

Reclaiming the Urban Public Realm as a Site for Children's Play

by

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Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Statement of Contributions

Exceptions to sole authorship:

Chapter 3: Keeping Young Families in the Centre: A Pathways Approach to Child-Friendly Urban Design

Anahita Shadkam is the sole author of Chapters 1, 2, 4, 5, and 6, which are written under the supervision of Dr. Markus Moos. Chapter 3 is co-authored with Dr. Markus Moos and is one of the three manuscripts presented in this thesis. I declare that as the lead author of Chapter 3, I was responsible for the conceptualization and design of the research, data collection, analysis, and drafting/editing of the manuscript. I was also the corresponding author during the process of submission, revisions, and publication of the manuscript. Chapter 3 was published online in the *Journal of Urban Design* on May 17, 2021. Dr. Markus Moos contributed to the research design, analysis, and article writing/editing. Dr. Markus Moos also presented an early version of Chapter 3 at the Association of Collegiate Schools of Planning Conference in October 2018, in Buffalo, New York.

Abstract

Since the earliest waves of Modernist planning and the application of systematic zoning, parks and playgrounds have served as exclusive domains for children's recreational activities within the *rational* city. However, with the prevalence of car-dependent lifestyles, free outdoor play has nearly vanished from urban public realms. The increasing rates of childhood obesity worldwide, along with alarming risks to mental and physical health, underscore the urgent need to reevaluate the childless urban landscape. This dissertation challenges this phenomenon by recognizing the developmental significance of children's engagement in urban life, aiming to reassert the urban public realm as a vital site for children's play and agency.

Despite numerous studies advocating for the promotion of outdoor free play and exploring opportunities for children's independent mobility, a persistent gap remains between research and practical urban policies. Grounded in the UN's Child-Friendly Cities Initiative, this research aims to bridge this divide by drawing on empirical data grounded in the lived experiences of children and emphasizing the reactivation of public spaces for play while promoting intergenerational coexistence.

Informed by relativist ontology, constructivist epistemology, and the communicative turn in planning theory, three key objectives underpin the investigation: to examine how urban configurations impact children's active play; to identify the types of play happening on pathways connecting residential areas to schools and play spaces; and, to explore the linkages between neighbourhood configurations, children's sense of belonging, and perceptions of safety. This research employs critical ethnography and draws on empirical data grounded in the lived experiences of children to address these objectives.

The findings advocate for urban planners to pay equal attention to the quality and configuration of urban pathways alongside parks and playgrounds, emphasizing the urban public realm as a play network and leveraging local knowledge and children's lived experiences to create inclusive, playful, and vibrant urban environments. Moreover, it holds added relevance in the context of the COVID-19 pandemic, offering insights into the impact of crises on public space usage. This research contributes to the broader planning discourse by opening new possibilities for reuniting families with children in the urban metropolitan core and achieving greater social and environmental sustainability goals.

Keywords: Child-Friendly Cities, Play Network, Unstructured Play, Urban Public Realm, Intergenerational Public Space, Child Agency, Socio-Spatial Planning

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My mom and dad, for giving me the life I'm living, and for raising me to the best of their abilities.

Dedication

I dedicate this dissertation to Dara, my nephew, and the children of the world. I dedicate this work to the descendants of those who were taken to the residential schools in Canada, to the children of the survivors of the Holocaust, and to children of Palestine, Afghanistan, Syria, Kurdistan, and Iran whose rights and needs have long been neglected.

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Introduction

Parks and playgrounds have traditionally been designated as the exclusive domains for children's recreational activities within urban landscapes. However, this norm has led to a conspicuous absence of spontaneous, child-led play within the broader public realm of cities. Concerns about safety and the absence of play-friendly environments have made urban spaces seem ill-suited for children's exploration and engagement in unstructured activities. This dissertation seeks to challenge these perceptions by recognizing the developmental importance of children's ability to navigate urban life, fostering independence, resilience, and social competence. This research aims to reassert the urban public realm as a vital site for children's play and agency.

The suburban lifestyle, often seen as more conducive to raising children due to larger living spaces and access to private yards, has contributed to the migration of families away from urban cores. To reinvigorate the urban public realm as a vibrant space for all age groups, including children, it is imperative to expand play opportunities beyond the confines of designated spaces and incorporate playfulness into the very fabric of the city. This shift can foster social inclusion, environmental sustainability, and urban vibrancy by reuniting families with the heart of metropolitan areas.

My perspective is influenced by a relativist ontology and constructivist epistemology and is informed by my childhood experiences. I grew up in Tehran, a densely populated metropolis in Iran. For urban children like me, access to shared yards was usually available but the prevailing apartment living culture often discouraged us from using these spaces for active play as it could disturb neighbours. Surrounded by the dominant societal beliefs about the risks of playing outdoors for younger children, especially girls, and an overprotective mother, I spent most of my childhood in institutions nurturing my creativity and literacy while my physical and social competence were being neglected. In light of the contemporary growing literature about the challenges faced by urban children in accessing safe and stimulating play environments, my personal experience became the motivation to conduct this research.

While numerous studies have explored the concept of reactivating public spaces for play and promoting intergenerational coexistence, a gap persists between theory and practical application in urban planning. This research seeks to bridge this gap by drawing on empirical data grounded in the lived experiences of children, offering insights into how physical configurations, socio-cultural

influences, and personal preferences converge to shape children's interactions with urban environments. The overarching objective of this research is to enhance the understanding of how the urban public realm functions as a site for children's play, and ultimately, the playful being of people of all ages.

In this research, I use the term “public realm” to refer to open spaces in between buildings (e.g., empty lots, green spaces, etc.) and pathways connecting different destinations. Therefore, I consider pathways as a part of the public realm. Streets, sidewalks, laneways, trails are common examples of pathways within the public realm. Pathways can be used by pedestrians only or be shared between cars and pedestrians. Three key research questions underpin this investigation:

1. How does the physical configuration of the public realm influence children's free play opportunities in high-density versus low-density residential neighbourhoods?
2. What are the types and quality of play happening on the pathways connecting residential locations to schools and local playspaces?
3. What are the linkages between the neighbourhood configurations, children's level of local belonging, and overall perceptions of safety?

This research is informed by and contributes to the UN's Child-Friendly Cities Initiative (CFCI), with a focus on children's rights to play and to participate in the process of creating and maintaining playspaces. The study draws on the broader discourse of communicative planning theory and emphasizes the importance of critical ethnography in creating urban planning knowledge. Additionally, I borrowed conceptual models from environmental psychology and developmental studies to identify research questions and objectives for data collection. I relied on the seminal work of Roger Hart, children's Phenomenal Landscape Model, which elucidates the building blocks of children's experiences within the public realm, including places, pathways, and territorial range. I also use Moore and Young's ecological model of childhood, which is a take on Bronfenbrenner's Ecological Systems Theory of Human Development which guides the investigation into the intricate dynamics between children, the physical environment, and societal influences.

This dissertation assumes added relevance in the context of the COVID-19 pandemic, offering insights into how crises can impact people's use of public spaces. Furthermore, it seeks to redefine key theoretical concepts, such as territorial range, making them more attuned to

contemporary urban lifestyles and configurations. In an era characterized by car-dependent living and heightened concerns about child safety, these reconceptualizations are essential for better understanding and designing urban environments that cater to the diverse needs of children. Planners must pay as much attention to the quality and configuration of urban pathways as they do to parks and playgrounds to compensate for limited open spaces in compact urban neighbourhoods. The required knowledge for this endeavour must at least partially come from the local knowledge and lived experiences of children in different locales.

This dissertation is presented in six chapters including three manuscripts.

Chapter 1 presents the research background. The research objectives and questions are provided followed by an overview of the relevant literature. The review is divided into three sections: the concept of play and childhood; the history of playspaces in relation to children's agency; and, realizing the gap in contemporary urban planning experiences in urban environments.

Chapter 2 is dedicated to research design and methods. I present my ontological and epistemological assumptions before providing the theoretical frameworks that shaped my research questions and methodological choices. The Phenomenon Landscape Model and Socio-ecological Model that explain children's experiences in outdoor environments are detailed. Methods are explained in three sections corresponding to the three stages of data collection throughout this research. Lastly, I outline a few of the challenges of working with children and the lessons I learned from them.

Chapters 3 through *5* encompass manuscripts, each addressing one of the research questions. Chapter 3 answers to "how does the physical configuration of the urban public realm influence children's active free play in high-density versus low-density residential neighbourhoods?" This manuscript outlines the importance of pathway design in creating child-friendly cities by examining and comparing spatial configurations of two youthified and two family-oriented neighbourhoods in Portland, Oregon.

Chapter 4 is a manuscript that investigates "the types and qualities of play happening on the pathways connecting residential locations to schools and local playspaces." The case study is Thorncliffe Park neighbourhood in Toronto. The discussion of this chapter revolves around the environmental and social factors influencing active free play within the public realm. Empirical data based on the participants' lived experiences are presented throughout the discussion.

Chapter 5 is another manuscript written based on the Thorncliffe Park case study. This manuscript outlines “the linkages between the neighbourhood configurations, children’s level of local belonging, and overall perceptions of safety.” Chapter 5 uses a wide range of evidence to illustrate the complex relationship that exists between the physiographic and social realms of children’s outdoor experiences, bringing together what was discussed in Chapters 3 and 4 in one place.

Chapter 6 concludes the thesis by summarizing the key research findings corresponding to specific research questions ranging from the analysis of the physiographic space (presented in Chapter 3) to understanding the day-to-day play experiences within a triangle of home, school, and playground (presented in Chapter 4), to comprehending the linkages between the physiographic and social spaces and their broader influence on the social construct of childhood (presented in Chapter 5). Subsequently, the contributions of this study to urban planning theory and practice are discussed along with the study’s methodological limitations. I close by restating the research contributions and summarizing implications for future child-friendly planning and design.

Chapter 1 Overview of Literature, Research Philosophy and Theoretical Lens

“The desire to play is fundamentally the desire to be” (Jean-Paul Sartre 1969).

Sartre’s quote lays the ground for asking what *play* and *childhood* mean. Aitken (2001) and Katz (2008) explain that childhood is a social construct and the general understanding of it (and arguably play as a child-associated activity) directly influences social changes. Most of us, adults, have witnessed children playing and we have all been one. Children constantly learn and grow through play. To be a child is to be a human. To play is a way of understanding who we are, what and who surrounds us (Sicart, 2014). Human beings regardless of their age, explore and experience, destroy and create, question and explain, and constantly define and redefine themselves. Do we, humans, ever stop growing? Do we ever stop desiring to play?

Play might be perceived as an act associated with childhood, sometimes the opposite of work (a serious and functional behaviour) and sometimes mimicking work in a less serious and logical order (Smith & Pellegrini, 1998). But play and work are often complimentary rather than contradictory (Murnaghan, 2019). One way to attempt to define play is to distinguish between play and playfulness. Sicart (2014) explains play as an activity with certain attributes. Play is contextual, purposeful, creative, or disruptive, and can take many forms or even overlap with one’s work (Sicart, 2014; Sutton-Smith, 2009). Playfulness is an attitude that can be associated with any activity. In fact, play usually has a playful characteristic, which is what may be perceived as opposite to serious work. However, one can do work with a playful attitude (e.g., delivering a business pitch with a fun presentation) if it does not interfere with the purpose of the activity. Therefore, playing is more than being playful or simply having fun.

In this dissertation, I focus on the creation of spaces that encourage playfulness in the city as opposed to creating playspaces. With that, I intend to create an understanding of the necessity of acknowledging children’s agency and active role in shaping society. According to Holloway & Valentine (2005, p. 4), childhood is commonly perceived as a category of minorities such as disability, race, and sexual orientation. This categorization is unfortunately reflected in research ethics guidelines which bound children’s participation and competency to their caregivers’ consent. While these ethical considerations are to protect children’s well-being throughout research, they inevitably

cancel some of the voices to hear (Holt, 2004). Alternatively, scholars argue that childhood must be seen as an independent social notion, not as adults in the process of becoming (Alparone & Rissotto, 2001; Cook, Whitzman, & Tranter, 2015; De Visscher & Bouverne-de Bie, 2008; Gillespie, 2013; Hanssen, 2019). In this regard, Skelton (2008, p. 23) asserts the importance of using accurate terminology when dealing with social constructs. In her research, she uses the word “young people” instead of younger people to avoid referring to childhood as a transitional life stage. But it is important to know that childhood as a complex “ideology” has changed over time and space (Valentine, 1996, p. 65), and so have playspaces (Frost, 2010).

1.1 Negotiation of Children’s Agency Over Time and Space

Play is vital for children’s growth and well-being. Historically, children’s quality of life has been influenced by events such as industrialization, rapid urbanization, deindustrialization, technological advancements, etc. Besides changes in city structures, socioeconomic and cultural factors, also shaped trends in play and access to playspaces. Understanding how play contributes to children’s development has also evolved. However, the changes in the settings of playspaces did not always directly reflect the benefits of play for the growth and well-being of children (Frost, 2012). In this section, I overview these historical changes summarized in the timeline illustrated in Figure 1.

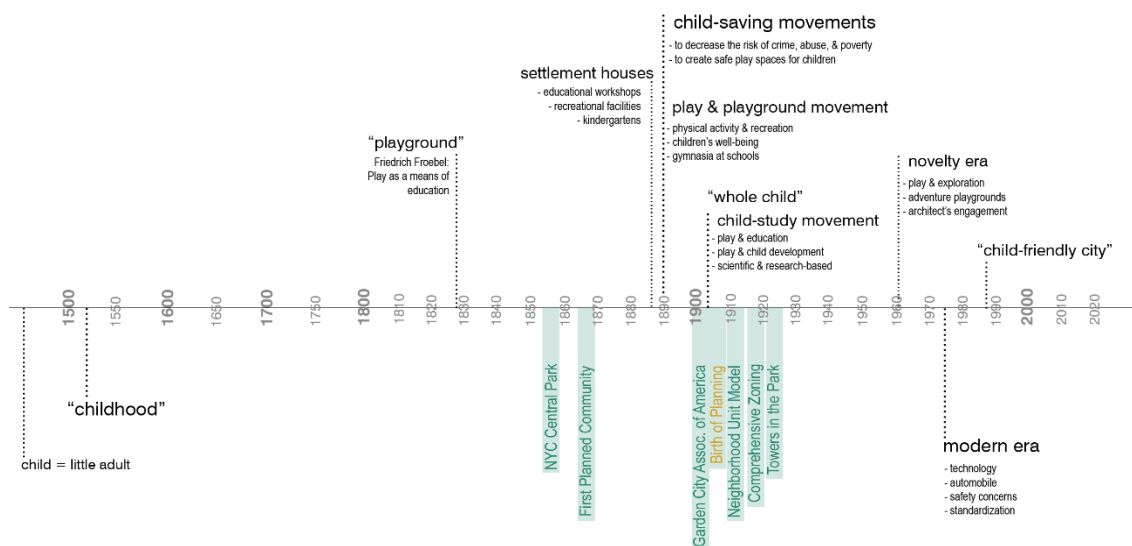


Figure 1 A timeline showing the changing notion of childhood and play in relation to changes in planning approaches and movements. (Source: Anahita Shadkam, 2019).

1.1.1 Children of Industrial West

Friedrich Froebel coined the term playground in the 1820s and introduced play as a means of education (Frost, 2010), a playful approach to learning (Murnaghan, 2019). Half a century later, the first playgrounds were built in industrialized North America as a part of the *child-saving movements*. Their initial purpose was to clear children from the streets to reduce chaos and to protect children from the increasing rates of poverty, crime, and abuse. These early playgrounds were fenced outdoor spaces within the city with restricted access, adult supervision, and educational programming (Frost, 2010; Murnaghan, 2019). Following the *child-saving movement, play and playground movements* forever established playgrounds as crucial institutions in every child's life. Isolated from the urban fabric, fenced playgrounds became culture-producing factories. Children of mostly working-class and immigrant families were taught basic manners of urban living and kept separated from the adults' realm until they were ready to behave like them (Frost, 2010, 2012; Goerisch, 2016; Murnaghan, 2016).

In the isolated playgrounds, children's programs and activities were divided based on race, gender, and age. Activities were designed to promote the ideal American identity through gender roles and social status. For instance, they prepare girls to become responsible mothers, boys to become powerful leaders, and children of non-white ethnicity to prepare for the workforce (Goerisch, 2016; Janovicek & Parr, 2003). Children were also sometimes forcefully removed from communities because of supposed right ideas about how to live. The Residential Schools in Canada are examples of these practices with detrimental consequences (Janovicek & Parr, 2003). Overall, these hegemonic perspectives exposed children to a culture of segregation (Gagen, 2007 in Murnaghan, 2013).

In the early 20th century, an increasing interest in uncovering child development in relation to types of play led to the formation of the *child-study movement*. Founders of the movement advocated for the idea of "whole child" correlating play to all aspects of physical, social, mental, and emotional growth. The work of researchers in this era produced a valuable body of knowledge in various fields, e.g., education, physical health, and psychology (Frost, 2012, p. 117). Informed by these studies, games, educational tools, and play equipment are advanced to facilitate the development of diverse skills at different stages of childhood. Programmed activities – i.e., educational play in designated spaces - were now reinforced by scientific data (Frost, 2012; Goerisch, 2016; Holloway & Valentine, 2005; Murnaghan, 2019). Simultaneously, the application of *Comprehensive Zoning* in the 1920s was

another step forward in separating children's and adults' spaces. Organized activities have remained widely accepted in children's education, even to date.

In the mid-20th century when architects engaged in the child-study movement unstructured play was reconsidered in the form of adventure play, encouraging children's creativity in playing with loose parts as opposed to fixed play equipment (Atmakur-Javdekar, 2016; Frost, 2012). Adventure playgrounds were created across Europe and later in North America to mimic construction sites or junk yards. The architects' contribution was not limited to the shape and function of the playgrounds and play equipment; their findings and innovation found their way toward city planning (see e.g., the work of Aldo Van Eyck and Herman Hertzberger in the Netherlands). They observed children's play behaviours within the natural and built environment, conducted qualitative studies at different-scale, and revealed meaningful findings about children's unstructured play in urban environments (see e.g., studies by Colin Ward, Roger Hart, Kevin Lynch, Claire Cooper Marcus, and Robin Moore). These efforts were parallel to planners' increasing recognition of bottom-up and community-based planning (Valentine, 1996b) which were partly, but not exclusively, driven by Jane Jacobs.

1.1.2 Children of the Globalized West

Overall, accommodating unstructured play has become challenging after technological advancements in the late 20th Century. Changes in the built environment due to higher-density development and car-oriented design, along with the production of manufactured toys and computer games, led children to spend less time playing on their own (Katz, 2001). Safety concerns were other oppressing factors. Increased traffic interactions and instances of children's deaths in car accidents created hesitations for freedom of play among caregivers (Valentine, 1996a; H. Woolley, 2008). Parental approaches were also changing under the influence of media and warnings about strangers' dangers in public spaces and highly publicized incidents of kidnapping, in North American and European cities, particularly in the 1980s and 90s (Hillman, Adams, & Whitelegg, 1990; Valentine & Mckendrick, 1997). Malone (2007, p. 514) refers to children born in this era (including myself) as the "bubble-wrapped generation." Even play equipment was standardized to decrease the risks of injury.

It is no surprise that not too many Adventure Playgrounds have survived to date, especially in the USA, as caregivers become more intolerant to potential risks of injury during play (Frost, 2010, 2012; Niehues et al., 2013). Despite awareness of the benefits of active free play, many more caregivers began limiting children's independent movements in public spaces. A "child-protection

industry” was created to address the growing anxiety of caregivers, mostly the middle classes (Katz, 2001, p. 48). From baby monitoring gadgets to diverse educational and recreational institutions, caregivers were provided with assistance to assure children’s safety. Attending extracurricular activities required chauffeuring children among multiple destinations across the city, visualized as “island-hopping” (Karsten & Vliet, 2006, p. 152). Due to the prevalence of a car-dependent lifestyle among middle-class families, the island hoppers spent a good deal of time daily in the backseat of the car (Karsten, 2005; Malone, 2007) and became more prone to a sedentary lifestyle and its consequences (e.g., higher rates of obesity and physical incompetence). I believe that the term “island-hopping” well suits the suburban living style and its consequences on environmental and social sustainability in general and should not be limited to describing children’s daily mobility patterns.

Constantly chauffeuring children in an attempt to shield them from perceived or actual risks may inadvertently expose them to greater dangers. Firstly, driving private vehicles not only adds to traffic but also raises the potential for hazardous interactions for children navigating public spaces. For example, congestion near schools due to parental chauffeuring can escalate accident risks. Moreover, overprotection hinders children’s opportunities to develop crucial social and mental skills required to navigate real dangers in public spaces (Christensen & O’Brien, 2003; Frost, 2006; Katz, 2001, 2008). Consider a child always supervised to avoid interactions with strangers lost in a park. How would they stay calm, and ask for help, and who would they trust? These children may find themselves ill-equipped to respond appropriately when faced with actual threats. Ultimately, an overly protective approach may compromise the very well-being it aims to preserve.

Children today spend more time than ever in organized sports and institutionalized activities. Studies from the 1990s in the USA (Hofferth & Sandberg, 2001) estimated that children spent 50% of their discretionary time after school in unstructured play, some 25 hours per week. This is three times more than the time they spent on structured play weekly, which is approximately 8.5 hours. These numbers are in line with other studies from the UK, Canada, and Australia done around the same time (Bianchi, 2000; Craig, Powell, & Smyth, 2014; Fisher, McCulloch, & Gershuny, 1999). A more recent study from Norway (Nordbakke, 2019) also reveals a 4% increase in the time children aged six to 12 spent weekly in organized leisure activities from 2005 to 2013. This increase mostly accounts for the change among six- and seven-year-olds. 91% of this age group reported weekly participation in organized activities in 2013-2014, while in 2005, 76% did so.

1.1.3 Contemporary Childhood Experiences

Discussion about how children spend their time daily is of great importance to my research as it connects it to greater planning discourses and the geographies of care. First, time-space coordination and its relation to having a sustainable lifestyle is a growing concern in child and family studies as well as in planning for environmental sustainability. With the prevalence of low-density housing and clear spatial boundaries that exist between work, leisure, and personal versus collective life, island hopping must be considered a critical topic in planning for sustainability and not just a concern regarding children's growth and well-being. The existing body of literature about time-space coordination shows that managing daily movements between employment, childcare, extracurricular activities, and household chores and errands (Gilow, 2020; Jarvis, 2003) is challenging, especially for dual-earner and single-parent households.

Moreover, the omission of children as active citizens concerns social sustainability and inclusive planning. The culture of segregation can be traced back to the very concept of early playgrounds: keeping children away from the rest of the public realm, i.e., the adults' realm. Today's playgrounds are not so different from the early ones in terms of concept (separating children's and adults' realms), structure (fenced and equipped with play structures), and function (accommodating structured activities with specific purposes). Valentine (1997) also argues that overscheduling children with structured (and supervised) activities is a way of avoiding the discussion about whether children should explore the urban environment. With no time left for children to be on their own, they lose their agency in negotiating time and space.

Finally, playfulness seen as an attitude not exclusive to children, can contribute to the creation of public spaces that benefit people of all ages. It is widely argued that the most effective way to design public environments is to integrate children's and adults' outdoor spaces to benefit both groups simultaneously (Carr, S.; Lynch, 1968; Hanssen, 2019; Thompson, 2013). In fact, adults' supervision can be a social or physical activity rather than a mere parenting responsibility (Holloway & Valentine, 2000; Karsten, 2005). According to the 8-80 Cities organization¹ "If everything we do in our cities is great for an 8-year-old and an 80-year-old, then it will be better for all people."

¹ 8 80 Cities is a not-for-profit organization established in 2007. With this concept, they have successfully led community-based initiatives that improved active mobility.

Returning to the discussion around time-space coordination, it is apparent that multipurpose and multigenerational spaces simultaneously respond to promoting active mobility and playfulness among all citizens. These spaces overall improve the safety and liveability of urban spaces and become the sites for cultural and social production (van Vliet & Karsten, 2015). I will further elaborate on the theoretical basis of these ideas through a socio-ecological lens in section 1.4 and explain how different physical and socio-cultural factors contribute to the formation of multipurpose public spaces welcoming people of all ages. In the next section, I discuss how planning as a discipline has responded and may continue improving children's free play in the public realm.

