).

To date, several studies have explored parents' perceptions related to children's outdoor play and risky play (Boxberger and Reimers 2019; Jelleyman et al. 2019; Little 2010, 2015; McFarland and Laird 2018; Sandseter et al. 2020; Vandermaas-Peeler et al. 2019) however, no study has qualitatively explored parents' perceptions of risky outdoor play through an ecological lens. This approach to exploring parents' perceptions of outdoor risky play would deepen our understanding of the influence of parents on children's opportunities for risky outdoor play by providing a new way of understanding the factors that influence parents' perceptions of risky play and how they interact.

## Theoretical framework

Bronfenbrenner's ecological systems theory is a socio-ecological model which can be used to consider the multiple, interacting levels of influence affecting parents' perceptions of risky outdoor play, including the microsystem, mesosystem, exosystem, macrosystem, and chronosystem, described in Figure 1 (Bronfenbrenner 1994). An ecological approach was chosen to capture parents and children's individual characteristics, as well as the broader community, organizational and policy influences on parents' perceptions of risky outdoor play (Glanz, Rimer, and Viswanath 2008). Ecological approaches are useful in health promotion interventions because they provide an understanding of how to use a range of strategies to address issues across multiple levels (National Cancer Institute 2005).

An example of a *microsystem* level influencing factor for why parents might not allow their child to engage in risky outdoor play is the child's age (McFarland and Laird 2018). The *mesosystem* might include interactions between a child's family and their peers, or between their childcare and their family. The *exosystem* could include parents' workplaces or their neighborhoods; factors within these settings might influence a parent's beliefs regarding the safety of their preschooler's outdoor play. An example of the

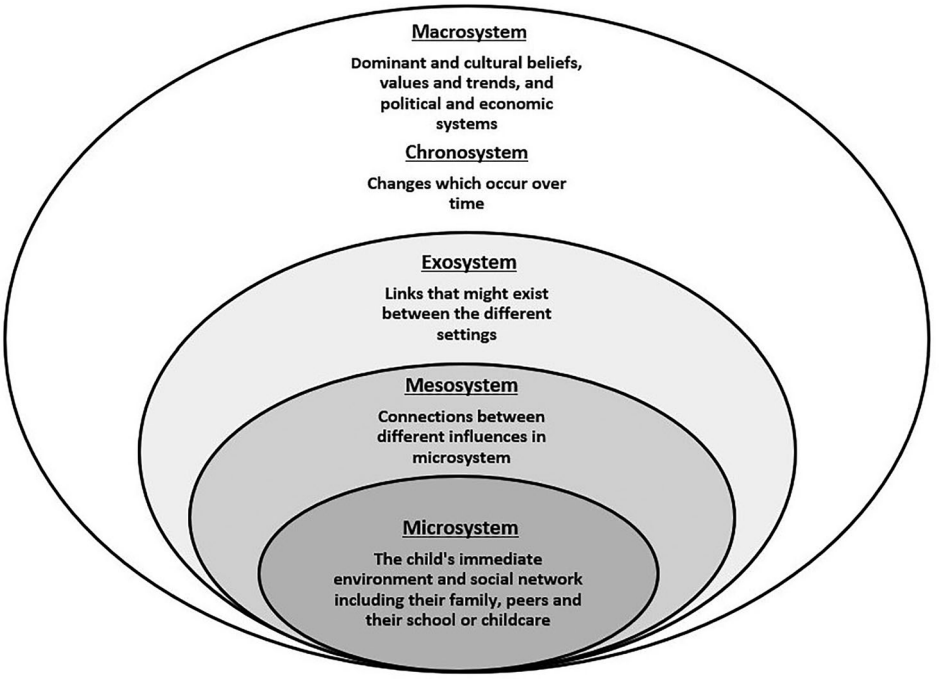


**Figure 1.** Levels of Bronfenbrenner's ecological systems lens.

effect of the *macrosystem* and *chronosystem* is the growing societal trend focusing on children's safety during play and the prevention of physical injuries (Brussoni et al. 2012; McFarland and Laird 2018; Sandseter and Kennair 2011).