1.2 Children's "Being" and "Becoming"²: A Planning Question

"The wellbeing of children is the ultimate indicator of a healthy habitat, a democratic society and of good governance" (UN Conference on Human Settlements, Habitat II).

Initially launched in 1996, the Child-Friendly City Initiative (CFCI) supports municipal governments in realizing the rights of children at the local level using the UN Convention on the Rights of the Child as its foundation. CFCI makes sure that every child has access to safe and healthy environments to learn and grow while their decision-making rights are respected. As Malone (Malone, 2006) describes, following CFCI, there are notable contributions from UNICEF's Growing Up in Cities projects, where champions of children's rights to the city, including Kevin Lynch and Louise Chawla, collaborated to create a foundational knowledge base. Growing Up in Cities not only unveils global findings on how children use urban spaces but also places significant focus on their rights to the city. It equips us with invaluable tools and methods for engaging in research and design with children, empowering their voices in decision-making processes. Since the inception of my study, these initiatives have been a guiding light.

² I borrowed this phrase from Julia Gillespie's 2012 article "Being and Becoming: Writing Children into Planning Theory" which draws attention to the importance of differentiating these two understanding of childhood in planning theory and practice in order to enhance the current normative, top-down approach towards a more communicative and participatory considerations of children.

What strikes me most about these works is their deep connection to earlier literature, such as Kevin Lynch's seminal piece, *The Image of the City* from the 1960s. As my dissertation unfolds, the significance of this connection becomes more apparent, especially in the context of viewing children as individuals with distinct identities rather than as adults in the process of becoming. The same holds for Chawla's *Growing Up in Cities* report. The research methods, and the dialogues with children from diverse backgrounds – all underscore a genuine recognition of children as individuals whose voices, opinions, and experiences hold weight, regardless of age, gender, or ethnicity.

It is encouraging to witness a growing awareness of child-friendly planning considerations worldwide. Governments and municipalities have made commendable efforts to address children's needs at different scales, evident in initiatives such as the US Public Playground Safety Handbook, *Play England: Design for Play*; City of Vancouver: *High-Density Housing for Families with Children Guidelines*; and the City of Toronto: *Growing Up Guidelines*. However, as highlighted by Hart (1992, 2009) and echoed by the results of a 2023 review of CFCI literature (Cordero-vinueza, Niekerk, & Dijk, 2023), public policy related to Child-Friendly Cities often remains tokenistic, primarily focusing on accessible and safe child amenities and spaces. The literature underscores a predominant emphasis on the physical environment, with limited attention given to the crucial processes that translate children's rights into child-friendly spaces—referred to as child-friendly governance.

Critiques in the literature also point out that existing policies tend to be adult-dominated, as discussed in section 1.1, perpetuating the view of children as active citizens. Arguably, the exclusion of children from decision-making is only partly a planning concern; the rest is rooted in normative societal approaches. Children are universally seen as vulnerable beings in the process of becoming (perhaps reliable and responsible) adults; and as such, planning that promotes suburbs as more family-oriented is actually influenced by the child-protecting mainstream and reinforces the existing and unequal social structure around gender and family norms (Hayden, 1980; Ortiz Escalante & Gutiérrez Valdivia, 2015). Judy Gillespie's exploration of "being" versus "becoming" effectively demonstrates the impact of such perspectives on policymaking, leading to the segregation of adults' and children's spaces (Gillespie, 2013, p. 66). The overprotection approach also prevents those parents who are willing to give their children more freedom of roaming than is accepted (by the society), from doing so.

Would planning be able to moderate the existing social and spatial boundaries drawn between children and adults? In the next section, I outline my scholarly contribution by first examining global planning movements that aim for more inclusive and resilient cities. Following that, I highlight examples of child-friendly advocacy planning and design worldwide to show the existing gaps between child-friendly city governance and local efforts.

1.2.1 Smart, Childless Cities and Child-Friendly Advocacy

Smart Growth is an example of the recent planning movements, which is receiving great consideration in North America because of its anti-sprawl strategies. The main idea is to increase the share of growth in the central neighbourhoods, parts of the city that are already built up. Higher-density housing, multi-modal transportation, walkability, and accessibility to public amenities are among the Smart Growth planning strategies (Litman, 2018). These strategies overlap with what UNICEF indicates as measures of child-friendliness (UNICEF, 2019).

Hypothetically, these strategies aim to foster a diverse demographic in the city center, including families with children. However, evidence from previous research suggests a disparity between this aspiration and the actual population residing in central areas. For instance, a survey in five US states revealed that supporters of compact, transit-oriented, mixed-use living are predominantly low-income renters and minorities, who typically do not inhabit these areas (Lewis & Baldassare, 2010). Similarly, studies on young adults' residential choices indicate that central neighbourhoods with Smart Growth characteristics mainly attract young, childless populations (Hyojung Lee, 2018; Moos, 2014; Senior, Webster, & Blank, 2006).

While these findings are rooted in North American metropolitan centers, European cities may show different trends. For example, Lia Karsten's study in Amsterdam's central neighbourhood identifies a recent influx of young professional parents, termed “family gentrifiers” (Karsten, 2014, p. 2574). Seeking to balance professional life and childcare, these family gentrifiers recognize the benefits of urban upbringing for their children. However, issues of inequality persist, as highlighted in this and another study in the Netherlands. Research in Rotterdam (Van der Graaf, 2020), reveals that child-friendly features in central neighbourhoods may trigger gentrification, attracting specific populations (such as dual-earner families) while excluding others (like single-parent households with lower incomes).

These examples emphasize the necessity of clarifying how child-friendly policies define families with children. Family compositions are indeed diverse and complex, extending beyond traditional structures. To truly grasp the evolving cultural and social landscape of child-raising, we must consider non-traditional gender roles and family compositions (S. L. Brown, Manning, & Stykes, 2015). Regardless of class and income, family characteristics should be considered when designing child-friendly urban spaces. Co-parenting arrangements, especially for separated parents residing in different parts of the city introduce additional complexities in navigating daily time and space (Jarvis, 2001, 2005). In such cases, supporting children's agency in an inherently non-child-friendly urban setting becomes challenging resulting in more island-hopping (section 1.1.3). Perhaps, the statement holds true that an urban system catering to the needs of 8- and 80-year-old citizens functions better for everyone (8 80 Cities).

Factors such as housing type, affordability, and lack of access to private open spaces have been identified as key drivers causing households with children to move away from urban centers, influencing the overall child-friendliness of central neighbourhoods (Schoeppe et al., 2015). Considering the planning strategies of the Smart Growth movement, it's common to observe fewer open spaces, limiting opportunities for park development within urban centers. A report by Hanssen (2019) notes a 12% decrease in playground areas in Norway over five years due to intensification, leading to a decline in physical activities among resident children. In compact central neighbourhoods, small-scale playgrounds offer limited play options, and larger city parks often fall beyond children's home range. Thus, the significance of unstructured play opportunities, especially play on the way to school or other destinations, becomes even more pronounced in these settings.

My focus in this study is on utilizing the public realm as a network of play and a more welcoming space for people of all ages. I view children's free play in urban environments not only as a means to promote physical and mental well-being but also as a generator of agency among children. In this context, my research aligns with the perspectives of scholars like Penelope Carroll and Karen Witten (see, e.g., Carroll, Witten, Asiasiga, & Lin, 2019; Carroll, Witten, Kearns, & Donovan, 2015) and Karen Malone (e.g., Malone, 2007, 2013) who believe in research and creation with children. This perspective was also previously acknowledged by scholars such as Francis and Lorenzo (2002, p. 158) emphasizing that the success of playspaces is directly linked to children's involvement in their "initiation, design, and management." Chawla (2016, p. 20) succinctly states that participation is not merely a means to achieve planning goals; it is a goal in itself, reinforcing children's active

citizenship. It is crucial to integrate children's voices and perspectives in creating child-friendly spaces by involving them in different decision-making stages. Moreover, children's presence in the urban public realm in the form of unstructured play is a counter statement for seeing urban spaces as a realm of adults and automobiles due to modernist planning, as discussed in section 1.2.2.

Throughout this study, my inspiration has largely stemmed from the work of urbanists, particularly those in the private sector. Notable examples include *Recreate Place*³, a recently established planning firm by Paula Gallo and Annie Vandenberg. *Recreate Place* is based in Toronto and specializes in children's place-making and participatory, educational programs for children, youth, and adults. Natalia Krysiak is an Australian architect and the founder of *Cities for Play*⁴ who envisions cities as a play web. Natalia has documented worldwide best practices of child-friendly neighbourhoods in *Designing Child-Friendly High-Density Neighbourhoods*. Another valuable document is *Cities Alive: Designing for Urban Childhoods*⁵ provided by ARUP, a global design and consultant team. This report showcases global case studies, recommendations, and action plans for child-friendly cities. Another play advocate is Tim Gill⁶, an independent scholar in the UK and the author of *Urban Playground: How Child-Friendly Urban Planning and Design Can Save Cities* and *No Fear: Growing Up in a Risk Averse Society*. Examining these examples highlights the significant gap that yet exists between the local best practices and the governance of Child-Friendly Cities. While my doctoral research contributes to the scholarly knowledge of children's use of the physical environment, it also promotes child-centred problem identification, research, and co-creation with young citizens.

1.3 Research Philosophy: Ontology + Epistemology

Informed by relativist ontology and constructivist epistemological assumptions, I investigated multiple realities constructed by the lived experiences of individuals (children) in relation to time and space – i.e., selected neighbourhood case studies. Given the contextual nature of the phenomenon

³ <https://recreateplace.ca/home>

⁴ <https://www.citiesforplay.com/>

⁵ <https://www.arup.com/perspectives/cities-alive-urban-childhood>

⁶ <https://rethinkingchildhood.com/>

under study – i.e., children’s play experiences, I used critical ethnography or what Sandercock (2003) refers to as *epistemology of multiplicity*. To put it simply, my research approach was to engage children as social actors and end users of neighbourhood spaces in the processes of problem identification and knowledge creation, which I will explain in detail in this chapter. As popular methods in critical ethnography research, I used observational methods in different capacities (observing physical traces and non-participant behaviour observation), questionnaires, and qualitative interviews with children to collect data. In the following chapter, I describe my research philosophy (section 3.1) and explain the theoretical lenses used to identify research approaches. In Chapter 2, I will overview the research design and explain how and why I chose certain methods and techniques.

Ontology is about *what* exists in the world that we can acquire knowledge about, and epistemology is about *how* we can create knowledge (Brown and Duenas, 2019; Moon and Blackman, 2014). As a designer and urban researcher, I believe in subjective realities and what Sandercock (2003) discusses as the “epistemology of multiplicity⁷.” I strongly value the time spent and the attention paid to seeking local knowledge and learning through dialogue with the ultimate users and *creators* of space – in this research, children and their caregivers. I do not see myself as the creator of the space nor as the expert with measuring sticks to evaluate successes or failures (Tudge, Brown, & Freitas, 2012) in creating child-friendly urban spaces to eventually find a comprehensive solution to children’s greater agency in urban spaces. My role, however, is to facilitate parts of the process of problem-setting⁸ as to what is essentially impeding children’s agency and use of urban

⁷ Sandercock in *Cosmopolis II: Mongrel Cities of the 21st Century* (pp. 76 – 82), outlines six ways of knowing in planning discipline beside the technical and science-based knowledge, referred to as the epistemology of multiplicity. Knowing through conversation, knowing from experience, learning from local knowledge, learning to read symbols and non-verbal language, learning from contemplative/appreciative knowledge – through storytelling, songwriting, and other forms of art, and, learning by doing.

⁸ Sandercock referring to Schon (1983) explains that problem-setting is not a technical task, which means can be defined based on the local experiences and through dialogues and active act of listening to the users of the space. Moreover, Healey (1992) discusses that through consensus building, purposes can be discovered and defined communicatively.

public spaces and to help children actualize their tacit knowledge of place-making through the act of play. In a broader context, this research aims to exemplify the importance of community participation and collaborative approaches to space and place creation. This is especially important in the contemporary Western context where for years, histories were majorly told by the white middle-class men leaving out lived experiences and achievements of mothers and their children (Hayden, 1980; Ortiz Escalante & Gutiérrez Valdivia, 2015; Sandercock, 1998).

As mentioned in the opening of this chapter, the research focus was revised throughout the study, while the main inquiry has always been understanding how public realm can function as a site for children's play, beyond parks and playgrounds. Originally, I began investigating the influences of neighbourhood morphology and street layouts on unstructured play. My first research question (**RQ1**) was **“How does the physical configuration of the public realm influence children's play opportunities in high-density versus low-density residential neighbourhoods?”** Focusing on the built environment was an intuitive decision based on my previous research and design experiences in architecture and environmental psychology. This inclination is related to my admiration of the phenomenology of the built environment and dialogues between people and places. *The Poetics of Space* (Gaston Bachelard, 1958), *The Image of the City* (Kevin Lynch, 1960), and *A Pattern Language* (Christopher Alexander and others, 1977) are the seminal works that mostly directed my focus on the built form and the act of play.

This preliminary stage of research established a fundamental understanding of play affordability in the North American metropolitan context. This understanding was mostly focused on environmental safety concerns including street layout, intersection design, and right of way in different neighbourhood settings including higher-density central and lower-density suburban settings. However, it lacked consideration of sociocultural factors and reciprocity between built form and children's lived experiences. Moving forward, the focus of the research shifted from observing physical traces to observations of the play behaviours and investigation of place-making experiences within the public realm. Therefore, I asked (**RQ2**), **“What are the types and quality of play happening on the pathways connecting residential locations to schools and local playspaces?”** I also wondered about (**RQ3**) **“the linkages between the neighbourhood configuration, children's level of local belonging, and overall perceptions of safety.”**

At this point, I was informed by the body of literature focusing on the sociology of childhood and the importance of spontaneous play in improving children's agency. Francis and Lorenzo (M. Francis & Lorenzo, 2002, p. 161) categorize this part of the literature as the "needs-based studies," which shaped the theoretical basis used in children's play and participation studies after the 1980s. Inspired mostly by the work of Roger Hart, Robin Moore, and Louise Chawla, followed by the more recent works of Gill Valentine, Willem van Vliet, Lia Karsten, and Kim Rasmussen, I focused on the active role children as social *actors* play in *creating* places in their surrounding environment. Based on the place-making concept, not only does the built environment influence people's behaviour, but people also actively appropriate the environment to address their specific needs. The appropriation of space involves adjusting its physical and social settings. Questions people ask can include: What physical elements do I add or remove from the space to make it appropriate for me? Who else is involved in this? What memories am I (are we) making here? How do my previous experiences influence the process of appropriation? In this conversation, I see myself as a facilitator, while in the preliminary study, I was an expert with previous knowledge of the ways the physical environment encourages or impedes the act of play.

In the next section, I provide an overview of the conceptual frameworks that informed this study. I will first explain the Phenomenal Landscape Model proposed by Roger Hart in 1978, which focuses on the physical component of the built environment shaping children's environmental experiences, especially through spontaneous play and exploration. This conceptual model informed the study design of Phase 1. Then, I explain Bronfenbrenner's Ecological Systems Theory of Human Development, which informed the broader objectives and research design of Phase 2. Taken from Bronfenbrenner's theory, Robin Moore and Donald Young proposed a model to outline three realms of factors influencing children's outdoor play behaviours. In this dissertation, I refer to this model as the Socio-Ecological Model.

1.4 Theoretical Lens

To recap, play is identified as a fundamental aspect of children's well-being and growth, offering avenues for physical, mental, social, and emotional skill development (Frost, 2010; Smith & Pellegrini, 1998). A network of play that integrates playgrounds with public spaces, could provide required play opportunities for wholesome growth (De Visscher & Bouverne-de Bie, 2008). This study challenges the adequacy of isolated playgrounds in addressing child development goals.

Children's isolation from the rest of the public realm limits their interactions with other generations and their play experiences to structured and program activities compromising their wholesome skill development. I thus advocate for a paradigm shift in understanding childhood as a stage of being instead of becoming (Gillespie, 2012) to enhance current normative planning approaches that consider "urban" inappropriate for children. That said, my research fits within the greater discourse of children's rights to decision-making (i.e., agency, citizenship) and democratic access to living and play spaces (Malone, 2006; UNICEF, 2019) as per the terms United Nations Convention on the Rights of Children.

I used Roger Hart's Phenomenal Landscape Model, which elucidates the importance of neighbourhood spaces in creating a network of playspaces, referred to as the *territorial range*. Hart (1979). The model considers places and pathways as the building blocks of children's territorial range. As the terms suggest, places are activity nodes while pathways are the connecting elements within this network. Neighbouring houses, institutional buildings, offices, stores, and parking lots are examples of potential places within children's range. Streets, trails, and sidewalks are the pathways children take to get to places. Studies on children's outdoor play show that the variety and extent of children's territorial range depend on their residential location and neighbourhood setting, as well as how much freedom they are given to roam around the neighbourhood; age and personal attitudes are also among the influential factors (e.g., Horton, Christensen, Kraftl, & Hadfield-Hill, 2014; Kytta, 2004; Larsen et al., 2009; Loebach & Gilliland, 2019; Moore & Young, 1978; Valentine & McKendrick, 1997). These findings bring in the three realms of influential factors explained by the Socio-Ecological Model explained next.

The theoretical underpinning of the Socio-Ecological Model is Bronfenbrenner's Ecological Systems Theory of Human Development. This theory emphasizes the multifaceted influence of environmental and sociocultural factors on children's skill development; unlike Jean Piaget who theorized children's cognitive development solely based on age (Tudge et al., 2012), also known as Piaget's Stage Theory. Therefore, my study adopts the Socio-Ecological Model proposed by Moore and Young (1978), which explains the complex interplay of factors belonging to any of the following categories: the physiographic realm, sociocultural realm, and the physiological/psychological realm (Piaget's focus) or the child's inner space.

The Socio-Ecological Model posits that factors such as distance to daily destinations, sidewalk quality, housing density, availability of open spaces, and playgrounds belong to the physiographic space. The preliminary stage of this research was focused on this set of factors to address RQ1. Moreover, sociocultural factors encompass playing dynamics, peer relations, family backgrounds, level of independence and supervision, which together with physiographic factors guided the second half of the study responding to RQ2 and RQ3. Lastly, inner space involves personal attributes like age, gender, physical strength, and attitudes toward play (Figure 2). While this set of factors was acknowledged in this research, it did not guide the analysis of data (i.e., examining individual differences) due to the study's small sample size.

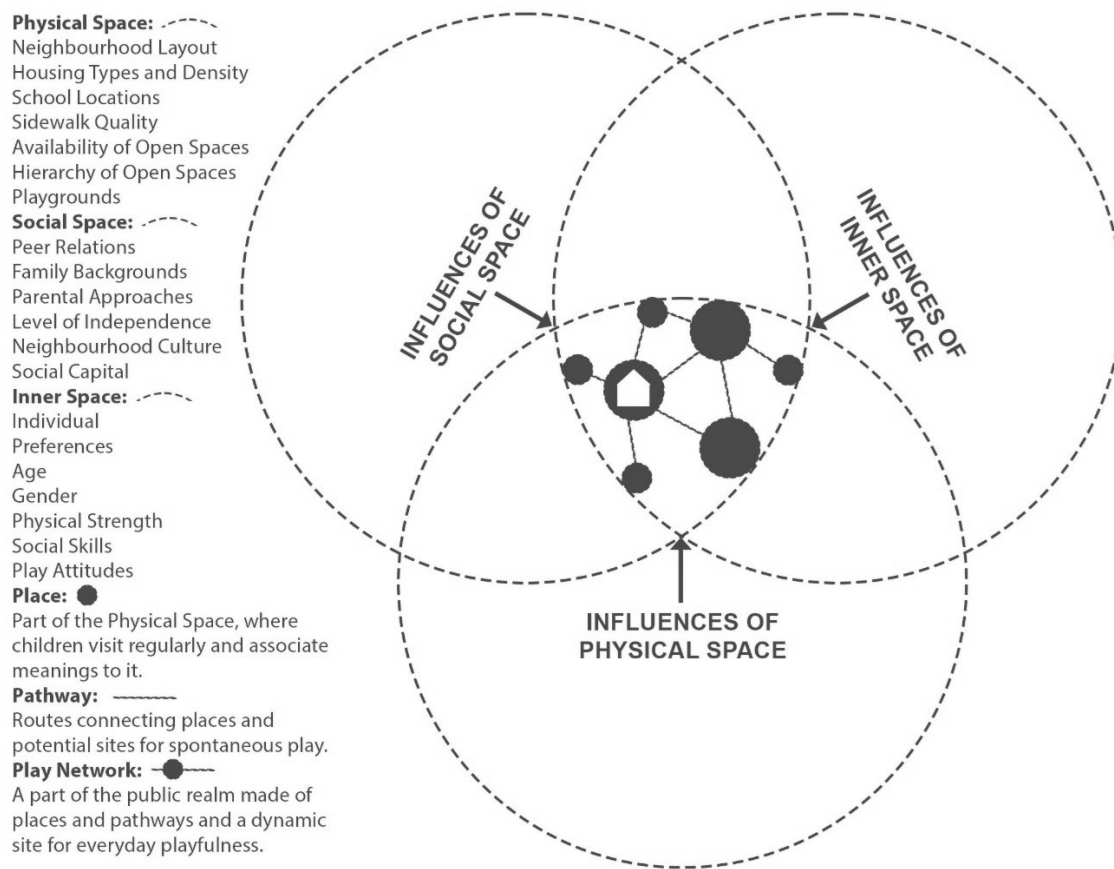


Figure 2 Neighbourhood *play network* encompassing places and pathways is influenced by the factors explained in the Socio-Ecological framework. The formation of the play network is unique to different individuals and usually surrounds the “home” location. (Source: Adapted from Moore and Young, 1978)

Given that the two conceptual models I used were first introduced in the 1980s, I would like to clarify a few points about how they informed my studies. These theoretical lenses have been widely used in children's place-based play studies. However, I realized that studies have used them in different directions. In this section, I position my research in terms of how these theoretical lenses are adopted and contributed to achieving the research objectives.

First, the term *place* is interchangeably used as space or environment among scholars in this field. But it is important to acknowledge that place is associated with meanings that go beyond the physicality of the environment (Wilson, 1997). The meaning of a place is unique for individuals as it relates to personal experiences, memories, and feelings (Altman & Low, 2012; Lewicka, 2010). In Rasmussen's argument, places are the ones that children create within or beyond adult-created spaces – the institutional triangle of home, schools, and playgrounds (Rasmussen, 2004). Therefore, wherever the term *place-making* is used in this dissertation, it refers to the act of attaching meanings to a space *by children*. I mostly use this term in the discussions of children's favourite playspaces and the creation of a sense of belonging (section 5.5). The number and duration of visits play an important role in the creation of places as explained by the Phenomenal Landscape Model; for instance, a never-visited playground cannot be a part of a child's phenomenal landscape despite being within their immediate home environment.

Second, the role of pathways in the creation of the phenomenal landscape is often overlooked. Imagine a public library close to home is a meaningful place for both Child X and Child Y. Child X is always being driven to the library while Child Y walks to the library with a guardian. Theories indicate that the body/environment connection is important and passing through an environment in a car may not at all provide a place-making opportunity (Christensen & O'Brien, 2003). For these two individuals, the home-library path contributes differently to the formation of their unique experiences. For Child X, a representative of the backseat children, there is a spatial disconnection between home and the library. For Child Y, however, the pathway between home and library is an extension of their spatial experience.

Third, in this study, I introduce the term *play network* to encompass the overall territorial range, aiming to prevent confusion with distinctions made in other research between home range and habitual range (e.g., Loebach & Gilliland, 2019). While these distinctions are pertinent in discussions of children's independent mobility, I focus solely on children's outdoor presence around their homes,

without delineating independent mobility. Additionally, by employing the term play network, I highlight a specific aspect of the public realm conducive to everyday playfulness, refraining from specifying independence.

Finally, I studied any form of outdoor activity or movement without differentiating children's level of independence. There are different positionalities towards studying children's use of neighbourhood spaces. A significant body of literature considering children's play experiences within the urban public realm strongly focuses on independent mobility. Independent mobility was the focus of Hart's studies too, considering back then public realm was not fully the realm of adults and cars (Hofferth & Sandberg, 2001). However, recent studies have shown that children's engagement in supervised outdoor activities has significantly decreased (Bianchi, 2000; Nordbakke, 2019). Therefore, this research refrains from a strict dichotomy of independent and dependent mobility, emphasizing instead the importance of increased walkability for both children and their caregivers in contemporary automobile-centric urban environments. Furthermore, it embraces intergenerational coexistence as advocated by van Vliet and Karsten (2015), positing that a more interconnected community improves safety perceptions, potentially fostering greater independence among children.

In summary, this study interweaves the Socio-Ecological Model and the Phenomenal Landscape Model to comprehensively explore the influences of social and spatial factors on children's play in urban environments (R. Moore & Young, 1978). The study focuses on children's territorial range, encompassing places and pathways within their immediate environment, examining how socio-spatial factors influence the formation of their play network. Children's urban consumption is mostly limited to what Rasmussen (2004, p. 157) defines as an "institutional triangle," encompassing home, school, and playgrounds, with travel among these locations often resembling "island-hopping" (Karsten & Vliet, 2006, p. 152) because of the high levels of auto-dependency.

Despite a substantial body of research highlighting the importance of independent mobility for children's growth and well-being, practical implementation in planning remains limited. The growing segregation between adults and children (Valentine & Mckendrick, 1997) necessitates a reclamation of the urban public realm as an integral part of children's daily experiences (Horton et al., 2014; Karsten & Vliet, 2006). This study seeks to address this gap by exploring the nuanced experiences of *being* within the public realm – with or without other generations, and with any level of playfulness. It also highlights the role of pathways connecting different neighbourhood destinations

in creating a network of play. Pathways are also considered sites for children's place-making through the act of play. These theoretical understandings shed light on the methodological decisions of this thesis. The subsequent sections detail the study's methodology and the examination of influential factors within the socio-spatial environment.

Chapter 2 Research Design and Methods

I provide an overview of the research process as it unfolded in two phases. The phase-based overview of the methodological decisions represents the constant revisiting and refining of the research focus, approaches, and even my positionality as a researcher. It is worth mentioning that part of the unpredictability and open-endedness of the research design relates to the nature of ethnographic research (Mattila, Olsson, Lappi, & Ojanen, 2022; Till, 2009) and part of it was caused by the COVID-19 pandemic, which coincided with the onset of my fieldwork and participatory research. While the main inquiry has always been understanding how the public realm can function as a site for children's play, I experienced some changes in the way I approached this objective from phase 1 to phase 2. Originally, I explored the influences of neighbourhood configuration on possibilities of children's spontaneous play, especially along the pathways by comparing physical characteristics of the environment, such as street layout, intersection design, and sidewalk availability and quality in four neighbourhoods in Portland. While findings from Portland provided valuable insight into effective neighbourhood design with children's play opportunities in mind, it lacked consideration of sociocultural factors and reciprocity between built form and children's lived experiences. This preliminary stage of research established a better understanding of the phenomenon under study shifting the research focus from physical form comparison and analysis to critical ethnography. In Phase 2, I focused on one neighbourhood to be able to conduct in-depth participatory research considering the interplay between physiographic and sociocultural factors in children's outdoor play behaviours. A geographic shift from Portland to Toronto was necessary at this stage as ethnographic research requires constant site visits but travelling abroad was not possible at the time due to the limitations caused by the COVID-19 pandemic.

2.1 Phase 1: Exploring the Neighbourhood Play Network (2018-2020)

The first phase of this research was an exploratory study to understand how neighbourhood configuration may impact children's outdoor play opportunities by examining how well parks are connected to residential locations through the larger network of public open spaces. To do so, I conducted a comparative neighbourhood study in Portland, Oregon. Considering walking as the mode of travel, I intended to examine the quality of pathways from home to the closest playspaces in neighbourhoods with different configurations and share of families with children.

Portland was selected as a metropolitan area worth studying children's outdoor play experiences in relation to urban form for two main reasons. First, the urban core in Portland primarily follows a grid street layout and is known for its smaller urban blocks (for example, as compared to Los Angeles), which provides more pedestrian connectivity (DeMersseman et al., 2009) making the city a suitable case to study children's walking between home and parks. Additionally, Portland has shown success in implementing urban policies in the last decades in bringing families with children into the metropolitan area (Jarvis, 2003; Hyojung Lee, 2018; Wegmann, 2020). According to the 2020 Census Profile (Chen, Wei, & Sharygin, 2022), the share of the population under 18 (17.4%) is comparatively greater than its neighbouring Metropolitan centres such as Seattle and San Francisco (respectively 13.4% and 14.5%). While the greater Portland area is perceived as family-friendly, the urban core has shown patterns of youthification⁹, which is argued to be counter-intuitive to child and family-friendliness (Moos, 2014; Wegmann, 2020). Therefore, the existing dynamic between family-oriented and youthified neighbourhoods along with the overall walkable structure of the urban core made Portland a suitable case to explore and compare outdoor play networks in different neighbourhood settings.

2.1.1 Neighbourhood Selection

I chose two youthified and two family-oriented neighbourhoods in Portland, Oregon to conduct a comparative urban form analysis related to children's outdoor play experiences. To identify the neighbourhood cases, I used a web-based neighbourhood ranking system called Niche.com. Niche (2020) provides rankings on 'best' neighbourhoods for Millennials and families by combining user-generated data and several secondary data sources to derive neighbourhood rankings for major cities in the United States. I aimed to select neighbourhoods based on such subjective rankings because these are likely to reflect the overarching perception of specific places by the people living there. In

⁹ Youthification, coin by Markus Moos (2016), is a process through which central neighbourhoods remain young over time. A generation of young adults (currently, Millennials) who reside centrally to access to jobs and amenities tend to leave for larger housing spaces if/when their household composition changes, often due to parenthood. Since newer generations of young adults often replace those who have moved out, the share of young adults' population is often consistent.

other words, rather than a definitive definition of youthified versus family-oriented neighbourhoods, I sought neighbourhoods that are ‘believed’ to fit into those categories.

Here, the presence of Millennials is used as a proxy of youthification and matches with prior analysis of the geography of young adults (Moos 2014; Moos, Pfeiffer, and Vinodrai 2017). Although these definitions are not uncontroversial, for this study, families are households with children present, and the family-oriented neighbourhoods based on the subjective rankings indeed include a larger share of children as verified by census data. It needs to be acknowledged that ‘family’ is of course a contested and heavily politicized term, and the very notion of ‘family-oriented’ likely feeds into the physical and social construction of neighbourhoods.

A total of four neighbourhoods were selected. Figure 8 shows the location of the neighbourhoods in the context of the Portland Metropolitan Area. Not unexpectedly, the youthified neighbourhoods (Eliot and Pearl) are located more centrally, whereas the ones ranked as more family-oriented (Arlington Heights and Marshall Park) are located further from the centre in what would generally be classified as suburban areas (Hyojung Lee, 2018). Table 5 compares neighbourhood characteristics. Demographic data is retrieved from NeighborhoodPulse (2020) which provides neighbourhood statistics for the Portland Metropolitan Area drawing on the 2010 US Census. Relevant neighbourhood rankings are extracted from Niche (2020). Overall, the youthified areas are higher-density neighbourhoods with a lower percentage of children, higher cost of living, and lower homeownership.

2.1.2 Data Collection and Analysis

A combination of quantitative and qualitative data was collected for phase 1 of the study. Pathways from home to neighbourhood parks were studied not only to identify access to parks but also to understand the risks of interacting with traffic and the overall possibilities to engage in the act of play along the pathways. As explained earlier in this chapter I only considered environmental factors that may encourage or restrict active play on the pathways between neighbourhood parks and residential locations. Understanding actual play behaviours and lived experiences was considered in the next phase. Section 3.5.1 provides a complete description of the methods used in this phase. Table 1 also summarizes data collection methods, types of data generated, and a brief reflection on the pros and cons of each method.

Descriptive quantitative data was combined with qualitative analysis of the built environment through a well-established tool in environmental design research called “observing physical traces” (Zeisel, 2006). Observing physical traces is known as a “diagnostic tool” (A. B. Jacobs, 1984, p. 32), which made it appropriate for the exploratory phase of my research, where I looked for traces of play happening in the public realm such as a soccer goal, chalks, an arbitrary left aside scooter, and alike. I must mention that I used this method in a different capacity than originally described by Zeisel. While I visited all selected neighbourhoods in 2018, further analysis of the physical traces did not happen on-site. As a modification to the research design due to the COVID-19 pandemic, I further investigated the built environment using Google Maps Street View tools as an admittedly imperfect replacement for onsite documentation of the physical traces. Surprisingly, traces of play were also captured in satellite images used by Google (see Figure 16 in Chapter 3). Therefore, my observation of the physical traces was a combination of walking around the neighbourhoods in person and navigating the virtual space.

Reflecting on my earlier discussion about the researcher’s positionality when conducting studies about children’s play experiences, observing physical traces is intensively expert-oriented with no engagement with human subjects. In other words, in my analysis, I focused on the qualities of the physiographic space without considering site-specific evidence on how the space is used. However, as I explained in section 1.3, my analysis was based on the body of the literature established by authors such as Kevin Lynch and Christopher Alexander.

For built-form analysis, I visualized data into connectivity maps, storyboards, and analytical sections of the pathways. A summary of the methods and techniques used for data analysis and the findings of each section is presented in Table 2. Overall, connectivity maps illustrated data regarding street layout, the length of the pathways, and the number of intersections. I have also incorporated street categorizations based on Portland’s transportation information to show the hierarchy of streets. Figure 4 is an example of the connectivity maps.

The storyboards were created based on the sequential pictures taken along the pathways through my virtual walk around the neighbourhoods. Using the Street View tool, I saved pictures wherever a play-related trace or a change in the configuration of the environment was observed. Pictures retrieved from the Google Map Street View were then annotated by ghost figures, lines, and

notes emphasizing the characteristics of the road layout. Figure 3 is a storyboard created based on the sequential pictures along a pathway in Marshal Park neighbourhood, in Portland.

The reason for using such a visualization technique was to remain committed to the temporal aspect of the journey from home to a park, the continuous act of walking and engaging in playful activities. Storyboards are used by urban designers to illustrate or analyze the use of space with consideration of time as opposed to a single image showing one moment of the life of an urban space. Storyboards are also popular in the field of film production; they resemble comic books and characterize sequences of events.

Finally, to analyze what I called the hierarchy of open spaces and the quality of edges along the pathways, I used analytical street sections. Sections together with pictures enabled a detailed analysis of the attributes of the built environment such as height, width, greenery, quality of surfaces, etc. Similar sections are usually used by urban designers and transportation planners to distinguish and understand street layouts distinguished by different uses for example pedestrians, public transportation lanes, on-street parking, building setbacks, etc. These visual analytical documents provided the opportunity to observe and understand the play networks in four selected neighbourhoods. The differences in the built environment in family-oriented and youthified neighbourhoods were more pronounced after visualizing data.

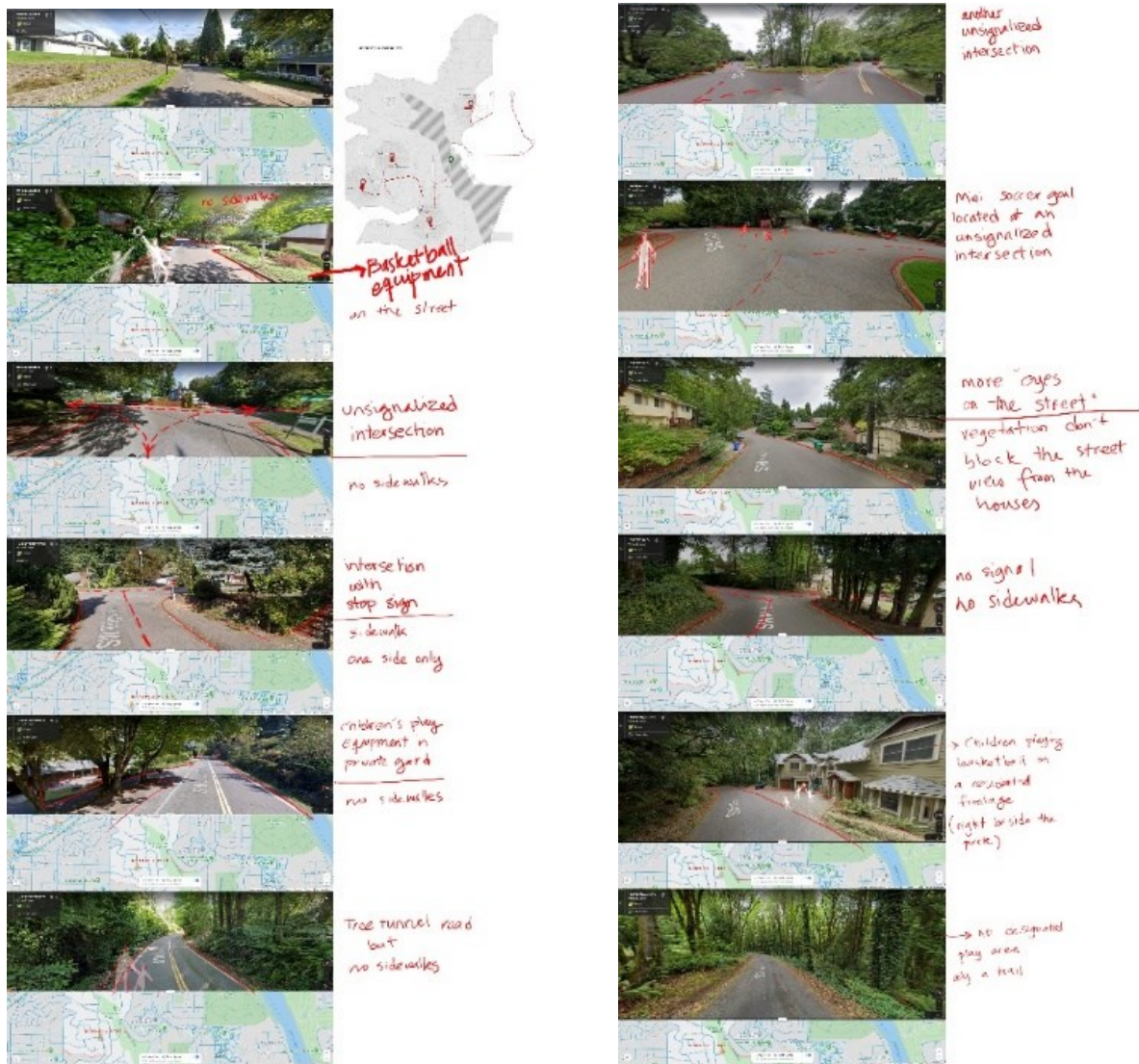


Figure 3 An example of the storyboards created for the analysis of the pathway experiences. This storyboard shows one of the pathways connecting residential areas to the neighbourhood park in Marshal Park neighbourhood in Portland. Pictures and maps are retrieved from Google Maps Street View.

Table 1 Summary of Data Collection Methods

	Data Collection	Tools/techniques used	Purpose	Pros and Cons
Quantitative	Identifying home-park pathways	Google Maps Direction Tool and site visit	Access to parks	
	Measuring distance and length	Google Maps Direction Tool	Access to parks	+ provides an estimate for walkability - does not consider irregular and recreational walks
	Number of intersections	Counted manually using Google Maps	Walkability and safety	
Qualitative	Recording traffic signs and street layout	Qualitative observation of physical traces in person and by Google Maps Streets View	Walkability and safety	
	Recording sidewalks and edges	Qualitative observation of physical traces in person and by Google Maps Streets View	Walkability and safety	
	Open spaces along pathways	Qualitative observation of physical traces in person and by Google Maps Streets View	Potential for play along pathways	
	Signs of play	Qualitative observation of physical traces in person and by Google Maps Streets View	Potential for play along pathways	+ Provides evidence of play. - Only records equipment does not consider play behaviours

Table 2 Summary of Data Analysis Methods

Data Analysis	Tools/techniques used	Findings	Pros and Cons
Connectivity Maps	Descriptive quantitative	Connectivity, level of interactions with traffic	
Storyboards	Annotated sequential pictures taken along the pathways Google Maps Streets View	Qualitative characteristics of the built form (width and existence of sidewalks + play evidence + traffic signs)	+ Illustrates the continuity of experience. - Limited in temporal aspects
Street Sections	Birds eye view maps, and street sections analysis with pictures and drawings	The hierarchy of open spaces and quality of sidewalks and how they are separated from the automobile's realm	+ A different perspective on the spatial configuration and connectivity - Does not include ownership and cultural aspects of use of space (neighbourhood relationships/dynamics)

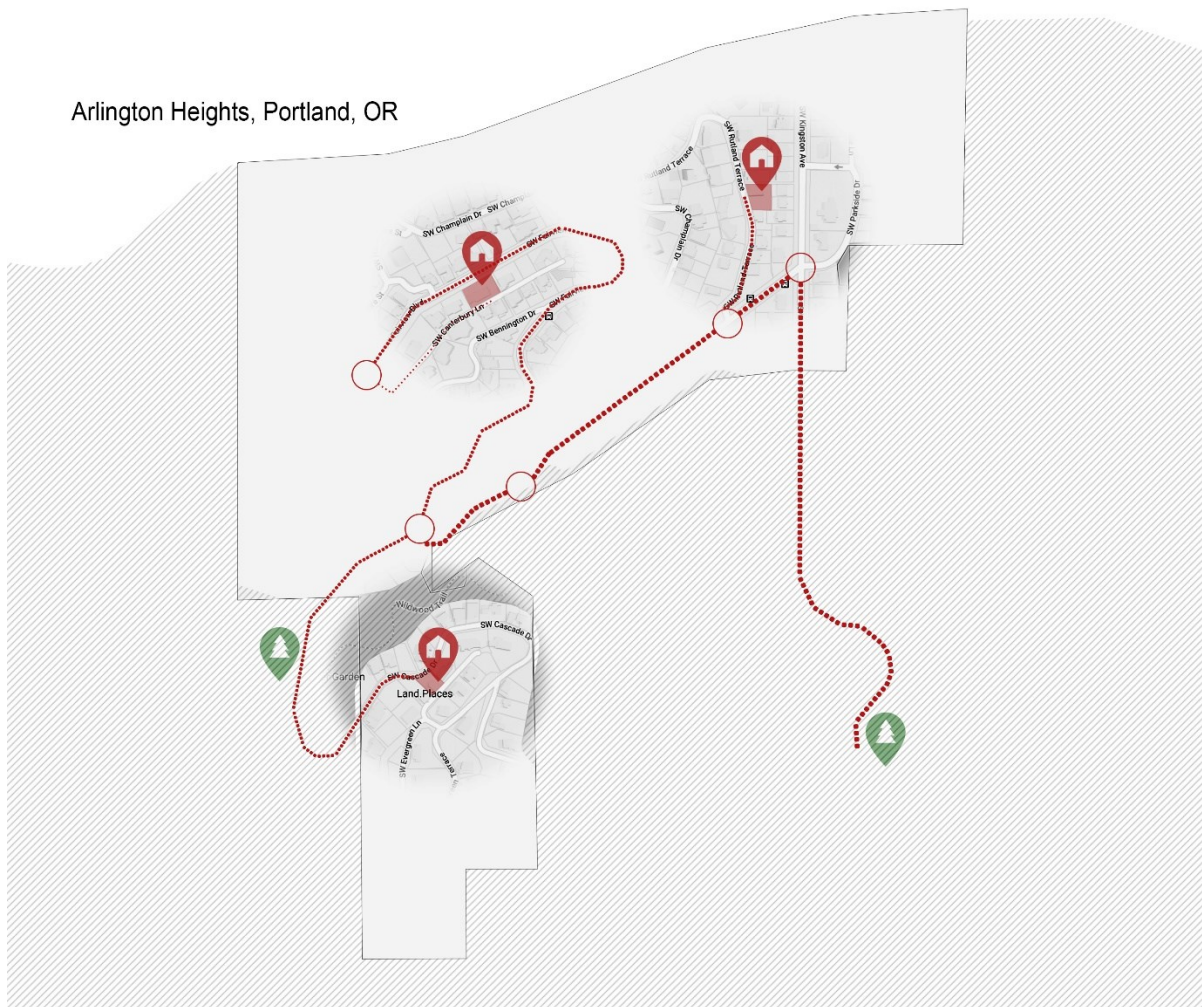


Figure 4 A Connectivity Map created for the Arlington Heights neighbourhood in Portland, Oregon. The locations of neighbourhood Parks, hypothetical home locations, and number of intersections (red circles) along the pathways are indicated on the map. Moreover, the thickness of the dotted lines representing the pathways shows street levels from the “local service street” as the thinnest to “traffic access” to “neighbourhood collector” and to “major city street” as the thickest.

2.2 Phase 2: Understanding the Socio-Ecological Model (2020-2023)

Given that childhood is a social construct and their experiences of the neighbourhood environments are under the influences of social and environmental factors (Rasmussen, 2004; Valentine, 1996b, 2000; van Vliet & Karsten, 2015), the best methodological approach to adopt for this investigation was to integrate the *lay* knowledge with the experts' knowledge, in other words combining the outsiders' and insiders' perspectives to achieve a comprehensive understanding of children's play in their surrounding environment (Birch, Parnell, & Patsarika, 2017; M. Francis & Lorenzo, 2006; Pavlides & Cranz, 2009). Skelton, in her reflection on the methodological approach to children's studies, points out that as we all have been children previously, it is easy to consider ourselves insiders, which is an ill-informed perception. First, we grew up under different circumstances, and thus have diverse childhood experiences. Moreover, the current age difference between the researcher and the children under study inevitably creates power over the young participants, which prevents us from being seen as insiders (Skelton, 2008).

Informed by the *epistemology of multiplicity* (Sandercock, 2003), I emphasized the processes of conducting research with children while investigating their everyday neighbourhood experiences through play. I shifted the research aim from producing a set of child-friendly design guidelines, as pursued in the first phase of this research, to creating an overall understanding of children's space and place creation within the current urban structure. In this collaborative setting between the researcher and the young participants, I relied on ethnographic research approaches and used participant observation, qualitative questionnaires, and semi-structured one-on-one interviews with children, which are among the well-responding methods to the contextual nature of children's play studies (Tudge et al., 2012).

To further investigate factors influencing children's outdoor play and the function of the urban public realm as a play network, I needed a site that I could visit frequently. Travelling to Portland was not possible due to the COVID-19 pandemic. I chose to continue my studies in Toronto, Canada, close to where I live. Additionally, as this phase included human participation, I could not

just rely on virtual methods and digital tools such as the Google Maps Street View tool I used previously. In phase 2, the research focus expanded from observing physical traces to observations of the play behaviours. Zeisel (2006) differentiates observing behaviours by adding an ethnographic lens to the results similar to what Clifford Geertz coined as a “thick description” in the late 20th century. Ethnographic methods were also proven effective in studying children’s use of space by previous scholars (e.g., CAMPO, 2013; Holt, 2004; Tudge et al., 2012). Moreover, Till (2009) explains how ethnography as a research strategy facilitates the processes of collective knowledge creation in that the researcher is not the data generator/collector but plays an important role in creating and situating knowledge.

Returning to the concept of the *epistemology of multiplicity* (Sandercock, 2003), I chose ethnography as a strategy to advance understanding of children’s use of the urban public realm for the act of play and practice of citizenship. Thorncliffe Park neighbourhood in Toronto, Canada was chosen to conduct the study. Data were collected using non-participant observations, online questionnaires, and one-on-one virtual interviews with children, which are popular methods in ethnographic studies (Till, 2009). As this research directly targeted human subjects, it was necessary to receive ethics clearance before data collection. For that purpose, I obtained research ethics clearance from the Office of Research at the University of Waterloo on August 24th, 2021. The approval letter is enclosed in the appendix section. The case study background and a detailed description of data collection are provided in the following.