Given the importance of parents in shaping children's opportunities for play, it is critical to understand the factors that might influence parents' comfort (or discomfort) in supporting risky outdoor play. This study differs from the studies outlined above, as it aimed to qualitatively explore parents' perceptions of preschoolers' risky outdoor play through an ecological systems lens, and therefore is a unique and important contribution to the literature as it provides a new way of considering the factors influencing parents' perceptions of preschoolers' risky outdoor play.

## Methods

### *PLEY project study design*

This paper reports on parental perceptions of preschoolers' risky outdoor play obtained as part of a randomized, mixed-methods controlled trial implemented in regulated child care centers across Nova Scotia: The Physical Literacy in the Early Years (PLEY) project. The study protocol for the PLEY project has been previously described (Houser et al. 2019) and was registered as a trial with BioMed Central (ID# ISRCTN14058106). Ethical approval for the PLEY project was obtained from Dalhousie University and Mount Saint Vincent University. This paper focuses on qualitative data collected as part of the broader project to explore parent perceptions

of preschoolers' risky outdoor play. One of the purposes of the PLEY project was to increase parents' and educators' understanding of the importance of play in children's health and development.

Given the exploratory nature of this study, a qualitative description approach was used, which allows for a focus on the lived experiences of the parent participants (Neergaard et al. 2009; Sandelowski 2009). The purpose of using a qualitative description approach is for research to produce a description of participants' experiences in everyday language, similar to that of the participants (Neergaard et al. 2009). Qualitative description is less interpretive or theoretical than other qualitative methodologies such as theoretical, phenomenological, or ethnographic approaches, which aim to analyze data or develop concepts in a more reflective or interpretive manner and present findings in different terms than the participants' own language (Neergaard et al. 2009; Sandelowski 2000). This method was appropriate in this study as it allowed for a rich description of parents' perceptions through direct accounts of their experiences (Neergaard et al. 2009; Sandelowski 2009) and allowed the researchers to remain close to the data (Neergaard et al. 2009).

### Data collection

Consenting parents from intervention and control sites participated in semi-structured interviews 6-months following the start of the intervention. Potential participants were purposively identified from participating centers with the support of the director of participating child care centers to ensure participants would be familiar with the PLEY intervention (Patton 2002). The participating centers were all regulated child care centers in Nova Scotia and were diverse in terms of geographical location and socioeconomic status. Parents who expressed interest in an interview were contacted by the PLEY research team, and interviews were arranged following the provision of informed consent. Twelve face-to-face interviews were conducted with 19 parents of preschoolers who participated as part of the broader PLEY project; eight individual interviews and four group interviews were conducted. Sixteen participants were mothers, and three were fathers. The interviews ranged between 20 and 60 minutes, with an average length of 45 minutes. The interviews included questions about their child's typical activity, outdoor play, risky play, and the loose parts intervention; concepts which parents were familiar with as a result of being involved in the PLEY intervention. All interviews involved a facilitator and a note taker and were audio-recorded.

### Data analysis

The interviews were transcribed verbatim and qualitative software (QSR NVivo, Version 11) was used to manage and code the data. Data analysis began with four research team members independently reviewing the same transcripts using open inductive coding. Frequent meetings were held with these four team members to discuss codes and to allow for an open discussion of similarities and differences. After the unanimous approval of codes, a codebook was developed collaboratively to organize and label the data. Following coding, thematic analysis processes were followed, using a collaborative

process by which relationships between codes and trends in the data were identified and discussed (Miles and Huberman 1994; Braun and Clarke 2006). Once the codebook and consistent coding were established, the remaining transcripts were coded by one researcher. Identified codes and commonalities were then categorized according to Bronfenbrenner's (1994) ecological model to describe parental perceptions as they relate to the different system levels. Having a group of researchers involved during analysis to carefully track research activities, processes, and emerging themes, develop a thorough description of the data, as well as sufficient information about the research context, contributed to the dependability, authenticity, credibility, and transferability of the results (Milne and Oberle 2005; Morrow 2005).