2.2.1 Neighbourhood Selection

Thorncliffe Park Neighbourhood in Toronto was chosen as a case study for a few reasons. The neighbourhood’s diverse population well represents the demographic landscape of Toronto; it has the largest population of children among other Toronto neighbourhoods, while also categorized as a neighbourhood with a large share of young adults (Figure 5); Thorncliffe Park exemplifies a popular neighbourhood typology in North American metropolitan centres – a high-density high-rise with distinct land uses (Agrawal & Rutgers, 2014; Dempsey, 2012; Hess & Farrow, 2010; Inam, 2019). Moreover, previous studies on the neighbourhood show limited playground space compared to the neighbourhood’s population of children (Webb, 2015).

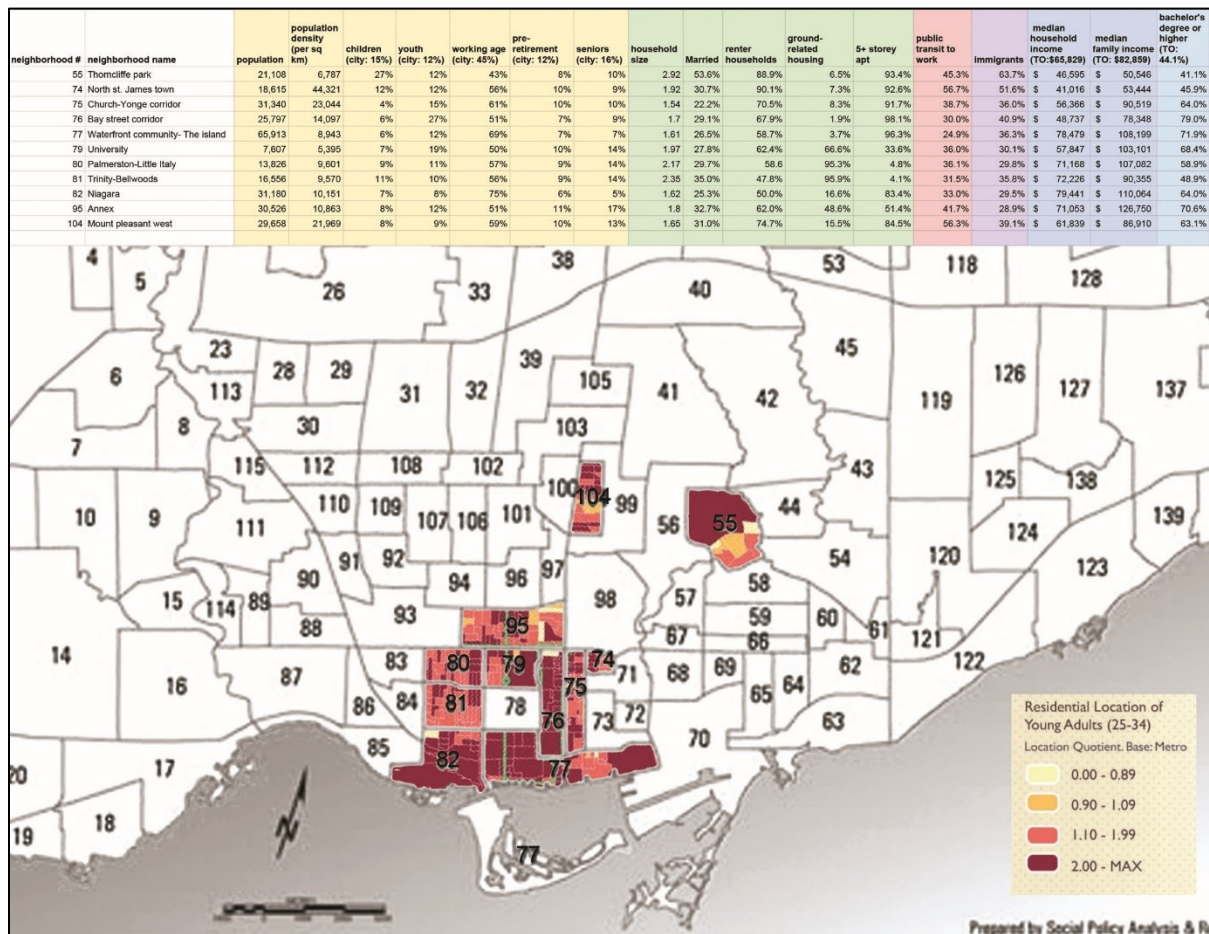


Figure 5 Toronto's Neighbourhood with high population of Young Adults. An overlay of young adults' residential location in Toronto (Generated City, n.d.) on the neighbourhood map (City of Toronto, 2016) shows that Thorncliffe Park while identified as a youthified neighbourhood, has the largest share of children under 14, making it a suitable context for investigating how children use public spaces for the act of play.

Thorncliffe Park is in the inner suburbs of Toronto, developed largely between the 1950s and 1970s, and is considered an arrival neighbourhood which houses many immigrants and newcomers to Canada (Agrawal & Rutgers, 2014) with almost 19% of the population being recent immigrants, people who landed in Canada within the past five years (City of Toronto, 2016). Its population of about 22,000 is extremely diverse with 64% of the population immigrants from Pakistan, Philippines, India, Afghanistan, and other places in Asia and Europe (City of Toronto, 2016). Table 3 represents Thorncliffe Park's demographic profile compared to city-wide figures based on the 2016 census data.

Besides having a diverse population, Thorncliffe Park has the largest population of children under 14 among other neighbourhoods in the city of Toronto. About 5,600 children live in Thorncliffe Park, in other words, one-third of the population is children under 14 years old (Dempsey, 2012). Previous studies also show that there is a shortcoming of child amenities in the neighbourhood given the child population (Webb, 2015). With a large child population and few child-centred amenities, Thorncliffe Park is an appropriate case for investigating ways of activating the public realm as a dynamic site for play.

Thorncliffe Park neighbourhood is designed based on distinct land uses (Figure 7). The residential part of the neighbourhood features high-rise apartments surrounded by open/green spaces and surface parking lots (Figure 6). Residential towers are laid out along the U-shaped Thorncliffe Park Boulevard, surrounded by the Don Valley natural area from three sides. Schools and playspaces are within walking distance of the residential buildings providing the opportunity to study children's play behaviours on the way to these daily destinations (See blue and green zones in Figure 30).

Table 3 Thorncliffe Park profile (Source: City of Toronto, 2016; 2016 Census of Population).

Social and physical characteristics	Thorncliffe Park	City of Toronto
Population	21,108	2,731,571
Population Density	6,787	
Children under 14	27%	15%
Immigrants	64%	51%
Home Language not English	57.8%	29.2%
Average household size	2.92	2.42
Median household income	\$46,595	\$65,829
Unemployment rate	13%	8%
Renter households	89%	47%
Ground-related housing	6.5%	55.7%
Public transit to work	45.3%	37.0%



Figure 6 Children's presence is observed in different forms within the neighbourhood (photographs were taken on July 01, 2020)

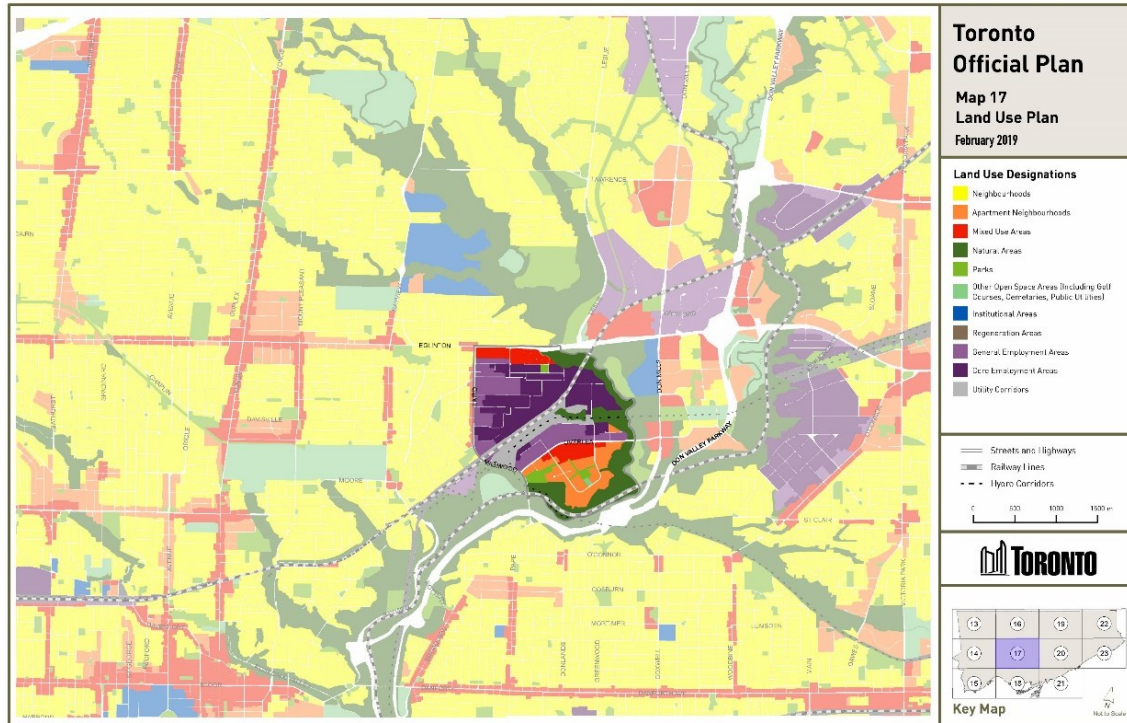


Figure 7 Thorncliffe Park neighbourhood in Toronto Official Plan with highlighted land use indications.

2.2.2 Data Collection: Observations, Questionnaire, and Interviews

Data were collected using non-participant observations, as well as online questionnaires and one-on-one virtual interviews with children between seven and 13 years old who lived in Thorncliffe Park. The first set of data for this study was collected through non-participant observation. Observational methods are well-established in environmental design research (Zeisel, 2006) and when conducting ethnographic studies (Till, 2009) now being widely used in studying children's play behaviours (Loebach & Cox, 2020; Pellegrini, Symons, & Hoch, 2012; Smith, 2012). Previous child and play studies have extensively used observational methods. Some used participant observation (e.g., Holt, 2004; Karsten, 2014; Millei & Rautio, 2017), where participants are aware of the researcher's presence whether or not they engage in the activities together. I used non-participant observations similar to Bhuyan's (2021) study of play location and patterns in urban spaces and Pitsikali and Parnell's (2020) fieldwork on understanding the influences of playground boundaries in forms and qualities of play and social interactions.



Figure 8 An example of the on-site documentation during observation sessions.

Table 4 The schedule and details of on-site observations.

#	Date	Day of the week	Time interval	Weather condition	Additional notes
1	09/09/2021	Thursday	8:00 – 18:00	13/21 C - partly sunny	diagnostic session
2	11/09/2021	Saturday	8:00 – 18:00	14/25 C - partly sunny	diagnostic session
3	14/09/2021	Tuesday	14:00 – 18:00	16/28 C - partly sunny	
4	24/09/2021	Friday	14:00 – 18:00	11/16 C - partly sunny	first cold & windy day of the season
5	27/09/2021	Monday	14:00 – 18:00	14/24 C - broken clouds	
6	01/10/2021	Friday	8:00 – 14:00	7/20 C - partly sunny	
7	12/10/2021	Tuesday	14:00 – 18:00	17/22 C - partly sunny	
8	07/11/2021	Sunday	10:00 – 14:00	3/16 C - passing clouds	
9	01/12/2021	Wednesday	14:00 – 18:00	0/5 C - partly sunny	snow on the ground
10	04/12/2021	Saturday	10:00 – 14:00	0/4 C - partly sunny	snow on the ground

A key advantage of non-participant observation was to avoid children’s impression of the situation and allow me to watch and document what naturally happens in the neighbourhood. For that, I acted as a “secret outsider,” as Zeisel (2006, p. 117) put it. To remain unrecognized, I chose to

observe while driving or sitting in the car. First, because driving was more time efficient than walking as I could move to different locations faster. The second reason for this selection was that on my first visit to the neighbourhood, I found walking attracts disruptive attention and at times negative reactions from the residents. For the same reason, I only occasionally took photographs to avoid potential objections, especially from children and their caregivers. Instead, I used note-taking and quick sketching, which are known as the less intrusive methods of on-site documentation (Till, 2009; Zeisel, 2006).

A total of 10 observation sessions were carried out between September and December 2021 (within the school year). The first two sessions of observation were scheduled as full days of watching from 8 am to 6 pm to diagnose important locations and time intervals of future observation sessions. The next eight sessions were scheduled considering time intervals before and after school on weekdays and from morning to afternoon on weekends. Locations of observation were identified based on the most frequently used spaces by children and with consideration of home, school, and park locations. Corresponding to the sampling methods for systematic observations – the questions of “what? who? where? and When?” (Ciesielska, Boström, & Öhlander, 2017, p. 36), I recorded details of observed play activity including location, physical setting, time, duration and frequency of the activity, whether the child is alone or engaged in a group activity, and any other information that could help with the interpretation of data such as the weather condition. Table 4 and Figure 8 illustrate details about observation sessions.

I used three sources of information to design the questionnaire, followed by semi-structured interviews. First, the questions were informed by the Socio-Ecological model (R. Moore & Young, 1978) targeting children’s use of neighbourhood spaces in relation to physiographic and sociocultural factors. For example, how and with whom they go to school, where, what, and how often they play in the neighbourhood, and how safe they feel playing or walking in the neighbourhood alone. Furthermore, I relied on previous empirical studies with similar theoretical frameworks to understand the relationship between research objectives, survey questions, and outcomes (e.g., Bhuyan, 2021; Larsen et al., 2009; Loebach, Sanches, Jaffe, & Elton-Marshall, 2021). The main lessons learned from previous studies were to keep questions short, simple, and somewhat generic or open-ended respectively responding to children’s attention span, comprehension abilities, and the diversity of participants’ lived experiences. This strategy is reflected in Barker and Weller’s (2003) discussions about child-centred research methods. Finally, data collected through observations lead to the

inclusion of site-specific questions, for instance, where do you play when the playground is closed (referring to the time when the main playground was under construction). Therefore, observation was not only used as a data collection method but also as a framework, based on which I identified the questions asked in the questionnaire and topics discussed in the interviews.

I created an online questionnaire with 25 questions using SurveyMonkey.com. Questions were categorized into three sections. The first section was designed to find out children's frequency of outdoor play within a week, identify types of games and outdoor activities they do and are not able to do, and understand how children commute to everyday destinations including school, a neighbourhood park, a neighbourhood store, and a location of their choice. The second section of the questionnaire was designed to understand children's overall perceptions of safety in the neighbourhood, their perception of safety when interacting with traffic, and when playing outside in the neighbourhood. Finally, demographic questions were asked in the third section of the questionnaire. These questions were designed to understand children's living conditions, such as their access to private playspaces, their family's dimension, their ethnicity, and the length of their stay in the neighbourhood. In this section, children were also asked to rate their sense of belonging to the neighbourhood, which was defined for them as “having good memories from a particular place and wanting to go back to that place.”

Twenty-five valid questionnaires were collected. Caregivers' presence was mandatory during the participation to help the child with the comprehension of the questions and phrasing and articulation of the answers. Data gathered from the questionnaires were not used in a positivist way, as Tudge et al. (2012) put it, even though many of the questions were multiple-choice and close-ended. The most important benefit of the questionnaires for this research was to initiate a meaningful conversation between me and the children. Responses provided me with a context to work with, identifying what needs to be investigated during the interviews, similar to the influence of observations on conducting the questionnaire. Therefore, my data collection processes characterized some reflexivity and open-endedness which is often inevitable in ethnographic studies (Campo, 2013; Till, 2009; Tudge et al., 2012).

There were a few considerations regarding the design and preparation of the questionnaire. As suggested by previous researchers (e.g., Barker & Weller, 2003), a child-friendly language was adopted in the preparation of these documents to make sure communication with children is effective.

To ensure effectiveness, I piloted the first version of the questionnaire and consent forms with the help of three participants, a 7-year-old girl, an 8-year-old boy, and a 10-year-old girl who volunteered from within my friendship network. After responding to the questionnaire, the pilot participants provided feedback regarding the language, content, and user-friendliness of the questions. Considering their insight, I revised the questions into shorter and simpler formats. For example, I changed a few open-ended questions requiring short answers into three-point Likert questions, one-word, and one-number answers. I have also incorporated more pictures throughout the questionnaire. Another consideration in revising the questionnaire was to add examples to clarify the purpose of the question. The final version of the questionnaire is enclosed in this dissertation (see Appendix C).

Questionnaire respondents whose caregivers had given consent to be contacted in the future were invited to a follow-up interview. A total of nine semi-structured interviews were conducted with the participants using Zoom video conferencing software in January 2021. I did not notice any level of discomfort in using Zoom, perhaps due to familiarity with the software through online schooling experiences for over a year since the beginning of the COVID-19 pandemic. The interviews lasted for at least 1 hour, with the first 40 minutes dedicated to question-based conversation and the last 20 minutes to a drawing activity. I did not use drawings as data; therefore, they are not included in the analysis of this research. The drawing activity also helped to keep participants engaged as I witnessed signs of distraction, especially for the younger participants, toward the end of the 40-minute question-based conversation.

During the interview, children were asked to describe an average day in their life from morning to night including details about their commute to school and outdoor play experiences. Then, children were asked to annotate the Google Map of their neighbourhood indicating their favourite places and pathways. I then discussed why they like or dislike a place. Depending on the questionnaire responses, follow-up questions were asked about what they play, where they play, and who they play with. All participants were asked to reflect on their responses to the safety questions. They were also asked to elaborate on their levels of belonging to the neighbourhood. Besides responding to the interview questions, the children shared many great stories during the interviews. Interviews were recorded and transcribed verbatim, which produced a 32,000-word document.

At the end of the interview, I asked children to draw their “dream playspace.” I borrowed this activity from Bhuyan’s research (Bhuyan, 2021, p. 7), where children’s drawing in one-on-one

interviews generated ideas on how neighbourhood playspaces could be improved. For my research, the main purpose of including a drawing activity at the end of the interview was to activate the participant's imagination (Sandercock, 2003). Eight of the participants agreed to participate in this activity (see Appendix D) and one of them decided to describe the dream playspace verbally only. Drawings indeed, helped with understanding the younger participants – 6- and 7-year-olds, to communicate their opinion easier than during the rounds of verbal questions and answers.

I would like to mention a few considerations regarding the interviews. The presence of caregivers during the interview was optional and up to the child to decide. Most younger participants decided to have a parent beside them. Some of the participants had family members in the background, and some were interviewed alone. Caregivers' presence was helpful both for me and the child interviewee; there were many instances of caregivers facilitating the articulation or comprehension of questions or answers for both sides.

Another consideration in keeping the conversation meaningful with children was to give them enough time to think and patiently help them with the articulation of their responses without interrupting their thinking processes, even when their responses did not accurately address the question. I prioritized their words over the predefined questions as I found the conversation to be informative overall. I could go back to my original question later. Another consideration with children is to give them enough time to think and help them properly develop their responses. It is important to be patient with children and expect things to take longer than usual as argued by Kraftl on the slowness of conducting research with children (Millei & Rautio, 2017). For example, a seven-year-old boy once showed me all his drawings of imaginary characters. Naturally, this was not a part of the interview plan, however, I used this opportunity to retrieve useful information pertinent to the research objectives. For example, I asked him, "Where does the X character that you drew here usually play? Where does it feel safe and what is his favourite game?" I was trying to activate his imagination and lead the discussion to the second portion of the interview, which was drawing your dream play space.

Regarding the power dynamics between me and the interview participants, I realized some ingenuity in some of the answers. For example, when asked if you play in the lawn area in front of your building, a few interviewees tried to avoid saying yes as they knew that playing in that area is not permitted by the building owners. Then, I would mention that other children told me that they

sometimes *do* play in that area, especially when other play spaces are not accessible, or in my opinion, building owners should consider changing the regulations about using this space. I tried to encourage them to share their realistic opinion with me. Again, when interviewing children, one must actively show good levels of understanding and support and never react in a way that they perceive a sense of judgment. Again, when interviewing children, one must actively show good levels of understanding and support and never react in a way that they perceive a sense of judgment. In these situations, I followed up or rephrased the question in a way that children were encouraged to express their honest opinions instead of relying on what they were told is *right*.

2.2.3 Recruitment

The participants in this study were children aged between seven and 12 years old who resided in Thorncliffe Park. There were no other inclusion or exclusion criteria for recruitment. The age range of the participants was selected based on Jean Piaget's categorization of children's spatial cognition development. Between seven and 12 children's spatial cognition is mostly related to the use of logic relating objects or concepts finding similarities and differences in the physical configuration of the space and relating it to certain uses or activities. For instance, a child compares the size of their backyard with a friend's backyard and realizes that a larger yard space is more suitable for active play. I excluded participants younger than seven because it was important for my research due to their inability to read and respond to survey questions without major assistance from an adult. I also excluded children older than 12 from this research, because children start to develop a more abstract type of spatial understanding after around the age of 12.

I mentioned earlier that Piaget's developmental theory is not used as a framework for this study as it does not consider the impacts of sociocultural and environmental factors on children's development. However, I used Piaget's categorization regarding age range as a unifying factor since this age range was also used in previous empirical research regarding play experiences. Moreover, when exploring existing amenities and educational programs for children in Thorncliffe Park, I realized that The Neighbourhood Organization (TNO) uses the same categorization in their programming. They offer programs and activities to children aged seven to 12 what they call "middle

years¹⁰.” I must mention that these numbers were used approximately. For instance, I had a participant who was six years old and another who had just turned 13.

Overall, the recruitment processes were a challenging part of the research. Spencer (2021) argues that in children’s studies, establishing trust between the researcher and children and their families is crucial, and so is navigating potential complexities caused by the researcher-participant power dynamics. Skelton (2008) also warns us about the inevitable top-down relationship between the researcher and young participants caused by the age difference. Additionally, ethical considerations, while intent to protect young participants, reinforce the power dynamics as researchers must present predefined instructions and techniques for different study components including recruitment and data collection undermining children’s role in navigating research processes for the most effective way of knowledge creation (Holt, 2004; Skelton, 2008; Spencer, 2021b). I faced a few constraints with recruitment. What I originally proposed and received research ethics approval for did not yield the desired number of participants.

One plan in promoting the research was to post physical signs at the bus stops, the neighbourhood library, and an ice cream shop in Thorncliffe Park. This method yielded zero participants. As a designer, I could see why the promotional materials did not attract much attention – they contained an overwhelming amount of information (mostly text) making it hard to read and understand in a limited time (see Appendix A for recruitment poster). However, the research ethics office kept asking me to include more details about the study to guarantee full disclosure of details.

Another plan was to invite participants through the Thorncliffe Park Community Facebook page, a closed page used for advertisement and posts directly concerning the residents. To become a member of this closed Facebook page, I declared my intention to work with the neighbourhood community to get approved by the page admin. Only one participant was recruited by this method. I received feedback from one of the Facebook page members on how the research information post reads as spam – what I created based on research ethics criteria. That person kindly suggested forwarding study information to their Women’s Organization WhatsApp channel where a trusted

¹⁰ <https://tno-toronto.org/services/child-family-and-wellness-programs/middle-years/>

series of communication is happening among female residents. I recruited a few children through this local channel.

The only predefined method of recruitment that was effective in this research was research promotion through TNO's "middle-years" program email list. For privacy reasons, two invitation emails were sent from the director of the childhood programs to the members without releasing their email addresses. Every time an email was sent from TNO, a few questionnaire responses were submitted. Again, this outcome shows the effectiveness of promoting research through local and trusted channels (Spencer, 2021b). However, accessing TNO staff was not easy because most staff were working from home due to the COVID-19 social distancing accommodations. Therefore, I could not rely on in-person visits to their offices. Contacting them by phone was also difficult as most of them were only using email in the meantime. Correspondence through email was also not necessarily effective and I have only received responses from one staff out of five I originally reached out to.

I also sent 800+ direct messages to all the members of the neighbourhood's Facebook page and received a few responses through my direct communication. This idea only emerged when my proposed methods of recruitment, which received ethics approval, did not yield the number of participants I anticipated. Perhaps, an issue to consider by the research ethics board and institutional research frameworks is also experienced and discussed with other scholars who work with children (Carroll et al., 2019, 2021; Holt, 2004; Skelton, 2008). Especially when working with communities and conducting ethnographic research, it is hard to predict the most effective way of attracting participants (Barker & Weller, 2003; Sandercock, 2000; Till, 2009). One size does not fit all, and each community responds differently.

An unplanned event that helped with the recruitment was in-person interactions during the observation sessions with caregivers, those walking back with their children from school or watching children playing near the residential buildings. These interactions occurred organically allowing me to explain the research and give caregivers copies of the research information letter with the link to the questionnaire.¹¹ Conversations about the research went smoother with male caregivers than with

¹¹ Since informed consent was obtained in all instances, this recruitment method was identified as a minor deviation from the original research design by the Research Ethics advisers at the University of Waterloo and was approved without further remedial action.

females. Fathers showed more willingness to take the time to hear about the research and to consider their children's participation. Two explanations may potentially justify this experience. First, I heard from a couple of females that they are busy and must attend to their daily chores (e.g., feeding children). Understandably, fitting an extra task into the child's (and the parent's) daily schedule is indeed challenging. Another possible explanation for receiving less attention from female caregivers is related to cultural norms. As a Middle Eastern woman myself, I have experienced, personally or through others, reservations in sharing personal lived experiences with a "stranger," like what Skelton (2008, p. 28) has experienced in working with Caribbean families. Overall, the gender of the caregiver seemed to play a role in recruitment success.

Another challenge with the recruitment was a language barrier when communicating with parents/guardians with limited English knowledge. During the recruitment process, a few of the caregivers refused to give consent for their child's participation as fully understanding the research information was challenging for them. In Thorncliffe Park, 57% of people speak a non-English language at home, while the city-wide rate is 29% (City of Toronto, 2016). Ideally, this study could have been more inclusive for the diverse community in Thorncliffe Park with 18.6% of the population being recent immigrants. However, due to time and resource constraints, I was not able to provide research documents in the top three non-English home languages in Thorncliffe Park including Urdu, Pashto, and Farsi (City of Toronto, 2016). The language barrier is an important factor when conducting research in multicultural communities. Language barriers were faced by many scholars previously especially when working with immigrants and ethnic communities – for example, Karsten's (2008) study of local and immigrant families about the use of sidewalk socialization in Amsterdam. Language barriers are also of concern when working with nonverbal participants – see for example, Carroll and colleagues' (2021) reflection on communication through sign language with children with disability.

2.2.4 Analysis

Data were analyzed using phenomenological analytical methods. This method is widely used in the study of place-based lived experiences and has pros and cons (Charmaz & Belgrave, 2012; Finlay, 2014; Wertz et al., 2011). Phenomenological analyses are usually time-intensive and open-ended resembling the nature of Ethnography (Till, 2009). These characteristics have simultaneously some advantages and disadvantages. Longer analysis processes do not respond to time-sensitive research

representation. For instance, phenomenology does not suit research aiming to inform decisions regarding the continuation of online schooling during the COVID-19 pandemic. The longer time frame of phenomenology allows the researcher to “stop and linger” with the phenomenon under study (Wertz 1985, p. 174 cited in Finlay, 2009). Finlay neatly uses the term “dwelling,” to refer to the beginning of finding meanings in data.

Finding meanings in the ethnographic data is not only time-intensive but often a reflexive process, too (Charmaz & Belgrave, 2012; Cope, 2009; Till, 2009). Reflexivity speaks to the open-endedness of phenomenology and grounded theory – “a process at once systematic, intensive, and intuitive” (Finlay, 2009, p.122). The intuition of the researcher can grow and change throughout the study. Through such experience, I modified my research objective and questions from purely focusing on the built form in Phase 1 (Portland case studies) to understanding the complex socio-spatial landscape of children’s play in Phase 2 (Thorncliffe Park case study). The blend of “systematic, intensive, and intuitive” is to make sure the researcher is truly engaged with the phenomenon before representing the findings (Finlay, 2014, p. 122).

I spent between two to three years dwelling and finding meaning in the collected data. For me, this process overlapped with the data collection. It all began with the on-site observations. I lived in Thorncliffe Park parking lots and streets (in my car) for hours and days, taking notes, sketching scenes, driving, talking, eating, grocery shopping, etc. Collecting questionnaire responses and specifically the effort I made to recruit participants played a huge role in my deeper engagement with the neighbourhood. For recruitment, I interacted with many of the current or past residents of the neighbourhood. By the time, I began interviewing children, I had created a few underlying schemes of the phenomenon under study. This open-ended-ness of the data collection and analysis was at times baffling leading to criticizing my research purposes. I learned, however, from previous experiences that this feeling is inevitable when you “dwell” to find meanings, you become so close to the phenomenon under study that the significance of what you are doing seems unrecognizable (Cope, 2009; Finlay, 2014; Zeisel, 2006).

The first part of the analysis was to make sense of observations. For that, I created five annotated pictures showing children’s spontaneous play in the neighbourhood. I intended to summarize information documented in observations into these five frames. Instead of photographs, base pictures were retrieved from Google Maps Street View overlaid by digital hand drawing to

imitate the observed activities. I previously explained that I did not use photography on-site to protect children's privacy and to remain unrecognized during the observations ((Zeisel, 2006)). Visualization is an effective form of representing ethnographic information (Till, 2009) and is used in different capacities and combinations of maps, pictures, diagrams, visual narratives, etc. All five frames represent people's use of space in the front lawn of buildings 43, and 47 in Thorncliffe Park Blvd because this area was the richest data-producing location throughout my observations. I combined these analyses with a narrative to illustrate findings more cohesively. The narrative and annotated pictures are used in Manuscript #2, section 4.6.3.

To make sense of the information gathered through questionnaires, I created graphs and tables. It is worth mentioning that survey applications usually automatically visualize the distribution of responses, as did the SurveyMonkey tool. However, due to the smaller sample size, those graphs lacked a meaningful understanding of the results. For such a small sample (25 responses), used a qualitative analysis method and visualized data into graphs and tables based on a combination of questions to understand relationships. The relationships were identified based on the main research questions and existing literature. For instance, responses to "How long have you lived in Thorncliffe Park?" were combined with the participants' ages and their responses to the *sense of belonging* question. The logic for this combination was the proven relationship between duration, level of familiarity and development of belonging to one's local community (Cook et al., 2015; Wise, 2022). Relying on the literature on children's safety perceptions and its relationship to the child's age and gender, I combined responses to safety questions with the age and gender of the respondents. Questions regarding the rating of outdoor activities, frequency of play, and age, gender were also combined in a table. These documents were not used directly in reporting the research findings. They were used in combination with the qualitative information gathered through observations and interviews and provided a generic understanding of the data. As explained before, questionnaires were used as a tool to generate further in-depth conversations about children's lived experiences.

Informed by phenomenological analytical methods, I continued my analysis by reviewing interview transcripts. I read interview conversations over and over without any agenda, what Fredrick Wertz calls "open reading" as the first step of phenomenological analysis (Wertz et al., 2011, p. 131). After "dwelling" and a few rounds of reading the text, themes started to appear. I began to create meaning units (Wertz et al., 2011) or what Linda Finlay defines as explicating – the process of pulling out themes from a messy whole (Finlay, 2014). Ethnographic research, indeed, produces "messy"

data (Dicks et al., 2006, p.35). For me, many different themes emerged from the interviews making it challenging to decide on the larger categories. Given the research objectives and theoretical framework, I eventually landed on four main themes, which I manually highlighted with different colours in the transcripts.

The four meaning units or themes extracted from the interview transcripts were: play (including conversations about playspaces, types of play, and frequency of play); safety (including insight about disliked spaces, negative past experiences, levels and conditions of feeling safe); belonging (including reasons to feel belonged, positive memories shared, and liked things and places); and, seasonality (including all comments or insights related to seasons, time of the day, and days of the week). Meaning units were at times overlapping. For instance, the safety theme overlapped with playspace preferences when a participant described safety concerns as to why they do not like a certain playspace. Even though the four themes shared a lot, themes “play” and “seasonality” represented aspects of physiographic space; while “safety” and “belonging” included information about the social realm of experience within the Socio-Ecological Framework (R. Moore & Young, 1978).

As the third step in conducting phenomenological analysis, I overviewed the meaning units to reflect on the significance of the findings (Wertz et al., 2011). Throughout the transcripts, I looked for recurring concepts, in other words, factors influencing children’s experiences. For that, I created a list of factors mentioned by the participants related to their experiences such as traffic signals, trees, supervision, etc. I then categorized them into the two realms of physiographic and social experience (e.g., physiographic: signals and trees; social: supervision). This arrangement of factors helped me further understand children’s opinions on the main concepts of belonging and safety. While I did not use the list of factors in the writing of my thesis articles, I used them in the description of the findings. For example, in response to “Why did children identify Burgess Park as their favourite playspace in the neighbourhood?” I emphasized the diversity of play equipment (physiographic), being located on the route to school (physiographic), playing with friends and neighbours (social), and having great memories (social).

To show children’s everyday experiences of the neighbourhood (where they go to school and play, and what routes they take to these destinations), I created a collage with a bird’s eye view image of the *heart* of the neighbourhood annotated with colours and a series of children’s quotes from the

interviews (Figure 33). I included this narrated, annotated collage of the neighbourhood in a poster presentation at the Urban Transitions Conference in November 2022. I received positive feedback from other scholars at the conference outlining the accessibility of the findings. The collage very well summarised my findings and gave everyone a quick understanding of the research goals and findings similar to an elevator pitch.

Overall, I used a combination of visual and text-based techniques to work with the analyzed data. As Freeman and Vass (2010) argue, understanding children's experiences through one form of data representation is unrealistic as it excludes information that is only communicable through non-verbal methods. I have also relied on many direct quotations from the conversations with children because of the complexities of interpreting children's languages as discussed in the literature on children's participation in planning and research (e.g., Freeman, Ergler, & Guiney, 2017; Freeman & Vass, 2010; Hanssen, 2019; Spencer, 2021a). I experienced the same challenges during the interview. However, as I explained before, I used neighbourhood map annotation and a drawing activity as supplementary tools to generate more meaningful conversations. In support of the significance of my study, I would like to include a quote by Steen Halling (cited in Finlay, 2014)

“Phenomenological research reports tend to demonstrate their scientific rigour and trustworthiness by offering examples and quotations from the data to illustrate points made bringing readers into a closer relationship with the phenomenon” (Halling, 2002).

I must clarify that children were not involved in data analysis. According to a recent systematic review on child-friendly city research, involving children in the analysis and dissemination stages of the study is a fairly new consideration in methodology (Cordero-vinueza et al., 2023). However, it is a valuable approach as it considers the full scope of children's participation in planning research informed by the UN Convention on the Rights of Children. Examples of this type of research are included in an edited book by Grace Spencer (2021), where examples of participatory research analysis are presented from international cases.

2.3 Reflection on Methodology

This research for the most part relied on observational methods and ethnographic approaches. Observations were limited to finding physical clues in the built environment and morphological analysis in Portland. Then, to observe behaviour in the environment and human participation. As

mentioned earlier, my study is a result of ongoing reflections on the research questions, methods, and analysis. From exploring the built environment in Portland neighbourhoods to non-participant observations in Thorncliffe Park to collecting questionnaires and following up on children's experiences in the interviews, my research evolved gradually. As experienced and discussed by ethnographers and scholars working with human subjects in an open-ended and reflexive setting is time-intensive and is a "slow process" to use Peter Kraftl's term (cited in Millei & Rautio, 2017). I faced many challenges but grew throughout the process.

Chapter 3 Manuscript 1 *Keeping Young Families in the Centre: A Pathways Approach to Child-Friendly Urban Design*

This paper outlines the importance of pathway design in creating “child-friendly” cities. There is concern that central parts of major cities have excluded households with children through the process of youthification. The importance of parks in creating child-friendly neighbourhoods is widely accepted, but the quality of the pathways connecting parks to residential areas has received less attention. This study develops a design assessment approach and compares the quality of pathways in youthified and family-oriented neighbourhoods in Portland, Oregon. A stronger focus on informal play opportunities along pathways and a systematic design assessment is recommended to advance child-friendly planning.

3.1 Introduction

Public parks and playgrounds are now widely accepted as important components of children’s playspaces in urban neighbourhoods. Playspaces serve as alternatives to private yards that are not as commonly available in the centre of major metropolitan areas (Talen, 2010). Much research, and design practice, has considered the internal design of playspaces that positively contribute to children’s play experiences (see, e.g., Goličnik & Thompson, 2010). However, little attention has been paid to the spatial networks, or pathways, that connect these play destinations (R. Moore & Young, 1978; Talen, 2010).

It is crucial to understand that play experience is not limited to what happens within the physical boundaries of parks and playgrounds (Hanssen, 2019). Children tend to play everywhere and under any circumstances (Walsh, 2006). Given that children constantly explore streets and empty lots seeking new play opportunities (J. Jacobs, 1961; R. Moore & Young, 1978), this paper aims to highlight the importance of designing child-friendly pathways that accommodate informal play. The paper reviews how academic literature differentiates between formal and informal play, develops a systematic assessment for measuring the quality of pathways, and uses Portland, Oregon as an example to illustrate the differing qualities of pathways in two different types of neighbourhoods in a North American context (one with more young adults in smaller households, and one more family-oriented with larger households).

3.2 Parents, Out of Urban Centres

“America’s rich cities specialize in the young, rich, and childless; America’s suburbs specialize in parents. The childless city may be inescapable” (Thompson 2019).

News coverage in recent years has reflected the challenges of raising children in city centres in North America, and the decrease of children’s populations in many although not all central areas over time. For example, Vancouver, Canada, is an exception as recent urban policies have significantly supported households with children in denser urban centres, although even here children remain most represented in the suburbs (Thomas, 2020). The perception that urban environments are not suited for children concerns planning movements such as Smart Growth that aim to create denser and more transit-oriented neighbourhoods in cities for a wide demographic segment (Downs, 2005). For instance, Siedentop, Zakrzewski, and Stroms (2018, p. 1) speak of a potentially “childless urban renaissance” that is much more pronounced in American than in German cities; the latter seeing urbanization associated with a broader demographic spectrum. More generally, cities in many parts of continental Europe have traditionally had better integration of children and adult spaces in urban centres, and even still are now channelling significant funding into child-friendly policies and urban designs – see, e.g., Davies (2018) for child-friendly design strategies and Weedy (2020) for Barcelona’s Superblocks.

In North America, however, studies have shown that the physical features of the central parts of the metropolitan areas are particularly attracting the Millennial generation, resulting in higher concentrations of this demographic. Millennials are a group of young adults born between the early 1980s and 2000s (Hyojung Lee, 2018; McDonald, 2015). For instance, Lee (2018) argues that walkability, availability of multi-modal transit, and adjacency to public amenities and entertainment are urban characteristics that are highly valued by this generation.

Furthermore, many more Millennials than young adults of prior generations delay or forego childbirth. Young adults residing centrally (although certainly not all) have higher educational attainments (Hyojung Lee, 2018). It has been argued that, on average, the time they spend in their professions is more than the standard work hours (Thompson 2019). If married, they are usually dual earners. However, late marriage or not getting married at all is more common among this group

(Martin, Astone, & Peters, 2014). These factors contribute to a decrease in the intention of forming families and having children among Millennials.

Millennials who reside centrally tend to move to the periphery as their household composition changes (Estiri & Krause, 2018). This process is referred to as “youthification” through which central urban neighbourhoods remain young over time (Moos, 2016, p. 2904). Accordingly, newer generations of young adults replace those who have moved out of urban centres due to changes in their household composition, often due to parenthood. As a result, the downtowns in many North American cities see an increasing concentration of young adult amenities, resulting in highly “generationed space” (Moos, 2014). Therefore, residential location patterns by age remain highly correlated with household types with suburbs still commonly perceived as more family-oriented, and still containing a higher proportion of households with children than central cities (Moos, Filion, Quick, & Walter-Joseph, 2019; Talen, 2001).

Millennials with children, or with the intention of having children, moving away from central areas is commonly associated with housing affordability concerns, small unit sizes, and lack of child-friendly amenities, all of which increase the demand for *suburban* living (even among those who might otherwise exhibit urban location preferences) (Clapham, Mackie, Orford, Thomas, & Buckley, 2014; Moos, 2014; Wegmann, 2020; Wood, 2015). These trends are counter to current Smart Growth planning approaches that aim to increase the share of growth occurring in central and previously built-up areas of cities. Those neighbourhoods may remain “forever young,” making the future of the city highly segregated by lifestyle and demography (besides other historic and ongoing factors of segregation such as race and class) (Moos, 2014; Moos et al., 2019).

Although housing affordability and the lack of private yard space are common drivers that have been previously studied (Schoeppe et al., 2015), the general child-friendly-ness of the urban public realm is also an important but understudied factor impacting parents’ residential location decisions (Kirk 2018; Kotulla, Denstadli, Oust, & Beusker, 2019). It is often assumed that children do not have as much freedom of play in dense urban environments as they do in the suburbs (Horschelmann & Van Blerk, 2013) and lack of amenity provision for children’s play has been shown to exacerbate the challenges of raising children in urban neighbourhoods (Kotulla, Denstadli, Oust, & Beusker, 2019). Although the analysis in this paper does not examine motivations directly, it

considers the dimension of the public realm that would be important to consider in planning for children.

3.3 Types of Play

Children's play environments are often categorized into formal and informal by differentiating between structured and unstructured play. Formal playspaces are designated environments equipped with play facilities that mostly accommodate structured play (R. C. Moore, 1987; Rasmussen, 2004). Informal playspaces refer to environments that are not purposefully designed for children's play but, at times, still offer different play opportunities (Karsten & Vliet, 2006; R. C. Moore, 1987; Rasmussen, 2004).

According to Rasmussen (2004), formal playspaces are institutionalized urban destinations built for children by adults, such as public parks and playgrounds, schoolyards, and sports facilities. Whereas informal playspaces are defined as places with embedded play opportunities that are usually discovered by children (Lynch, 1977; H Matthews & Limb, 1999; R. Moore & Young, 1978; Ward, 1978). Local streets, back alleys, sidewalks, parking lots, and cul-de-sacs are parts of the urban public realm that can also function as informal playspaces. Informal play happens through the act of exploring the environment. Moore (1987) believes that there is always play potential for children to be discovered in different elements of public spaces such as bushes, curbs, and streetlights. This is also referred to as "play affordances" (Kytä, 2004). For instance, a courtyard with a tree can offer various play opportunities to children that may not be found in a courtyard without a tree. Climbing the tree, hiding behind it, running around it, or sitting under its shade are all examples of potential "unprogrammed" play activities (Lynch, 1977, p. 13).

Unlike formal playgrounds, informal playspaces are not definite or necessarily lasting components of the urban fabric. When, in the public realm, children grasp and actualize play affordances, a temporary playspace emerges within the context of the existing environment at a moment in time (Lynch, 1977). In this case, the temporary space is defined by children's presence and their play behaviours instead of permanent fences, walls, or designated equipment. Given the transient nature of informal playspaces, they are best defined as part of a greater multi-functional outdoor space (M. Francis & Lorenzo, 2002; Hanssen, 2019).

3.4 Urban Pathways and Informal Play Opportunities

The theoretical framework of this study is based on Roger Hart's Phenomenal Landscape Model (1979) which explains how children experience outdoor environments. The development of the phenomenal landscape relates to children's territorial range and consists of different places visited by children as well as the pathways connecting those places (Hart, 1979). Children constantly discover new places on their route to familiar destinations. A corner store or an empty lot on the way to school can become new informal play destinations for children. From this perspective, both formal and informal playspaces are required to shape the entirety of children's play experience.

The extent and variety of outdoor spaces visited and explored by children is defined as children's territorial range (Hart, 1979). The range extends as children grow and learn new skills. However, the relationship between children's level of competence and territorial range is not always linear. Children's range is influenced by factors such as age, gender, parental approaches, culture, and the sociology of childhood (Katz, 2001; Homan Lee et al., 2015; H Matthews & Limb, 1999; R. Moore & Young, 1978). It is also common to see caregivers shrinking children's range in urban environments due to safety concerns (De Visscher & Bouverne-de Bie, 2008; Valentine & Mckendrick, 1997).

This leads back to the initial argument of this paper about the importance of urban pathways in providing informal play opportunities. Pathways, such as streets, sidewalks, trails, etc. are linking elements between different destinations, and importantly, constitute a part of children's territorial range (Hart, 1979). Lynch (1960, p. 47) also defines "paths" as channels of movement that play a predominant role in creating the "image" for the observer since paths organize the city as a whole. The way pathways can provide opportunities for informal play requires more consideration in urban design and planning.

From an urban design perspective, open spaces surrounding a dwelling unit are structured into a range of private, semi-private, semi-public, and public spaces to provide safe and well-maintained communal open areas, which Newman (1996) defines as Defensible Spaces. Thus, homes immediately abutting the public realm fail to provide such spaces for the residents. This paper argues that the design of a child-friendly neighbourhood also relates to a range of private to public playspaces within children's territory that is referred to as a *hierarchy of open spaces*.

When it comes to children's play, a hierarchy of open spaces can be defined based on the level of supervision required, and the number and variety of users – see, e.g., City of Vancouver (1992) for design guidelines about family-oriented open spaces. The level of supervision is of course a subjective measure. But in general, one's enclosed backyard is the most private open playspace, where a high level of supervision with the least effort is possible. Thresholds such as front porches, driveways, and front lawns provide semi-private playspaces, where supervision is still possible but requires more attention from a guardian/parent, but also increases play opportunities with other children in the neighbourhood. A stranger's child or a passer-by may stop and converse but would not usually stay for a lengthy period (although this depends on neighbourhood culture and other social factors). Sidewalks and residential streets next to dwelling units allow for more independent play but supervision becomes less straightforward in these types of semi-public playspaces. Streets further from home, neighbourhood parks, and playgrounds are considered public open spaces within children's range, and if supervision is required (depending on the age and need of the children) a parent or guardian would have to accompany the children to these locations.

The word *hierarchy* is used to emphasize the importance of appropriate transitions from private (e.g., home yards) to public open spaces (e.g., parks) in creating a network of informal play. This network functions well for children with different territorial ranges. The larger the children's range, the more accessible a variety of public playspaces may become. However, if a hierarchy of outdoor playspaces does not exist, the younger children with limited play range are inevitably restricted to home boundaries. In this case, a play range does not exist because children's play experience is limited to going back and forth between home and public play destinations (parks, schoolyards, etc.), rather than being able to explore a range of play opportunities along paths connecting their homes to other play destinations. The lack of a hierarchy of safe playspaces promotes a culture of "backseat" children escorted by parents "from one domain to another in their urban field" (Karsten, 2005, p. 286).

While the hierarchy of open spaces influences the extent of children's territorial range, the child-friendliness of pathways is very much related to how their "edges" are defined. The term "edge" is borrowed from Lynch's terminology (1960, 47). However, instead of considering the edge as a separating line between two districts, here, a more subjective measure is used to evaluate how a sidewalk interacts with vehicular space. *Soft edges* are, then, defined as safe barriers separating children's and cars' movements that further facilitate informal play along pathways. Child-friendly

urban design guidelines consider a few factors to achieve this. Among them is the proper separation between sidewalks and streets in the form of landscape buffers – see, e.g., City of Toronto’s child-friendly street design guidelines (Nasr, Oppedisano, Zonena, Floro, & Bogdanowicz, 2017). Moreover, on-street parking along the sidewalk and bike lanes provides a safety barrier between pedestrians and motor vehicles. This is specifically important for children’s safety because their walking patterns are less predictable and more spontaneous.

Another way to create soft edges for urban pathways is the provision of parklets. Parklets provide seating spaces on the curbside and can be as small as the space needed to park one vehicle. Existing parklet design guidelines do not usually consider children as the main users of these spaces (NACTO, 2013). However, children may be considered in parklet design for the following reasons. First, curbside seating creates moments of pause along the pathways that may lead to informal play. Second, it increases the buffer between vehicles and pedestrians. Third, it increases children’s sense of curiosity by adding extra colour and texture, and new elements to explore along the pathways (of course with consideration of secure edges).