## Results

Figure 2 provides an overview of the perceptions framed within an ecological systems lens. The arrows in the diagram reflect the interrelationships which exist within and across the multiple levels.

### *Microsystem*

Two microsystem level factors emerged from the data: children's characteristics and parents' values.

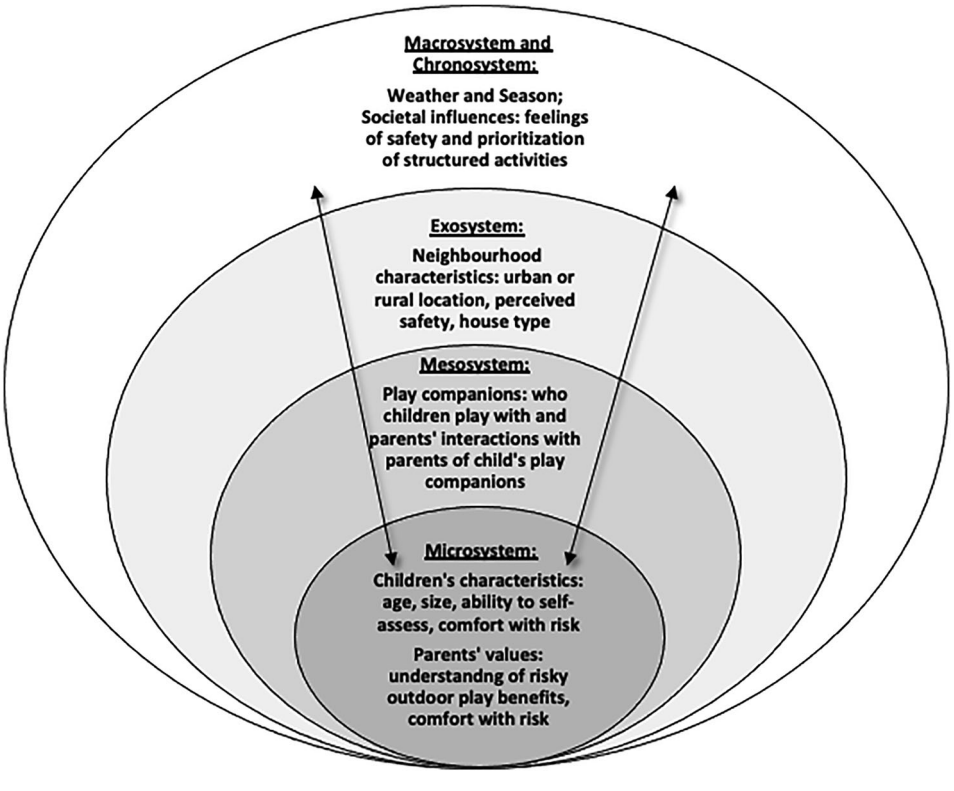


**Figure 2.** Parent perceptions framed within an ecological systems lens.

### *Children's characteristics*

Parents reported that their child's developmental stages and personality traits influenced how they supervised their child's play. Most parents with multiple children compared characteristics of their children. This parent's perception was that her son was attentive and careful when climbing, which made her feel more comfortable in allowing her son to engage in risky play. However, her perception of her daughter was that she is less attentive and aware of her body while she is climbing, which makes her feel more nervous about allowing her daughter to engage in this type of risky play:

> I find it interesting to reflect on the difference between the kids, my son, although inattentive, is always very careful, whereas [my daughter] has this, kind of day dreamy element to her … where I get more anxious … so when she's climbing on boulders, I know that [son] will be [thinking] consistently about where he is putting his feet and his hands, and … I wouldn't think for a second, even when he was five or four, [not] to let him climb. But [daughter's] personality, she would just be like, 'ya-da-la' oh all of a sudden then falling off.