Understanding the relationship between the Phenomenal Landscape model and child-friendly design solutions sheds light on the necessity of planning for a play network (Hart, 1979). Parks and playgrounds cannot be considered isolated destinations but need to be understood in the context of the routes required to travel there. Therefore, planning for urban pathways is arguably as important as planning for public parks; first, to achieve higher accessibility to parks for households with children (and reduce carbon-intensive travel to access parks by facilitating walking and bicycling), and second, to create informal play opportunities that complement children’s play experience in urban areas. Although the empirical part of this study only considers the route between residential areas and urban parks, future work should also consider other pathways frequented by children, such as the way to school.

3.5 Portland: An Illustrative Example

Portland is chosen as an example of a North American metropolitan area that has experienced gentrification and youthification, altering the social structures of central areas generally (although not exclusively) towards younger, smaller, and higher-income households (Song & Knaap, 2004). Moreover, Wegmann’s (2020) data of Portland demonstrates a decline in the population of children residing in gentrified or gentrifying neighbourhoods, despite the overall growth of the child

population from 1970 to 2017. Portland thus makes an interesting case for studying the influences of public realm design on children's population in youthified and family-oriented neighbourhoods.

3.5.1 Methods

As discussed previously, researchers and city planners need to consider the concept of a play network to create child-friendly neighbourhoods. It is common among researchers to consider *access* as an individual factor in evaluating parks' function and values (G. Brown, 2008; Homan Lee et al., 2015). However, this paper positions pathways as an inseparable part of children's play experience as pathways provide informal play opportunities and necessary (and safe) connectivity. Neighbourhood parks are chosen over other destinations (e.g., schools, errands, etc.) to limit the scope of the paper, and because walking from home to the park is an important, yet understudied part of children's play experience.

Using a mixed-method approach, pathways from home to neighbourhood parks are measured and analyzed in two youthified neighbourhoods and two family-oriented ones. Neighbourhood selection is done based on data retrieved from a website called Niche, which combines user-generated data and several secondary data sources to derive neighbourhood rankings for major cities in the United States. Such subjective ranking is likely to reflect the overarching perception of specific places, and it is these more subjective impressions, among other factors, of course, that shape households' residential location decisions (Opit, Witten, & Kearns, 2020).

It should also be noted that such rankings, and specifically school rankings, are not unproblematic in that they can create and reinforce social segregation, in particular, along racial lines. School rankings are also often biased by race and class-related metrics (Saporito & Lareau, 1999). Table 5 shows that the selected neighbourhoods are majority White and highlights the need for future studies to also consider how the quality and safety of pathways may vary by the racial or class composition of neighbourhoods to examine spatial inequities in informal play opportunities for children. In other words, the selected neighbourhoods are not representative of the overall population of Portland in terms of racial and class composition. However, the comparison here is still useful as it is primarily for illustrative purposes to demonstrate how pathways vary for neighbourhoods with different household and age compositions.

Niche (2020) provides rankings on the *best* neighbourhoods for Millennials and families. Here, the presence of Millennials is used as a proxy of youthification and matches with prior analysis

of the geography of young adults (Moos, 2014; Moos, Pfeiffer, & Vinodrai, 2017). Although these definitions are not uncontroversial, for this study, families are households with children present, and the family-oriented neighbourhoods based on the subjective rankings indeed include a larger share of children than high-ranked neighbourhoods for millennials.

Table 5 Case Study Neighbourhood Characteristics.

		Neighbourhood Profile (Source: NeighborhoodPulse 2020)						Neighbourhood Ranking (Source: Niche 2020)		
Neighbourhood		Population Density (/sq.	Median Age	Households with Children	Population of the White	Median Income	Home Ownership	Public Schools	Cost of Living	Crime & Safety
Youthified	Pearl	15,670	39.1	5.4%	84.9%	68,800	36%	A	D+	C+
	Eliot	4448	33.1	17.7%	68.6%	48,400	31%	B	D+	C+
Family-Oriented	Marshall Park	2181	44.9	26.9%	94.0%	119,600	92%	B+	C-	A+
	Arlington Heights	798	45.6	32.6%	90.1%	107,700	94%	A	C-	A-

A total of four neighbourhoods are selected for this research. Pearl and Eliot are two youthified neighbourhoods; Marshall Park and Arlington Heights are two family-oriented neighbourhoods. Figure 9 shows the location of the neighbourhoods in the context of the Portland Metropolitan Area. Not unexpectedly, the youthified neighbourhoods (Eliot and Pearl) are located more centrally, whereas the ones ranked as more family-oriented (Arlington Heights and Marshall Park) are located further from the centre in what would generally classify as suburban areas (Hyojung Lee, 2018). Table 5 compares neighbourhood characteristics. Demographic data is retrieved from NeighborhoodPulse (2020) which provides neighbourhood statistics for the Portland Metropolitan Area drawing on the 2010 US Census. Relevant neighbourhood rankings are extracted from Niche (2020). Overall, the youthified areas are higher-density neighbourhoods with a lower percentage of children, higher cost of living, and lower homeownership.

The first phase of the study measures traffic-related factors influencing children's safe travel to parks. According to Horschelmann & Van Blerk (2013), traffic interaction is considered an

environmental risk when it comes to children’s outdoor play. Here, distance, travel time, and the number of intersections to be crossed are measured in potential pathways to parks. For that purpose, different scenarios of potential pathways travelled between hypothetical home locations and actual park locations are considered.

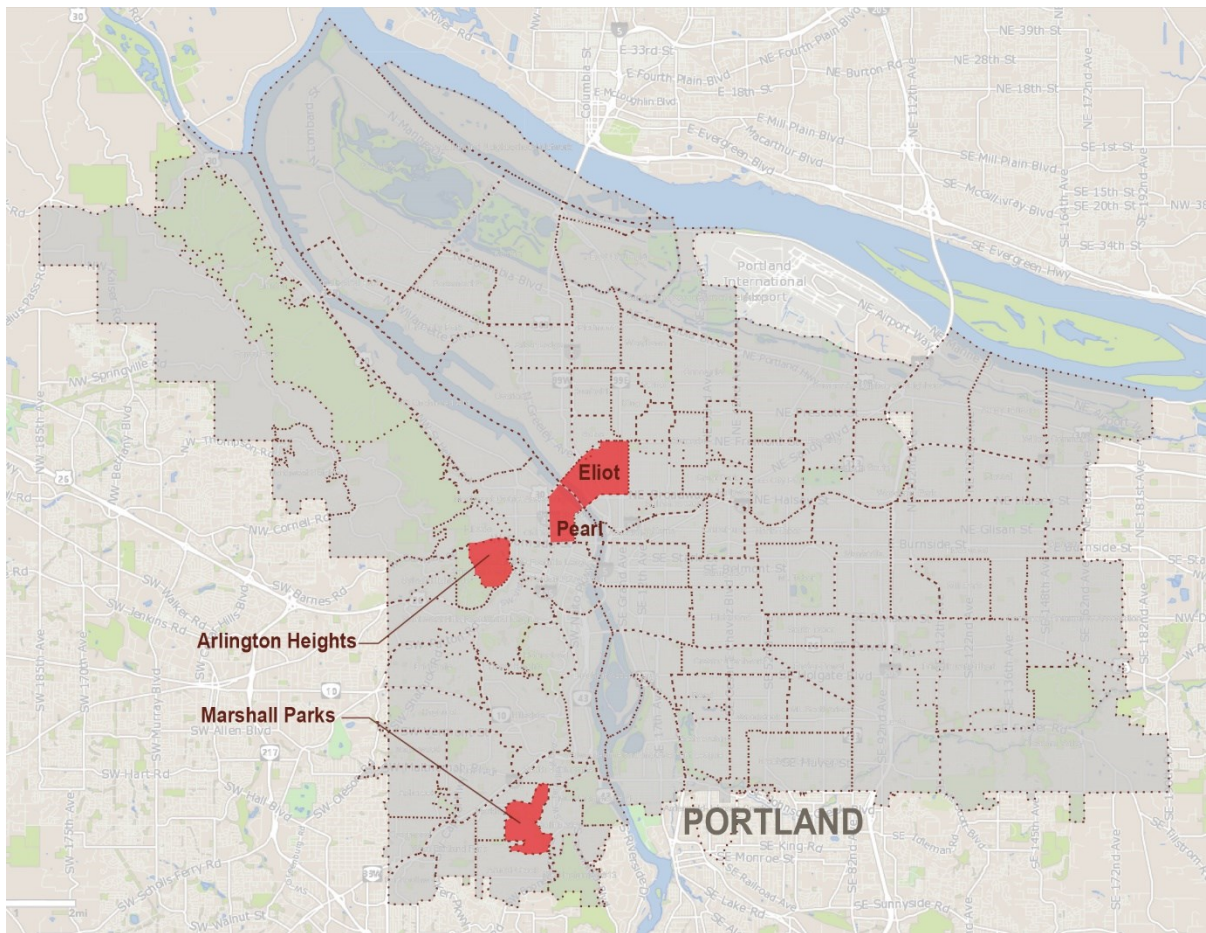


Figure 9 Case study neighbourhoods’ locations in Portland. Source: Map by authors based on PortlandMaps 2020a.

Using the Portland zoning map (PortlandMaps 2020b), *home* location is subjectively selected as the geographical centre of the residential land use in each neighbourhood, instead of simply selecting the centroid of the neighbourhood. This hypothetical home location is then connected to the neighbourhood park(s). Distance and duration of travel are retrieved from Google Maps, while the number of intersections crossed is counted manually. The analysis uses the most direct route to

measure distance and time, and the least number of intersections. The number of actual intersections crossed by a pedestrian may vary in actuality even when moving along a similar path as people may cross streets for a variety of reasons, such as to look at storefronts or due to safety perceptions.

Descriptive quantitative data is complemented with qualitative analysis of the built environment through an environmental design research method called “observing physical traces” (Zeisel, 2006). This well-established “diagnostic tool” (A. B. Jacobs, 1984, p. 32) refers to the process of walking around the built environment and systematically searching for clues that give information about how people use that environment (Zeisel, 2006, p. 159). According to Jacobs (1984, p. 32), “You can tell a lot about a city or a neighbourhood just by looking.” Although this is an appropriate method for this research, there are a few limitations in the study that are discussed below.

3.5.2 Limitations

One drawback of this research is that it only relies on on-site observations and does not consider users’ experiences. Here, Portland is used as a real-world example to better understand the concept of informal play and the issue of pathway design, not to accurately measure the actual perceptions of residents or the overall quality of all pathways in the selected neighbourhoods. However, in actual design practice, it is essential to also use more participatory methods such as interviews and focus groups. These are beyond the scope of the current research.

Another challenge for the analysis of this research is that it studies only one factor that, within the literature, is considered one among several reasons why families might leave city centres. Commonly, unit size and affordability are considered the main drivers of young parents moving to the suburbs, while the lack of child-friendly amenities in shaping location decisions remains understudied. The implication is that although planning the public realm, and in particular pathways, following child-friendly design principles is necessary for various reasons, in practice it is unlikely to be sufficient to draw more families with children across the income spectrum and from different racial backgrounds to central areas unless issues regarding housing affordability, unit sizes, and systemic racism, among other factors, are also addressed.

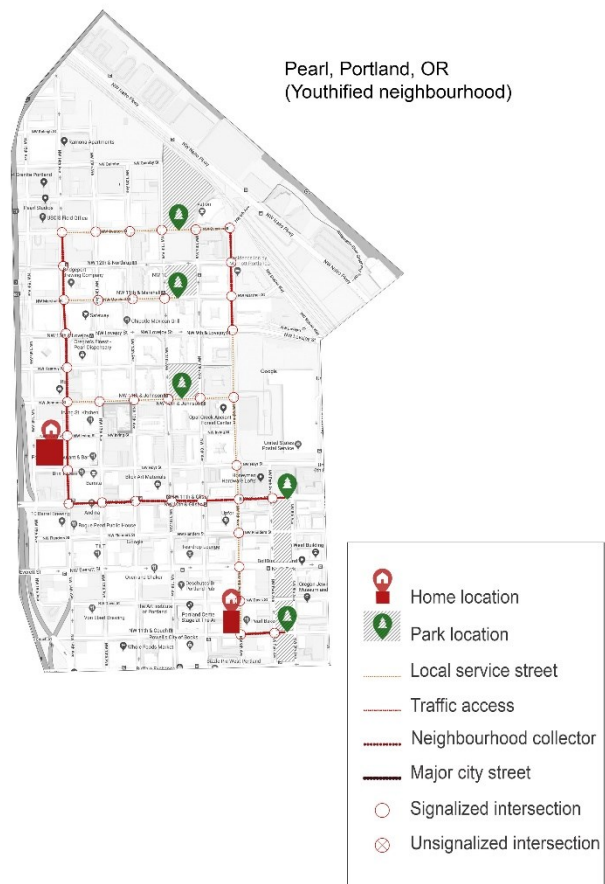


Figure 10 Potential pathways travelled from home to park. Source: Maps by authors adapted from Google Maps.

3.6 General Observations

Generally, traffic interaction is an influential factor in measuring urban design qualities (Ewing & Handy, 2009), especially when it comes to children's outdoor play (Horschelmann & Van Blerk, 2013). Considering safety concerns raised by child-car interactions, the research observations are presented in five sections: street layout and intersections, travel distance and time, traffic flow and rights-of-way, sidewalks and soft edges, and hierarchy of open spaces.

3.6.1 Street Layout and Intersections

Figure 10 shows the potential pathways travelled from home to parks in each of the four neighbourhoods. The overall shape of the pathways in each neighbourhood relates to the street network design and the building block patterns (Chermayeff & Alexander, 1965). The selected youthified neighbourhoods in Portland follow a grid pattern, while the curvilinear street pattern is the dominant layout in the family-oriented neighbourhoods. As a result of a denser street network in central parts of Portland, the number of intersections to be crossed is greater in the youthified neighbourhoods and ranges between 6.3 and 7.5. The range decreases to between 2.7 and 4.3 in the family-oriented neighbourhoods. While a larger number of intersections increases connectivity and facilitates access, it also raises potential safety concerns due to increased interactions with traffic (Nasr et al., 2017).

It is worth mentioning that intersections are not the only locations where children need to cross the roads in the youthified neighbourhoods. For instance, in the Eliot neighbourhood access to a car wash and a drive-thru, fast-food place interrupts the sidewalk three times within one block (Figure 11). This is a result of what is more typical of traditional North American suburban design in the Eliot neighbourhood where motor vehicle access is prioritized over walkability. Sidewalk interruption by vehicle access is not evident in the Pearl District as this neighbourhood is consciously developed as an urban environment valuing walking and cycling.

Another influential factor in the perception of safety is the type of streets along which children travel (Alexander, 1977, pp. 341–347). In Figure 10, road classifications are indicated by different line weights and based on Portland's transportation system plan (City of Portland, 2020) with increased traffic flow from "local service street" to "traffic access" to "neighbourhood collector" and to "major city street." The street network in the family-oriented neighbourhoods only includes "local service" and "neighbourhood collector" streets, while the youthified ones include a

combination of all types of streets. Only considering this measure, it can already be said that pathways in family-oriented neighbourhoods appear to be safer for children's informal play.

3.6.2 Travel Distance and Time

Pathways in the family-oriented neighbourhoods are on average longer than the ones in the youthified neighbourhoods. The Google Maps direction tool is used to measure travel distance and time. In the family-oriented neighbourhoods, the mean travel distance from home to park ranges from 0.7 to 0.9 miles. This range is lower in the youthified neighbourhoods (from 0.4 to 0.5 miles). This is largely an outcome of differing street layouts, development densities, and neighbourhood block design.

A maximum walking distance of 0.25 miles is often deemed acceptable in the US. This number varies for different walking purposes and might well be lower for people travelling with children. Generally, people are willing to walk longer distances if the purpose of travel is recreational (Yang & Diez-Roux, 2012). Although travelled pathways are shorter in the youthified neighbourhoods, the 0.25-mile cut-off keeps parks outside of the generally acceptable walking radius in all case study neighbourhoods. This again raises the important role of child-friendly pathways in compensating for play opportunities in closer proximity to home.

Google Maps estimates that the average travel times to parks range from 9.4 to 9.7 minutes for the youthified neighbourhoods and 15 to 18 minutes for the family-oriented ones. One might argue that a roughly ten-minute walk is not likely a barrier to access in the youthified neighbourhoods; while the almost twenty-minute travel duration perhaps reduces the chance that people in the family-oriented neighbourhoods will walk to the parks.

3.6.3 Traffic Flow and Right-of-Way

Although the number of intersections is an indicator of traffic interactions, it does not necessarily cause higher traffic risks for children's movements. Traffic flow and rights-of-way will likely have a greater influence on the child-friendliness of the streets (Appleyard, 1980). While street design and programming are important, proper traffic signage and signalling can positively improve the interaction between pedestrians and vehicles. Intersections are very well signalized in the Pearl District and Eliot neighbourhood (Figure 12). Additionally, other traffic signs facilitate navigation for pedestrians, cyclists, and drivers in these two neighbourhoods (Figure 13). Moreover, the speed limit is considerably low (20 to 25 mph) in most parts of the Pearl District and some parts of the Eliot

neighbourhood as well. Thus, one could argue that these factors would lead to a generally safer walking experience for children.

In the family-oriented neighbourhoods, however, not all the intersections have proper traffic signals and only a few stop signs are found (Figure 14). In Arlington Heights, only 3 out of 5 intersections are signalized along the studied pathways. This ratio decreases to 2 out of 5 in the Marshall Park neighbourhood. The lower percentage of signalized intersections in the family-oriented neighbourhoods is perhaps due to the overall lower traffic flow. Marshall Park and Arlington Heights are generally quiet neighbourhoods in terms of car traffic according to residents' reviews (Niche, 2020). Figure 17 is a collection of photographs demonstrating traces of children's play, despite the poor street designs, from a pathway's perspective, in the family-oriented neighbourhoods. The presence of a soccer net in the middle of a three-way junction and the basketball nets installed along the edge of the roads are some evident examples.



Figure 11 Examples of sidewalk interruption in the Eliot neighbourhood. Sources: Map adapted from Google Maps; Photographs by Mazdak Shadkam, January 2021.



Figure 12 Intersections in the youthified neighbourhoods, Eliot (left) and Pearl (right). Sources: Photograph on the left by authors, February 2018; Photograph on the right by Mazdak Shadkam, January 2021.



Figure 13 Traffic signs in the Eliot neighbourhood (top) and the Pearl District (bottom). Sources: Photographs on the top by authors, February 2018; Photographs on the bottom right and middle by Mazdak Shadkam, January 2021; Photograph on the bottom left from Google Street View, September 2019.



Figure 14 Intersections in Marshall Park (left) and Arlington Heights (right). Sources: Google Street View, September 2019.

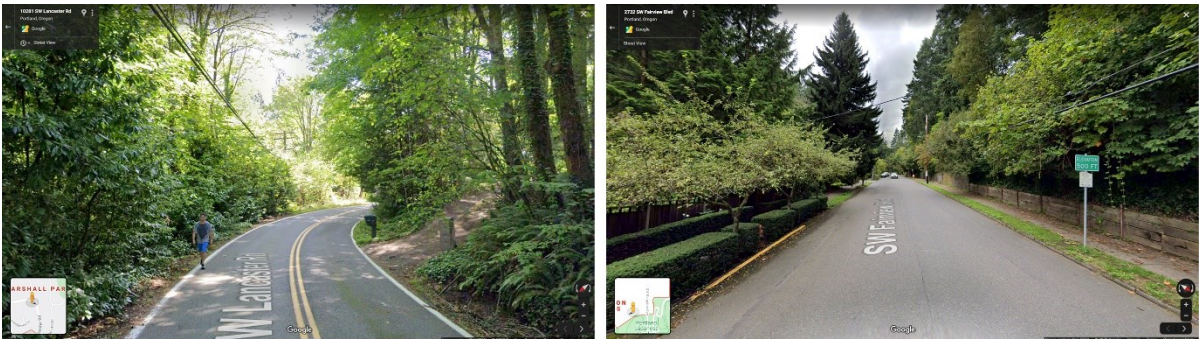


Figure 15 Sidewalks in the family-oriented neighbourhoods, Marshall Park (left) and Arlington Heights (right). Source: Google Street View, September 2019.



Figure 16 Sidewalks in the Eliot neighbourhood. Photographs by authors, February 2018.



Figure 17 Play equipment on the suburban street in Marshall Park. Sources: Adapted from Google Street View, September 2019.



Figure 18 Sidewalks in the Pearl District. Source: Photographs by Mazdak Shadkam, January 2021.

3.6.4 Sidewalks and Soft Edges

Another important factor in the perception of safety is the presence and quality of sidewalks (Ewing & Handy, 2009). According to the observations, sidewalks are narrower and arguably more monotonous in the family-oriented neighbourhoods as a result of homogenous land use (Figure 15). Most pathways in Arlington Heights have sidewalks on one or both sides, but they are covered with vegetation at some parts, and thus, are narrower than a person's shoulder width. The presence of sidewalks is less consistent in Marshall Park and most pathways have no sidewalk at all on either side of the street. Roads are heavily forested on one side and have limited setbacks on the other side where residential buildings are located (Figure 15). Consequently, to get to parks, children must walk on the streets in this case if travelling on foot.

Contrary to the family-oriented neighbourhoods, there are sidewalks on both sides of the street in the youthified ones (Figures 16 and 18). The street network benefits from a green overlay almost everywhere in the central parts of Portland (City of Portland, 2020). Moreover, parking along the street is a part of urban design in both neighbourhoods. Designated bicycle and scooter stations across the Pearl district are other elements that create buffers between vehicles and pedestrians (Figure 19). Therefore, the selected youthified neighbourhoods are relatively successful in providing *soft edges* along the sidewalks.

Parking along the street is more effective in creating soft edges in the Pearl District for two reasons. First, some parts of the Eliot neighbourhood do not have designated parking lanes along the

sidewalks. Second, street parking in this neighbourhood is underused perhaps due to the availability of parking lots. Whereas parking spots along the streets seem to be constantly occupied in the Pearl District. Therefore, considering use and demand is essential when using parking as a design solution to provide child-friendly soft edges.

Sidewalks are mostly wider in the Eliot neighbourhood but as mentioned previously, they are at times interrupted by driveways to plazas and access to parking lots (Figure 11). Although overall narrower, sidewalks in the Pearl District have a rich “urban feel,” to use Ewing and Handy’s (2009) phrase (Figure 18). Various retail and restaurants generate more activities along the pathways and attract more pedestrians. Instead of intrusions by car, here, sidewalks are partly occupied by outdoor seating in front of local restaurants, which is not a direct safety concern for children but does reduce the overall amount of walkable surfaces. As seen in Figure 16, the sidewalk and a part of the street are blocked by outdoor seating structures at the intersection of NW 9th Avenue and NW Everett Street due to the restricted measures of indoor dining during the COVID-19 pandemic. Yet overall, the animation of sidewalks in Pearl does not appear as if it would impede children’s play.

The example of NW 13th Street, a shared-use street for pedestrians, cyclists, and vehicles (Figure 20), helps bring to light another important dimension of creating child-friendly cities. Although walking is mostly considered enjoyable in this area, it can at times be described as chaotic due to its vibrant nightlife activity, particularly by young adults (Dobson, Simms, Johnstone, & Gibson, 2017), potentially making it less welcoming to families with children. Whereas NW 14th is a quieter street with designated car, bike, and pedestrian lanes that arguably provide a safer travel experience for children (Figure 21).

However, this observation is not meant to negatively portray NW 13th specifically because of its arguably occasional vibrant night-time activity. Rather the point is to highlight that the high concentration of activities, events, and venues centred around the consumption of alcohol and nightlife in some cities due to growing youthification can result in streets being quite overcrowded and targeted mainly at one demographic group, these being young adults (Chatterton & Hollands, 2002; Moos, 2014). Such concentration of activity targeted at one specific group would likely negatively impact children’s ability to play or reduce parents’ willingness for their children to move through these spaces. A greater mix of uses/activities and a public realm design focusing on ample and safe pedestrian spaces for a variety of demographic groups help reduce the potential that a street

may become viewed as being a young adult realm only. These also lead to the production of urban centres that are less “generationed” spaces (Moos, 2014).