Parents indicated that they trusted their child to self-assess risky outdoor play situations when they thought their child understood their own capabilities. This facilitated their child's ability to become more physically competent. One parent's perception was that her child had become self-aware of her own physical capabilities over time, which in turn made her feel more confident in trusting her child to navigate risky play experiences: 'I find that [child] really learned to really know her body and what she's capable of, so I've really worked hard to just trust that in her.' Another parent who struggled with allowing their child to engage in risky play talked about re-evaluating their perceptions regarding risky play as their child gets older and grows: ' … to re-evaluate for risk taking when he gets older … I think it's just where he's so small I'm just so worried … ' Parents also discussed how the degree of supervision they provided, and their child's comfort level, impacted outdoor risky play experiences. Some parents described their child as a risk taker while others felt their child was risk averse. This parent described their child as not being independent and needing the support of her parents, which has influenced the parent's perceptions of what activities might be risky for the child:

> She's not a big risk taker. And she's not one to want to do things by herself, she always wants us with her even if we try to not hover over her I guess but, she'll do the monkey bars but you have to be right beside her … she's very hesitant to do anything that she thinks she might get hurt.

Another parent described their child as someone who likes to challenge themselves during play, which offers more risky play opportunities: 'She will push her limits if she's tried something multiple times and she, you know, is able to do it, then she'll get bored I guess and push herself a little bit farther.' In the case of both risk favorable and risk averse children, parents varied in their perceptions of levels of supervision necessary during their child's play; they also varied in their encouragement of risky play. This level of variation may have been due to parents' values, another factor identified through interviews.

### *Parents' values*

Parents expressed their values regarding risky outdoor play when they articulated their understanding of risky outdoor play. For example: 'I think just the ability to learn new

things and get comfortable with things, being confident with things and to fail, is obviously, you know, that's something a lot of us people have problems with, accepting failure.' Parents' values regarding risky outdoor play affected whether and how they supported their children to engage in risky outdoor play. Interestingly, the same parents who understood the benefits of risky outdoor play often struggled with allowing their children to engage in this type of play, with one saying: '… I'll intentionally leave the room if they're playing 'cause I know like if they start getting rowdy I'll start hovering … And that benefits both of us, my children and me.' Some parents explained that their child seemed to be more or less risk averse as a result of their own feelings toward risky play: 'He's not much of a risk-taker … I'm not either so I can understand where he gets it from.' In contrast, other parents encouraged their children to take risks, such as encouraging their child to go down a slide.

## *Mesosystem*

Mesosystem level factors identified in data analysis included interactions parents had with their child's play companions and their parents. The connection between these interactions and parents' values (microsystem) affected their child's opportunities for risky outdoor play as well as the child's outdoor play experiences.

### *Play companions*

Parents described playing with their children, their children playing alone, with siblings, and with neighborhood children, under varying levels of supervision. Some parents allowed their child to play outdoors alone with neighborhood children or siblings, or by themselves, and others preferred for their child to only play supervised by an adult.

For some parents, permission for engaging in risky outdoor play was dependent on who the child was playing with. One parent stated that they are fine with their child engaging in risky play alone but not with other children because they perceive play with other children to be more dangerous as they trust their children to be respectful of other children's space but are nervous other children may not behave the same way. This parent provided the following example:

> So if we're at a public playground for example, I am aware that my children are not pushers, you know, they're not going to shove somebody off the edge, off the top of the structure. But other children might and so I get very nervous and I don't go far at all.

Some parents discussed their child exploring and learning about their limits through play with an older sibling: 'I'm sure it helps having an older brother to watch do things like even, you know what's risky for him, what he's comfortable with is riskier for a one or two year old a lot of the time.' Parents also discussed certain activities they allowed their child to engage in based on their play companion, such as crossing the street with an older sibling as they perceived the activity was safer with certain play companions. One parent described the support she felt in her neighborhood, where parents supervised each other's children:

> The greatest thing is we're all aligned as a neighbourhood … We really have an 'it takes a village' mentality and so wherever they are it's just kind of generally assumed that if

> they're in that vicinity then there's a parent just kind of keeping an eye on them every five minutes or so.