In other words, the argument here is that different uses and people of different ages (and other characteristics of social differentiation) need to be less separated to produce child-friendly cities. There are numerous examples from cities around the world where adult and children’s activities are less separated than is currently the case in most North American cities. For instance, one might point to the public squares in many European cities where it is more common for children to be present in what might be classified as adult spaces in North America (e.g., patios serving alcohol). Ample public space and avoiding a high concentration of amenities targeted at any one demographic group can facilitate greater use of central city spaces by a wider demographic spectrum more generally.



Figure 19 Scooter station along NW Johnson Street in the Pearl District. Source: Photograph by Mazdak Shadkam, January 2021.

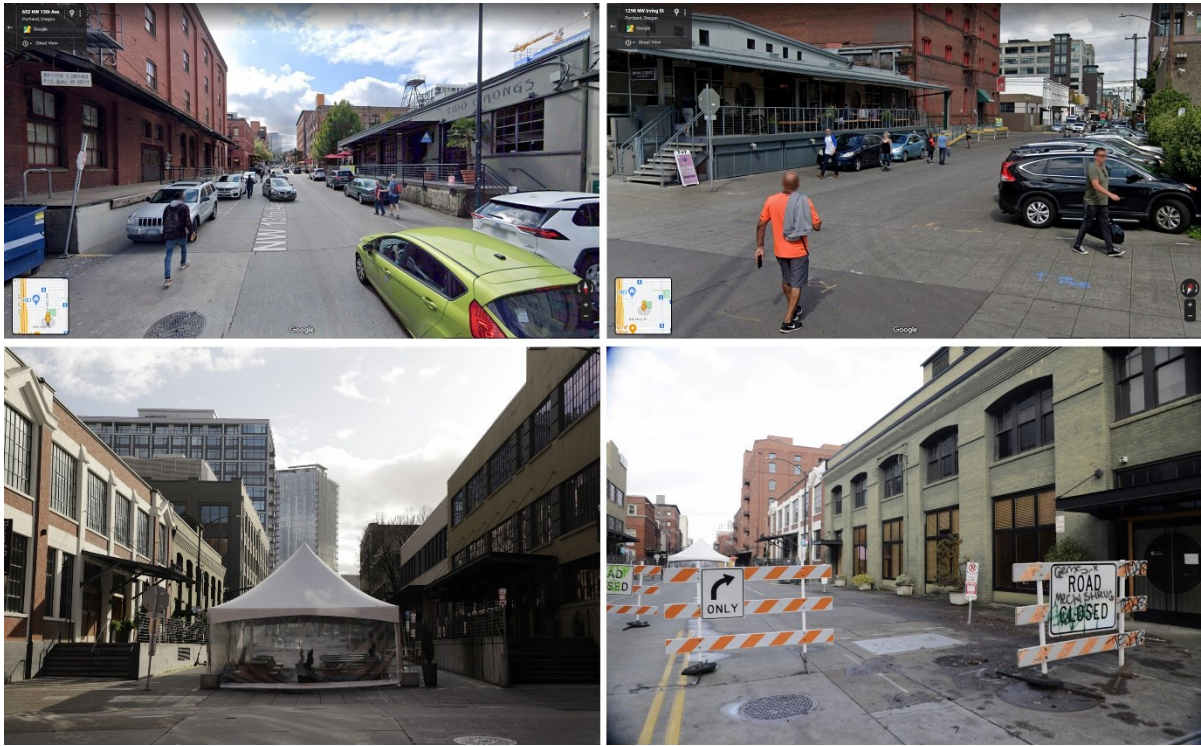


Figure 20 NW 13th, a shared-use street in the Pearl District. A comparison between images on the top (Source: Google Street View, August 2019) and images on the bottom (Source: Photo by Mazdak Shadkam, January 2021) shows how the animation of NW 13th is influenced by outdoor dining and physical distancing guidelines during the COVID-19 pandemic.

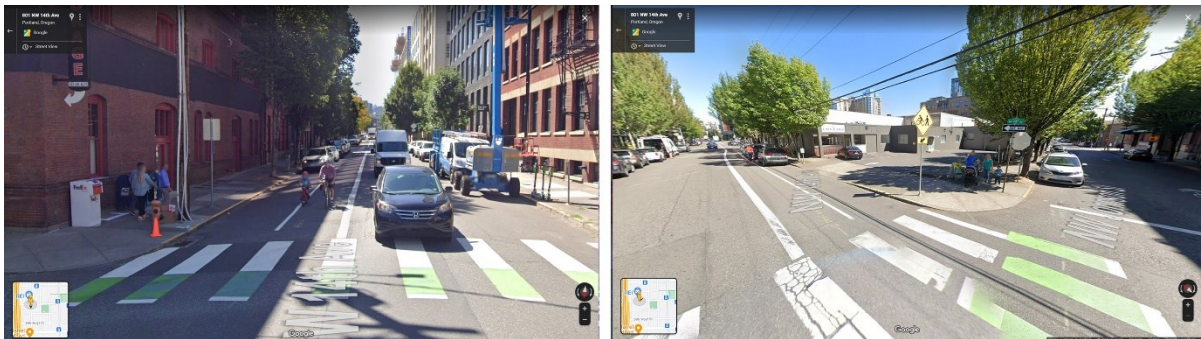


Figure 21 Clear and safe road design in NW 14th Street in the Pearl District. Source: Google Street View, August 2019.

3.6.5 Hierarchy of Open Spaces

In the family-oriented neighbourhoods where single-detached housing is generally dominant, most households have access to a private yard. The low-density, suburban layout of Marshall Park and Arlington Heights provides a broad hierarchy of semi-private and semi-public open spaces beside the houses. As a result of a hilly topography in both neighbourhoods, most houses are elevated from the street level, which in some cases negatively impacts having “eyes on the street.” Stairways and ramps to the front yards provide play opportunities such as climbing, jumping, or sitting within the semi-private areas (Kytä, 2004) if neighbours tolerate it (Appleyard, 1980) and parents do not ban their children from doing so. In Marshall Park, since there is no sidewalk alongside the road, pedestrians may use one section of the front lawn next to the road instead of a sidewalk. This makes that area a semi-private zone (Figure 22).

The inconsistency of sidewalks in the family-oriented neighbourhoods (especially in Marshall Park) lowers the contribution of the public realm in providing safe playspaces. As seen in Figures 17A, and 17B, playing on the street does not seem to be safe, especially for younger children. Figure 17C shows a slightly better location for installing a basketball net, as it is installed within the building setback.

In the youthified neighbourhoods, where there are more diverse land uses, whether an open space is appropriate for children’s play is more of a question of animation, use, and *what* is allowed where (although importantly, race and gender, among other influences, also factor into *who* can safely access different kinds of public spaces). In the Eliot neighbourhood, a variety of semi-private spaces are documented around the single-family housing locations such as sidewalks, building setbacks, stairways, driveways, front lawns, and front porches (that also provide opportunities for “eyes on the street”) (Figure 23). A few fenced open spaces are also observed that belong to multi-family housing units and are not accessible for children who do not reside there (Figure 24).

Across the Pearl District, several mixed-use building blocks provide open spaces that accommodate a variety of uses (Figure 25). These spaces are mostly in the form of greenways cutting through the building masses. They also provide a variety of seating options for a passer-by or the building’s occupants. In terms of use and scale, these spaces are located somewhere between sidewalks and public parks and provide informal play opportunities along the pathways in a semi-public setting. Furthermore, North Park Blocks that consists of five blocks of green spaces with a

small playground create a linear public open space with play opportunities in the Pearl District (Figure 27).

NW Kearny Street is a well-established example of public open spaces that are suitable for children's play in the Pearl District. This is a pedestrian-friendly street that turns into a pedestrian-only pathway between 9th Street and 12th Street, one block east and one block west of Jamison Square. Jamison Square is a well-designed public park with natural seating elements, lawns, and a fountain that attracts many children as well as adults during the day (Figure 26).

This section of NW Kearny provides proper transitions from a car-pedestrian *pathway* to a pedestrian-only *pathway* leading to a *playspace* (Jamison Square) (Figure 28). This transition increases children's play opportunities by blending the boundaries of the park into its surrounding open spaces. The pedestrian-only pathway also branches out to privately owned open spaces located in the north and south of NW Kearny Street (Figure 25) that provide additional play affordances along the way.



Figure 22 Hierarchy of open spaces in the Marshall Park neighbourhood. Sources: Drawing by authors; Photographs adapted from Google Street View, September 2019.



Figure 23 A child with a bicycle playing in the semi-private fenced area in between the townhouses in the Eliot neighbourhood (right); and neighbours providing “eyes on the street” sitting on their front porch (left). Source: Photographs by authors, February 2018.

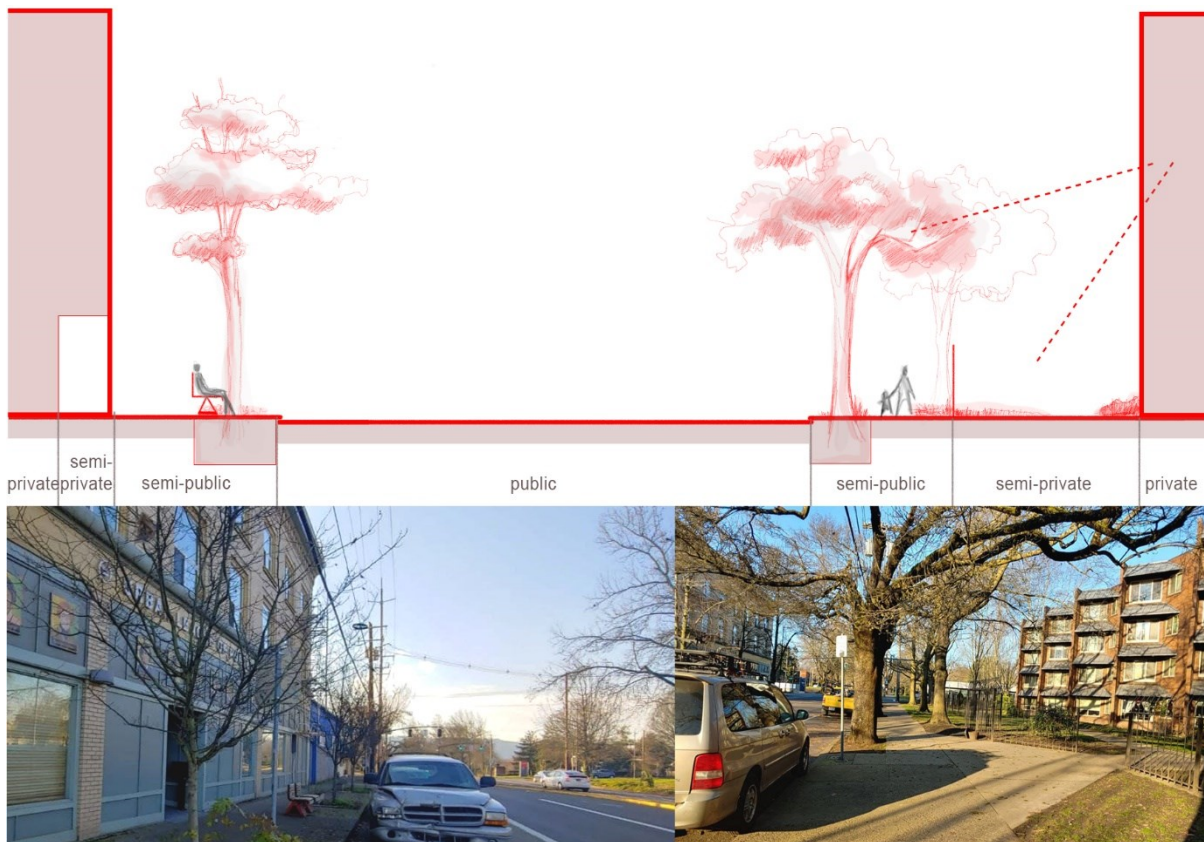


Figure 24 Hierarchy of open spaces in the Eliot neighbourhood. Sources: Drawing by authors; Photographs by Mazdak Shadkam, January 2021.



Figure 25 Examples of multi-functional green spaces cutting through building blocks in the Pearl District. Source: Photographs by Mazdak Shadkam, January 2021.



Figure 26 Jamison Square in the Pearl District. Sources: Bird's-eye view on the left from Google Maps; Photograph on the right by Mazdak Shadkam, January 2021.

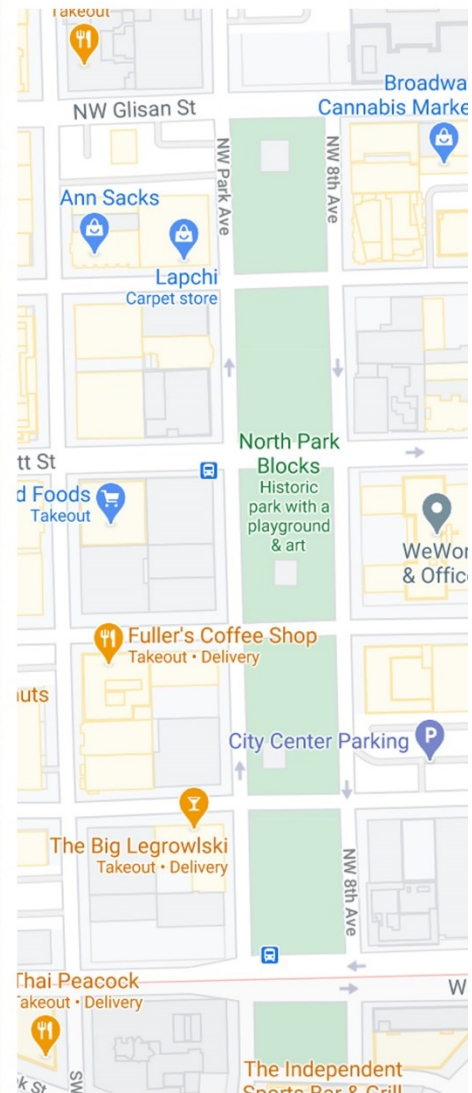


Figure 27 North Park Blocks located between W Burnside and NW Glisan Street, and NW 8th and NW Park Avenue in the Pearl District. Sources: Google Maps; Photographs by Mazdak Shadkam, January 2021.



Figure 28 Hierarchy of open spaces and pedestrian pathways around Jamison Square. Sources: Map adapted from Google Maps; Photographs by Mazdak Shadkam, January 2021.

3.7 Conclusions and Recommendations

Observations from neighbourhood cases in this study reveal beneficial and somewhat contradictory information related to the characteristics of pathways in the youthified and family-oriented neighbourhoods. The intention is not to compare and evaluate pathways in each of these neighbourhoods to definitively conclude which case is better. The aim is to identify what aspects of

the pathway design need further attention to empower child-friendly attributes in different neighbourhood settings, and to provide an overview of what kinds of issues need to be considered in a systematic assessment of pathways regardless of location.

On the one hand, in so-called family-oriented neighbourhoods, most children have access to private yards. Additional play opportunities are also provided through open spaces immediately located around their residence (e.g., driveways, front lawns, staircases, etc.). Moreover, lower traffic flow permits playing on the streets despite their non-pedestrian-friendly characteristics. It is important to ask how big children's territorial range would be in a car-oriented neighbourhood and how often children would walk to parks in those neighbourhoods. Therefore, longer distances to parks and shortage of sidewalks may not matter much in family-oriented neighbourhoods in terms of accessibility but it does influence the mode used (and reduces opportunities for physical activity). On the other hand, a grid neighbourhood pattern raises many issues in designing child-friendly pathways in a more urban setting. What is being considered as walkable for adults, may not necessarily provide more play opportunities for children. More connectivity in the street layout may increase risky interactions with traffic for children's independent movements if not designed properly. A mix of land uses generates activities along the pathway and animates the streetscape. But one should ask how much animation is needed to encourage children's play, and whether a high concentration of animation for one particular demographic group may discourage families with children from using the space (e.g., an overly high concentration of young adult-oriented amenities in some central cities).

One important conclusion is that neighbourhoods in different parts of a city (central versus more suburban) cannot be treated the same in terms of design assessment. More central locations are, often intentionally, designed with connectivity, walkability, and proximity to services in mind, whereas more suburban areas commonly prioritize the car. Yet, the pathway design in either location may be less desirable for children for different reasons. Planning practice has arguably been somewhat successful in creating urban spaces suitable for young adults in the central areas of cities. However, there is still a lot to be achieved regarding children's play needs if there is a desire to keep central areas viable options for families with children (while the high concentration of young adult night-time amenities results in highly "generationed" space in the centres of many large urban areas). Suburban areas, on the contrary, are often portrayed as more child-friendly, but the analysis here shows that this is likely restricted to the private realm, whereas the pathways to parks in the public realm are longer than in central parts of the city, and often lack sidewalks.

This study reviewed the importance of safety factors in creating child-friendly urban environments. Among them are road and intersection design, lower traffic speed, visible signalling, giving the right-of-way to pedestrians, wider sidewalks, and animating and greening the public realm. The discussion also reveals that many of these factors relate to how child-car interaction is managed. More car-oriented features observed in the youthified neighbourhoods negatively affect child-friendliness, while soft edges provide safety and more play opportunities along the pathways.

Therefore, there is considerable potential in the idea of *soft edges* of pathways that require more consideration in design research and practice. Furthermore, how children perceive their environment and actualize play opportunities are also important considerations in designing child-friendly pathways. Finally, an important limitation of our study is that it did not directly consider how safe play spaces are also a function of how people perceive and are perceived in public spaces by others. For instance, beyond the design of pathways and parks, the child-friendly urban design also has to confront the ways in which systemic and overt racism shapes the safety of different kinds of spaces for Black people and other people of colour. Integrating children from different backgrounds directly in the planning process and design of pathways is a valuable first step that requires further attention.

Chapter 4 Manuscript 2 *I Live, Go to School, and Play Here: Child-Friendly Planning and Lessons Learned from Children in Thorncliffe Park, Toronto*

This article enhances the understanding of activating the urban public realm as a play network by investigating children's lived experiences in Thorncliffe Park, a multicultural, high-density apartment neighbourhood in Toronto, Canada. Current Child-Friendly neighbourhood design primarily focuses on addressing children's play needs through parks and playgrounds, often overlooking broader play opportunities within public open spaces. Given the critical role of unstructured play in children's well-being, considering additional play options is crucial for planning in a high-density context. Through ethnographic research involving observations, questionnaires, and semi-structured interviews with children between seven and 13, the study explores how physical configurations and sociocultural influences intersect to shape types and quality of play within the neighbourhood. The research highlights the significance of walkable pathways as integral components in activating the urban public realm, forming a dynamic play network alongside parks and playgrounds, and fostering intergenerational social spaces. The findings contribute to ongoing discussions on children's rights in decision-making and access to safe outdoor play spaces. Embracing child-friendliness as a core element of urban planning can lead to the creation of vibrant, sustainable, and inclusive cities that cater to the needs of all age groups, thereby enhancing the overall quality of urban life.

4.1 Introduction

In the realm of child-friendly urban planning and design, the reactivation of public spaces for play and the promotion of intergenerational coexistence have been extensively explored. However, a comprehensive understanding of how these theoretical concepts translate into real-world settings has remained elusive, especially in the North American metropolitan context. This study aims to bridge the gap by delving into the lived experiences of children in Thorncliffe Park, a high-density multicultural apartment neighbourhood in Toronto, Canada. It provides valuable insights into how physical configurations, socio-cultural influences, and personal preferences intersect, shaping children's

interactions within urban environments and across age groups. The main questions guiding this research include: What types and qualities of play unfold on the pathways connecting residential areas to schools and local playspaces? Additionally, what social and environmental factors either facilitate or hinder children's presence in the urban public realm?

Thorncliffe Park is a high-density tower neighbourhood in Canada, a result of *Corbusian* rationalism and systematic zoning in city planning. However, as found in previous studies (e.g., Agrawal & Rutgers, 2014; Inam, 2019; Zhuang, 2018), Thorncliffe Park residents have shown the potential to appropriate inherently zoned spaces for their everyday socialization needs. Additionally, the neighbourhood's significant population of children under 14 years old (almost 30% of the total neighbourhood population) provides additional context to examine the influences of peer relations on activating the public realm as a site for play. Through an ethnographic research design, I explored specific locales, utilizing observations, questionnaires, and semi-structured interviews with children. The results highlight the significance of walkable pathways linking homes, schools, and local playspaces in activating the urban public realm, forming a dynamic play network with parks and playgrounds, and fostering intergenerational social spaces. Adopting a collaborative and participatory approach, this research contributes to the broader planning discourse concerning children's rights to engage in decision-making and access safe and accessible outdoor playspaces.

This article is organized as follows: grounded in the perspective of considering children as competent beings, the study reviews relevant literature and employs the Ecological Model of Human Development as its framing theory and the Children's Phenomenal Landscape Model as a guide in identifying data collection objectives. The methodology involves developing and administering a questionnaire to 25 participants, ranging in age from seven to 13, alongside nine hours of one-on-one interviews and 60 hours of onsite observations. Through data triangulation and inductive content analysis, the results section presents three areas of children's play experiences including play destinations, play on the pathways, and around the residential towers. The results section concludes with important findings regarding the influence of seasonality and safety factors on the overall quality of children's presence in the neighbourhood. The discussion section of this article elaborates on the intricate interplay of physiographic and social factors influencing children's everyday experiences within the public realm. In conclusion, the study contends that the lessons derived from this research should guide future planning practices, advocating for a more holistic consideration of children as primary users of the public realm, alongside other age groups.

4.2 Urbanized and Generationed Spaces

High-density urban spaces are often challenged by the shortcomings of child amenities, smaller living spaces, limited play opportunities, and greater environmental and social risks concerning children; by contrast, lower-density neighbourhoods, generally referred to as suburbs in North America, are argued to be more suitable for raising children (J. Francis, Martin, Wood, & Foster, 2017; Shadkam & Moos, 2021; Talen & Coffindaffer, 1999; Valentine, 1994). Modernist zoning and massive automobile use have often resulted in the separation of children's and adults' spaces (Frost, 2006, 2012). Many children spend most of their time daily engaging in programmed and supervised activities inside institutions (Holloway & Valentine, 2005). Studies in the USA, UK, Canada, and Australia show that children spend more time than ever in organized sports and institutionalized activities and less time being on their own comparing data from the mid-20th century to the early 2000s (Bianchi, 2000; Craig et al., 2014; Fisher et al., 1999; Hofferth & Sandberg, 2001). Therefore, their presence is eliminated from the public realm almost entirely.

The urban public realm, generally perceived as the adults' realm, is known to be inappropriate for children due to the potential stranger danger and risky traffic interactions (Talen & Coffindaffer, 1999). Thus, planning for children's play is based on segregation rather than on integration. For urban children, play frequently occurs in fenced playgrounds, or private yards for those who live in larger homes. Streets and other public spaces are not as popular playspaces as it was a few decades ago (Karsten & Vliet, 2006; Lin et al., 2022). Overall, children's daily spatial consumption is limited to what Rasmussen (2015) calls an institutional triangle. Home, school, and playgrounds are three corners of this triangle – the three important locations in the lives of contemporary children. Travelling among these destinations is conceptualized as “island-hopping” (Karsten & Vliet, 2006, p. 152) as children's mobility adheres to the auto-dependent lifestyle of their caregivers, especially those living in lower-density areas.

The growing segregation between adults and children (Valentine & Mckendrick, 1997) calls for reclaiming the urban public realm as an integral part of children's daily experience (Horton et al., 2014; Karsten & Vliet, 2006) – a well-studied but poorly implemented topic in planning practices. A great body of research has discussed the importance of independent mobility supporting children's growth and well-being through higher physical activity. Urban studies of children's independent mobility range from qualitative and ethnographic studies to quantitative research in different

geographic settings. For instance, Hillman, Adams, and Whitelegg (1990) compared differences in independent mobility in England and Germany through school-wide surveys. Similarly, O'Brien, Jones, Sloan, and Rustin (2000) examine these factors through the comparison of contrasting urban environments in London and its periphery, and Alparone and Pacilli (2012) investigated the correlation between personal, environmental, and psychological factors on the level of independent mobility in Italy. More recent studies have used GPS devices to measure children's range of movements combined with qualitative data collection on the interplay between socio-demographic factors and the level of independence (Loebach & Gilliland, 2010, 2019). Additionally, in a Toronto-based survey, Buliung, Larsen, Faulkner, and Ross (2017) revealed the limitations imposed on children's mobility due to the parents' tight work schedule.