The types of play companions and supervisors that parents encouraged were also impacted by parents' values (microsystem) and societal influences (macrosystem). Parents' attitudes towards risky outdoor play, and their feelings of safety in today's society, directly influence who their children play with, and who their children are supervised by.

## *Exosystem*

The main exosystem factor identified through participant interviews were parental perceptions regarding the characteristics of their neighborhoods. These often interacted with parents' perceptions of their child's play companions (mesosystem), along with their values and their child's characteristics (microsystem factors).

### *Neighborhood characteristics*

Parents who participated in this study lived in a variety of locations and neighborhoods of various sizes, which differed in built design and socioeconomic status. The level of supervision or restriction on their preschooler's play that parents felt necessary was connected to their perception of their neighborhood safety. For example: 'We don't feel comfortable letting them go outside by themselves, like we're in the downtown core.' Another parent described their nervousness around the busyness of their street as they perceived the busyness of their street made it a risky play environment: ' … I find our street more busy than the other parents like to admit and it makes me nervous so we only play in the backyard.' This feeling was reinforced by many other parents.

Some parents connected the characteristics of their child and their trust in their child (microsystem) with the restrictions they set on their child's play within their neighborhood. This parent's trust in their child's ability to be responsible in their neighborhood influenced the types of independent outdoor play opportunities they allowed their child to engage in:

> I have the luxury of having a five year old who is fairly responsible, I do have limits on the streets they can go to, they have this particular fire hydrant and the furthest neighbours kids' house so they know they can, as long as they tell me they're going outside.

Another parent explained that she felt that other parents may not allow their children to play outdoors with as much freedom as she allows, however she felt her preschooler could be trusted to make good decisions.

Parents living in rural areas described fewer restrictions on their child's play compared to parents living in other areas. This was similar to parents living in an urban or suburban area describing their child's play in a more rural area such as their grandparent's house in the countryside:

> There's no neighbours, they live on a dirt road, they have a huge yard where it's not a concern if he's wandering around on his own. Whereas we're on a street at home and we have a very small back yard and we don't do a lot around our house just because of the subdivision.

One parent from a rural area reported that their children were often found engaging in risky outdoor play in the woods: 'They're outside a lot … I find them in places in the woods that they're not supposed to be, so hanging off of large rocks and things.'

### Macrosystem and chronosystem

Two main macrosystem-level factors were identified as influencers of children's risky outdoor play: weather and seasonal influences and societal influences. Societal influences were also identified as chronosystem-level factors due to their change over time.

### Weather and season

Weather and season were common topics discussed by parents as affecting their child's outdoor play. In general, parents described their children as less active during the winter and in adverse weather conditions. Parents' perceptions of inclement weather were a common barrier for children's time spent outdoors during rain and snow. Some parents described that weather and season affected their child's outdoor play because of the characteristics of the outdoor space around their home. This parent perceived their yard to be a barrier for outdoor play in the winter as they described it as a space that was not ideal for outdoor play in the snow:

> I can't say we're out very much at home and outside in winter. We live in a small yard so all the snow is blown in the yard and you can't get to anything so I'd say his outdoor time is walking to the car, walking through malls and things when we're shopping on the weekend, that's the only time he actually moves much.

Other parents explained that their own dislike of cold weather was a barrier for their child's outdoor play in the winter: 'As far as me going outside, I hate the cold so they'll go out and play but they won't be out there long … I find that in the wintertime – they're probably less active.' The connection between weather and parent values about prioritizing outdoor play is an example of how the macrosystem is connected to the microsystem.

### Societal influences

Feelings about safety and the emphasis of structured over unstructured play were two societal influences identified by parents that were perceived to influence their children's risky outdoor play. Most parents discussed concerns regarding their child's safety during their play and considered this a reason they supervised or restricted their child's play. This is an example of how the macrosystem and chronosystem relate to the microsystem, as parent values regarding the prioritization of time spent in risky outdoor play are influenced by their feelings about safety. Many parents compared the amount of freedom they had in their outdoor play as a child to the restricted amount of freedom in outdoor play they give their child: '… I feel like as a society and personally that what I did as a kid is so much different than what I would allow [Child] to do, and it's not even conscientiously.'

Parents also discussed the structured and organized activities that their children regularly participated in. A few parents seemed to prioritize structured and organized activities over unstructured play, depending on the season:

> We're very seasonal in terms of what we do. So if I start, like this time of the year, she's in gymnastics, basketball, she's shown an interest in basketball … and in the winter, we'll ski … they swim all year except for the summer when we go to the cottage and it's on the lake so they swim at the lake. They play soccer in the summer and other than that we try to keep it pretty unstructured during the summer so they have one activity and that's it and the rest of it is just playing outdoors.

Another parent discussed her priority to not overschedule her children in activities: 'I find this a tough balance to not overschedule, and super aware of that need of our generation to overschedule activities.' These quotes describe how more restrictive approaches to children's autonomous play and higher societal expectations of injury avoidance and participation in organized activities influence parents' perceptions of risky outdoor play and their allowance of these types of opportunities.

## Discussion

This study explored factors influencing parental perceptions of preschoolers' risky outdoor play. This investigation was novel, as it extended previous research related to parental correlates of children's outdoor play (Boxberger and Reimers 2019) by using a qualitative approach to explore parents' perceptions of children's risky outdoor play. Bronfenbrenner's ecological model was used to organize findings into hierarchical, interacting levels. At the microsystem level, parents spoke about how characteristics of their child (age, size, ability to self-assess, comfort with risk) and their own values (understanding of the benefits of risky outdoor play, comfort with risk) influenced the amount of supervision they provide during their child's play. At the mesosystem level, children's play companions, and parents' interactions with the parents of their child's play companions, influenced parents' support of risky outdoor play. Neighborhood characteristics such as location in an urban or rural area, perceived safety, and house type were identified as exosystem-level influencing factors. Parents' perceptions of season and inclement weather, and societal influences including feelings of safety and the prioritization of structured over unstructured activities that have changed over time, were identified as macrosystem and chronosystem level factors.

Consistent with findings from other research on risky play (Lewis 2004; McFarland and Laird 2018), parents who participated in this study understood the benefits of risky outdoor play. Further aligned with prior research, although parents in this study understood the benefits, some parents struggled with allowing their children to engage in risky outdoor play (McFarland and Laird 2018). They articulated their own values (microsystem) regarding risky outdoor play which connected to their concerns regarding their child's safety in today's society (macrosystem/chronosystem), which is important given the shifting societal values towards prioritizing child safety and eliminating risks (Brussoni et al. 2012; Little 2015; Sandseter and Kennair 2011; Sandseter and Sando 2016). There were overlapping aspects between the different levels of the ecological model as a result of parents' values and actions aligning with societal values of child safety in today's society. Parents also described the societal trend of engaging in more structured than unstructured activities (macrosystem/chronosystem), which was similar to other researchers' findings that sport is often prioritized over free play for developmental reasons (Watchman and Spencer-Cavaliere 2017). Today, notions

around outdoor play have focused on removing or reducing all hazards and possibilities of injury, often overshadowing children's needs for a challenging outdoor physical play space (Sandseter et al. 2017). Although parents in this study seemed to understand the benefits of allowing their children to engage in risky play, their actions often followed the societal values of reducing hazards and possibilities of injury in child play. Shifting societal values to support unstructured, child-directed risky play opportunities for children (macrosystem/chronosystem) and parental values and comfort in allowing their children to negotiate risks (microsystem) is important as children may have a decreased ability to handle fearful situations they encounter in the future if they do not experience challenges in their environment through risky play (Sandseter and Kennair 2011). Risk reframing has been found to be beneficial for disrupting parents' automatic response to risky play and allowing them to take the time to respond to risk and manage uncertainty in ways that support their child's development (Niehues et al. 2013). Additionally, shifting parents' perceptions around inclement weather being a barrier to risky outdoor play is important as this impacted the opportunities that parents provided their children.

Neighborhood characteristics (exosystem) often impacted the level of supervision parents felt they needed to provide while their child played outdoors. Parents who perceived their neighborhood to be busy or unsafe provided more restrictions on their preschooler's play compared to parents who did not describe their neighborhood this way. Similar to our findings, Veitch and colleagues (Veitch et al. 2006) found that traffic and strangers were viewed by parents as hazards in their child's play. Parents discussed their child's play as being supervised by themselves or their partner, or other neighborhood parents (mesosystem). Parents often fear their child may be harmed playing outdoors without supervision (Clements 2004). Parents' trust in their child's play was dependent on their play companions (mesosystem) and their child's characteristics such as their age, and ability to self-assess (microsystem). Other researchers found that parents restricted their children to only play in groups or while supervised by an adult (Jago et al. 2009) and that imposing too many restrictions on children's outdoor play can have negative impacts, including hampering their development (Brussoni et al. 2012).

Parents' perceptions of risky outdoor play may have also been influenced by other systemic and structural factors (e.g. change in play environments over time). In a 2017 study, parents described how the change in typical childhood play environments, such as the design of neighborhoods and the increase in traffic over time, impacted the way they supervised their children's play (Watchman and Spencer-Cavaliere 2017). An important factor that was not discussed by parents in this study, but may have influenced their perceptions of risky outdoor play, is the impact of socio-economic status (SES). Tandon, Saelens, and Copeland (2017) found differences in parental perceptions of outdoor play based on SES; parents with a lower SES were less comfortable with their children engaging in outdoor play. Parents might also be influenced by other external factors such as the media, which has contributed to parents' fears regarding their children's safety during play (Little 2015). An analysis of responses relating to indications of SES was not conducted, but may be an area for future research.

The use of an ecological model provided an opportunity to understand how multiple systems influence parents' perceptions. The application of qualitative description was the

best method of analysis for this study as it allowed the researchers to stay close to participant points of view when analyzing data and presenting findings. Sharing parents' perceptions of risky outdoor play using their language along with sufficient information about the context of the study adds to the transferability of the study. It should be noted that this study was limited to parents with a child in a regulated childcare and to the child care centers involved in the PLEY project. Given that only 60% of the Canadian population attend some type of formal child care (Government of Canada 2019), these findings may not be transferable to those parents that do not access child care. It could also be that our participants may have had an interest in risky outdoor play, suggesting that perceptions would be more favorable. Additionally, parents may have felt obligated to discuss the benefits of risky outdoor play, yet may be less comfortable in actually supporting it.

## Conclusion

This study qualitatively investigated factors that affect parents' perceptions of their child's risky outdoor play. Bronfenbrenner's ecological model was used to organize findings and illustrated the interactions between system-level factors. This ecological lens is novel and is an important contribution to the literature, illustrating the many interrelated factors that impact parents' comfort in supporting preschoolers' risky outdoor play. In particular, there appeared to be an interconnection between parental and societal values across their respective micro, macro, and chronosystems, which have shifted towards prioritizing child safety and eliminating risks in outdoor play. The resulting perceptions regarding the supervision of play were further influenced by neighborhood characteristics and families (across exosystem and mesosystem levels). A better understanding of these interrelated factors will assist early years outdoor play stakeholders in devising strategies that help make parents feel more comfortable in allowing and supporting their children to engage in risky outdoor play. Further research could explore whether modifications to mesosystem and macrosystem levels might lead to changes in perceptions of risky outdoor play, and whether any changes result in greater engagement in this type of play. Research might also explore some of the macrosystem and chronosystem influences identified through this study, such as societal feelings of safety or prioritization of structured activities, in more depth.

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