Central to these studies is the consideration of children as competent beings and social actors who continually occupy spaces, reimagine, and recreate them (Gillespie, 2013; Rasmussen & Smidt, 2003). This understanding of childhood has also informed my research goals and methods. However, in this study, I emphasize children's agency without differentiating independent and dependent mobility for two main reasons. Firstly, with current automobile-dominant urban environments, it is more realistic to see children being escorted to different destinations. Therefore, instead of independent movement, I focus on the importance of increased walkability for children (and their caregivers). Additionally, I believe in the mutual benefits of the coexistence of children, youth, and older people. Informed by van Vliet and Karsten's reflection on the child-friendly city initiatives, intergenerational coexistence improves community ties, and thus perceptions of safety (van Vliet & Karsten, 2015). It can then be argued that greater safety will likely improve children's independence level. Therefore, independent mobility can be seen as an ultimate objective while smaller improvements in children's agency and their competency in facing potential risks must occur first to reclaim the urban public realm as a playspace.

4.3 Play and Co-Existence in Public Realm Matters

Play is vital for children's well-being and growth; through play, people experience the world, learn, create, identify themselves, and define their relations to what and who surrounds them (Sicart, 2014). In line with previous scholarly work (e.g., De Visscher & Bouverne-de Bie, 2008; Frost, 2010; Smith

& Pellegrini, 1998), this study emphasizes the importance of both structured and unstructured play¹² in fostering physical, mental, social, and emotional skills. I challenge the notion of isolated playgrounds as insufficient for meeting children's diverse play needs, highlighting the need for a paradigm shift in understanding childhood as a stage of being, not becoming (Gillespie, 2012). The study presented in this paper aims to advance our understanding of how children, despite living in relatively play-constrained urban spaces, make use of the surrounding environment for play.

The theoretical inspiration of this study is the 1970s Bronfenbrenner's Ecological Systems Theory of Human Development. Unlike Jean Piaget¹³ who theorized children's cognitive development based on age, Bronfenbrenner's theory accounts for the influence of environmental and sociocultural factors on children's skill development at different stages (Tudge et al., 2012). Informed by Bronfenbrenner, Robin Moore and Donald Young presented a framework explaining children's experiences in their surrounding environment and the enactment of play opportunities in non-play spaces (R. Moore & Young, 1978). I will refer to this framework as the Socio-Ecological Model.

¹² Children's play can be divided into structured (i.e., organized, or formal) and unstructured (i.e., spontaneous, or informal) activities, which are both required for their growth and well-being. Structured play requires a predefined context, which can be a combination of space, equipment, people, or rules. Spontaneous play, however, happens in environments which are not initially intended for play, such as streets, sidewalks, cul-de-sacs, empty lots, and on the front stoops of buildings.

¹³ Four stages of cognitive development were discussed by Jean Piaget in the early to mid-20th century. According to Piaget, children's cognition begins with actions, such as touching an object for example dipping hands in a glass of water. After two years, children can identify objects by words and images, for instance pointing at a glass of water and saying "water." After seven, cognitive development progresses to the use of logic relating objects to concepts, for example water is a liquid, orange juice is like water, then, orange juice is also a liquid. After 12, cognition advances to comprehending abstract and intangible ideas and problem solving such as relating thirst to a glass of water. For long, children's spatial cognition was informed by this theory, based on which children's interaction with their environment were observed and examined.

According to the Socio-Ecological Model (R. Moore & Young, 1978), an overlap of children's physiographic space, social space, and inner space shapes their overall experiences in their surrounding environment. First, factors such as distance to daily destinations, quality of sidewalks, housing density, availability of open spaces and playgrounds, physical geography, weather conditions, and time of the day are factors related to physiographic space or built and natural environment. Second, playing with others versus playing alone, being allowed/encouraged to play outside or not, and playing with or without supervision are instances of the socio-cultural factors influencing children's play behaviours. Finally, physiological, and psychological factors such as age, gender, physical strength, attitude towards active play, number of and age range of children in the same household, and other personal preferences, e.g., fear of getting injured when playing relate to inner space.

In other words, the Socio-Ecological Model explains how children's skill development through play is influenced by the complex interplay between the characteristics of the developing individual and the socio-spatial context surrounding them including family, neighbourhood, and society. To clarify, in this study, I examined the influences of social and spatial factors without systematically considering individual differences among the participants due to the small size of the sample. Even though, these differences were mentioned briefly by the interview participants, which helped with the overall understanding of their experience. In the next section, I take a step back to explain how different components of the socio-spatial environment are defined and examined to address the main research question.

4.4 Neighbourhood Play Network: Pathways and Places

I investigated the public realm in Thorncliffe Park to examine the types and qualities of play made possible in the public spaces surrounding children's residential locations. For that, I used Roger Hart's seminal work, the Phenomenal Landscape Model explaining the physical components needed for the experience, in other words, how children actualize play opportunities in non-playspaces. While the Socio-Ecological framework differentiates influential factors in children's outdoor activities.

Children tend to explore the immediate environment surrounding their residential locations, which is referred to as the territorial range in the Phenomenal Landscape Model (Hart, 1979). Children's territorial range not only comprises places they visit but also the pathways they take to

these places. Places, pathways, and territorial range are the building blocks of children's phenomenal landscape. In this study, I use *play network* to refer to the generic meaning of territorial range to avoid confusion because other studies have distinguished between home range and habitual range as different territorial ranges. This differentiation is appropriate when emphasizing children's independent mobility. In that case, the home range is where a child can explore independently as an extension of their home location. However, the habitual range refers to the spaces of consumption that are not necessarily accessible independently and may be further away from the home location. In this study, I solely focus on children's presence in outdoor environments surrounding their residential locations without specifying independent mobility. I also focus on a part of the public realm which can function as a dynamic site for everyday playfulness, again without specifying independence. I believe the term Play Network is appropriate to address these characteristics.

Returning to the phenomenal landscape model, children's places can emerge anywhere within their territorial range – inside or in between institutions such as schools. In this model, pathways are not just connecting elements but can become additional sites for place-making. Hart conceptualizes pathways as linear places. Pathways become meaningful places for children through play that happens on the pathways because play is known to be the most utilized way of place-making for children (Murnaghan, 2019). Given that children expand their territorial range through play and place-making, children with little place-making experiences have a smaller range. Figure 29 illustrates the formation of children's play network (i.e., phenomenal landscape) under the influences of the three categories of socio-ecological factors. This network is a combination of places and pathways and is shaped around the child's residential location.

The purpose of this study is to investigate the qualities and extent of children's territorial range in a high-density neighbourhood. My focus is on what happens outside of the institutional spaces (e.g., schoolyard, recreational spaces, and neighbourhood parks) and especially on the pathways connecting these spaces. By considering the overall day-to-day experiences of children, I try to better understand where the public realm fits within their territorial range, deciphering the layers of influential factors that influence belonging to any of the physiographic, social, and inner spaces. Towards this aim, I create a framework, first, of influential factors and the interconnections and relative weights among these. For example, is the neighbourhood designed for cars or pedestrians? Do children in this particular neighbourhood have enough freedom to be outdoors? What are the availability and accessibility of child amenities in this neighbourhood? And finally, how do

these elements coalesce to encourage or impede children's place-making opportunities through play? The methods that arise from this framework are described next.

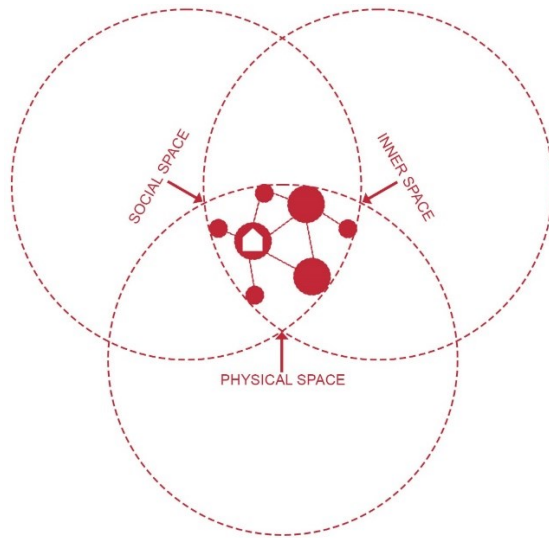


Figure 29 Neighbourhood play network encompassing places and pathways is influenced by the factors explained in the Socio-Ecological framework. The formation of the play network is unique to different individuals.

4.5 Methods

Responding to the contextual nature of the research question, this study relies on ethnographic and observational methods using a case study neighbourhood (Tudge et al., 2012). A case study approach was chosen as best for integrating *lay* knowledge with expert knowledge; in other words, combining the outsiders' and insiders' perspectives to achieve a comprehensive understanding of children's play in their surrounding environment (Francis & Lorenzo, 2006; Pavlides & Cranz, 2009). The study was conducted between September 2021 and February 2022. Data were intentionally collected during the school season to study home-school pathways and include the mode of travel to school as an influential factor in children's exposure to active free play. However, this time frame also includes the cold season in Ontario, Canada, making it important to consider the potential impact of wintry weather on children's frequency and forms of outdoor play (especially after October).

Data were collected using non-participant observations, as well as online questionnaires and one-on-one virtual interviews with children between seven and 13 years old who live in Thorncliffe Park. Firstly, a total of 10 on-site observation sessions were carried out on different days of the week

and at various times of the day. Important places and pathways in the neighbourhood were identified based on the frequency of use. Children's travel to and from school was also observed and examples of spontaneous play on the way were documented using hand drawings and note-taking instead of photography to avoid attracting unnecessary attention while on-site.

Findings from the observations informed the design and organization of the questionnaires. A total of 25 questions were categorized into three sections. The first section was about the frequency and types of outdoor plays, and the mode of travel to everyday destinations. The second section targeted children's perceptions of safety in the neighbourhood related to environmental and social risks. Finally, demographic questions were asked in the third section of the questionnaire.

I collected the data during the COVID-19 pandemic when in-person interactions were restricted in Ontario, Canada. Therefore, participation was limited to virtual methods. A total of 25 valid questionnaire responses were collected, and the response rate was impacted by the difficulty in obtaining an interest in participation from children and their caregivers during the COVID-19 pandemic. Most participants were recruited through social media. A few were recruited through an invitation sent by Thorncliffe Park's Neighbourhood Organization (TNO) to the after-school program mailing list. Several children also became interested in participation through word of mouth.

After collecting the questionnaire responses, participants whose caregivers had given consent to be contacted in the future were invited to a follow-up interview. A total of nine semi-structured interviews were conducted with the participants using Zoom video conferencing software. The presence of caregivers during the interview was optional. Most younger participants decided to have a parent beside them. Some of the participants had family members in the background, and some were interviewed alone. Each interview lasted for at least 1 hour, with the first 40 minutes dedicated to question-based conversation and the last 20 minutes to a drawing activity.

In the beginning, interviewees were asked to describe an average school day from morning to night including details about their travel to school and outdoor play experiences. Depending on their questionnaire responses, follow-up questions were asked about what they play, where they play, and who they play with. All participants were also asked to reflect on their responses to the safety and elaborate on their levels of belonging to the neighbourhood.

Then, children were asked to annotate the Google Map of their neighbourhood indicating their favourite places and pathways. Annotated maps were saved as a part of the data collection. At

the end of the interviews, I asked the children to draw their dream playspace and discuss its settings. The purpose of this activity was to activate the participants' imagination and encourage them to think about the ways playspaces in their neighbourhood can be improved. Drawings were used as a context for discussion but not as a part of the data analysis in this article.

4.5.1 Case study: Thorncliffe Park Neighbourhood, Toronto, Canada

Relying on a qualitative case-study approach, the Thorncliffe Park neighbourhood in Toronto, Canada was chosen as an illustrative example of multicultural apartment neighbourhoods in Toronto. Thorncliffe Park is in the inner suburbs of Toronto, developed largely between the 1950s and 1970s, and is considered an arrival neighbourhood which houses many immigrants and newcomers to Canada (Agrawal & Rutgers, 2014; Inam, 2019). Table 6 represents Thorncliffe Park's demographic profile compared to city-wide figures based on the 2016 census data.

Among other neighbourhoods in Toronto, Thorncliffe Park has the largest population of children under 14 (Dempsey, 2012). Previous studies also show that there is a shortcoming of child amenities in the neighbourhood given the child population (Hess & Farrow, 2010; Inam, 2019; Webb, 2015). Children do not have access to private outdoor playspaces and according to residents, building management does not allow children to play in the open green spaces surrounding the apartments for maintenance reasons. With a large child population and few child-centred amenities, Thorncliffe Park is an appropriate case for investigating ways of activating the public realm as a dynamic site for play.

Thorncliffe Park neighbourhood is designed based on distinct land uses (Figure 30). The residential part of the neighbourhood features high-rise apartments surrounded by open/green spaces and surface parking lots (Figure 31). Residential towers are laid out along the U-shaped Thorncliffe Park Boulevard, surrounded by the Don Valley natural area from three sides (Micallef, 2010). Zone A and Zone B on the map show the residential locations of the participants of this study. I will refer to these zones throughout this article.

Schools and playspaces are found within walking distance of the residential buildings (See the blue and green zones in Figure 32). Some other walkable destinations are Darussalam Mosque, Food Basics (a chain Canadian supermarket), Iqbal Foods (a local ethnic supermarket), Costco Wholesale, Home Depot, and a variety of food vendors. All these amenities are in East York Town Centre, a mixed-used area in the middle of the U-shaped Boulevard. Proximity to these amenities is

greatly appreciated by the residents based on previous neighbourhood surveys (Hess & Farrow, 2010).

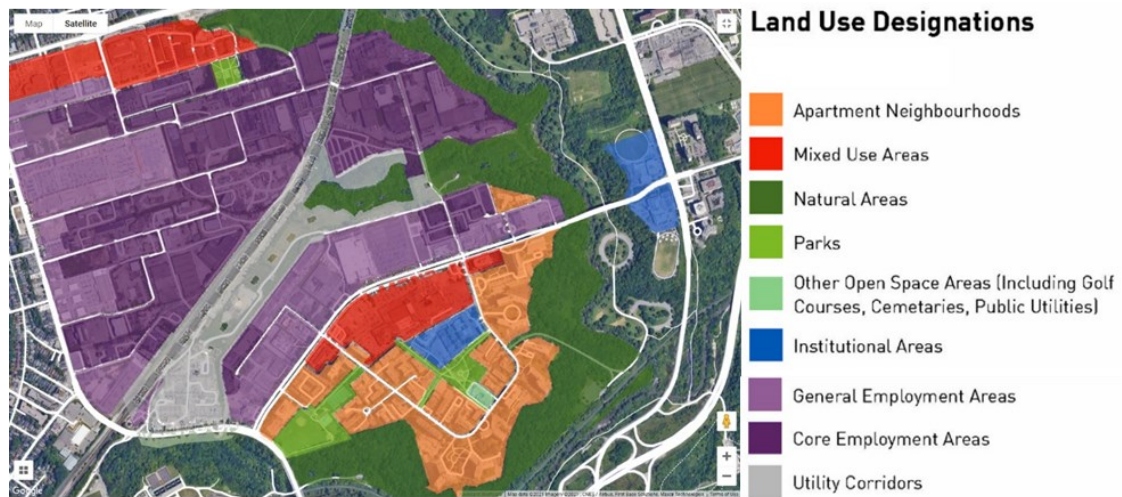


Figure 30 Land use designations in Thorncliffe Park based on the 2019 Toronto Official Plan (source of the base map: Google Maps)



Figure 31 “Towers in the Park” is a dominant neighbourhood layout in Thorncliffe Park (Source: Shadkam, July 2020)



Figure 32 Residential area, schools, and parks indicated on Thorncliffe Park neighbourhood map (source of the base map: Google Maps)

Social and physical characteristics	Thorncliffe Park	City of Toronto
Population	21,108	2,731,571
Population Density	6,787	
Children under 14	27%	15%
Immigrants	64%	51%
Home Language not English	57.8%	29.2%
Average household size	2.92	2.42
Median household income	\$46,595	\$65,829
Unemployment rate	13%	8%
Renter households	89%	47%
Ground-related housing	6.5%	55.7%
Public transit to work	45.3%	37.0%

Table 6 Thorncliffe Park Neighbourhood profile created based on Statistic Canada, the 2016 Census of Population (Source: City of Toronto, 2016).

4.6 Results

This study looked at children's day-to-day experience in a high-rise neighbourhood and investigated types and qualities of play happening within the open spaces surrounding buildings to finally answer whether and how a play network exists. Overall, children's presence is recognizable in Thorncliffe Park's public spaces. This is hardly surprising as almost one-third of the neighbourhood's population is under the age of 14. The neighbourhood is quiet when children are at school. After school hours, heavy pedestrian traffic coincides with the beginning of rush hour, between 2:00 and 4:00 P.M. On weekends, only the cold and windy weather was seen as a discouraging factor for children's active presence outdoors. The findings of this study show that patterns of children's presence in the public realm closely relate to the spatial and temporal aspects of school attendance. Using inductive content analysis, I discuss this relationship by elaborating on the function of places and pathways as elements of the greater play network, either for structured or unstructured play.

4.6.1 Play Destinations

Neighbourhood parks and playgrounds are widely known as sites for play and recreation i.e., play destinations. In this section, I introduce five neighbourhood parks in Thorncliffe Park (Figure 32) and explain how each of these play destinations does or does not fit into children's play routines at the neighbourhood level.

4.6.1.1 Burgess Park – *The Playground*

According to the participants, Burgess Park is the most popular playspace in the neighbourhood, also known as *the Playground*, by the residents. Located in the heart of the neighbourhood and surrounded by mid-rise residential buildings, schools, and the community centre, the Playground is approximately a 50 m x 50 m area with play structures such as swings, slides, and climbing equipment besides a same-size splash pad area. Access to the Playground is mostly by walking while there is limited car access through a narrow dead-end driveway. It is on the route between residential Zone B and elementary school and Kindergarten. Participants indicated that they often stop at the Playground to play when walking back from school.

The playground is often overcrowded in the afternoons and children must sometimes wait in long lines before using the play equipment, according to the participants. An 11-year-old girl mentioned being afraid of getting injured when other children compete over their favourite play

equipment. However, play equipment is mostly attractive to younger children, a finding in line with previous empirical studies (Elsley, 2004; Loukaitou-Sideris & Sideris, 2010; Pitsikali & Parnell, 2020; Veitch, Salmon, & Ball, 2007). A 12- and a 13-year-old participant mentioned that they often go to the Playground to hang out with friends. Adults, too, usually chat with other caregivers in the area surrounding the Playground and the splash pad.

There is a café and a few benches in this area as well as trees and green spaces. The area surrounding the playground is also a location for seasonal markets, which are opportunities for the residents to sell food and handmade goods while meeting their neighbours. Examples of these events can be found on the Thorncliffe Park Women Committee website (The Story of R.V. Burgess Park & Its Revitalization, 2022), which played an important role in revitalizing Burgess Park in 2008 and adding the amenities (tandoor oven, café, etc.) that are now used by the community. Overall, not only is the Playground the most popular play destination in the neighbourhood but also an open space used for community events and by people of all ages.

4.6.1.2 Leaside Park – *The Water Park*

Another play destination in Thorncliffe Park is Leaside Park, which is within a 15-minute walk from residential Zone B but further away from residential Zone A. The outdoor swimming pool in the park increases its popularity in summer and is the reason for the residents calling it *Water Park*. Compared to the Playground, Water Park offers fewer play structures but more open areas for group games, riding bicycles, and “just running around,” to use children’s terms. Some older participants showed interest in watching the “Fall colours” there as the park overlooks the trees along the Don Valley Ravine. There is a community garden located in this park managed by the residents, which offers seasonal gardening programs for children but was only mentioned by one participant.

4.6.1.3 Seton Park

The Thorncliffe Park neighbourhood is surrounded by the forested Don Valley Ravine. The ravine is an iconic part of Toronto’s green infrastructure (City of Toronto, 2017). It meanders through the city along the Don River and expands through different neighbourhoods including Thorncliffe Park. A natural elevation difference between the Ravine and the residential land as well as fences around the buildings disconnect the neighbourhood from this natural asset. Overall, lack of access to the Ravine is a topic of complaint among the residents as indicated by previous research too (Hess & Farrow,

2010; Udoh-Orok, 2018). One part of the ravine that is accessible from Thorncliffe Park Boulevard through a driveway is called Seton Park (Figure 32). Being a part of the Don Valley Ravine, Seton Park is also known as *the Valley Park* or *the Ravine* by the residents. The park does not have play equipment. Many of the participants considered it a picnic destination to go to with family and family friends but not a play destination.

Interview participants usually avoid going to Seton Park alone consequent to two major safety concerns. First, the curved and sloped driveway connecting the neighbourhood to the park is not pedestrian-friendly. Cars often naturally accelerate when driving downhill and drivers lack adequate visibility because of the road curvature. Most children are not allowed to walk to Seton Park despite the short distance from residential Zone A. Another concern is suspicious drug-related activities in the park by male adults. This was mentioned by three interviewees and one of the residents. A lack of interest in considering Seton Park as a child-friendly space was further discussed with a 9-year-old boy who shared a “scary” memory, as he puts it. He believes that everywhere in the neighbourhood is safe “except the park behind the building.” He explained:

“We’re just scared to go there because it’s behind our buildings. [...] it has lots of fens and sometimes in the fence where [the] water goes, we are scared of... we always watch horror movies like Penny Wise. We saw something red in the sewers. So, that time we liked going there, we weren’t scared but after we saw something red, we never went there again.”

Given the overall lack of playspaces existing in Thorncliffe Park, it is unfortunate to see the ravine, which provides many opportunities for the Torontonians to connect with nature, is excluded from children’s play range. It is hoped that soon children of Thorncliffe Park consider the Ravine among their favourite playspaces as the City of Toronto has a strategic plan for the Ravine’s improvement (City of Toronto, 2017; Toronto and Region Conservation Authority, 2023). Many other smaller projects have also aimed for inclusive access to these valuable green spaces (Daniels School of Cities, 2013)

4.6.1.4 Other Parks

The Vanderhoof Skate Park and the Sky Zone Trampoline Park are the other neighbourhood parks. The skate park is on the Northern side of the neighbourhood in proximity to the Leaside

neighbourhood. This park is out of the 15-minute walk range for children in Thorncliffe Park separated from the residential area by industrial land use. None of the participants consider it a play destination. Moreover, in the questionnaire responses, a few wished to have a skate park in the neighbourhood, which shows unawareness of Vanderhoof Park. Although not generalizable, my observations reveal the dominance of white ethnicity among the Vanderhoof Park users, while 79.2% of the population in Thorncliffe Park identify as visible minorities (City of Toronto, 2016). This finding shows that the way neighbourhood boundaries are defined on the land use plan does not match what children consider as *their* neighbourhood, including their play range.

Several participants have mentioned Sky Zone as one of their favourite playspaces, especially in winter. Sky Zone Trampoline Park, located in the East York Town Centre, is a chain indoor play facility in North America requiring tickets that range from 30 to 45 dollars for 90 minutes (Sky Zone, n.d.). While within walking distance from the residential buildings, participants do not consider Sky Zone as a play destination they frequent. This playspace was outside of my observation area as I only studied outdoor play experiences. However, it is important to mention that the availability and accessibility of indoor playspaces (e.g., being free of charge) are crucial because of the restricted use of outdoor playgrounds during winter.

4.6.2 Schools and Play on the Pathways

As explained before, schools constitute one corner of the institutional triangle and are important in children's daily outdoor experiences (Rasmussen, 2004). Four educational institutions are indicated on the neighbourhood map including a kindergarten, an elementary, a secondary, and a high school (Figure 32). Fraser Mustard Early Learning Academy with kindergarten and childcare facilities, and Thorncliffe Park Public School are at the centre of the neighbourhood beside the East York Town Centre. Valley Park Middle School and Marc Garneau Collegiate Institute are located adjacent to the eastern edge of the neighbourhood within a 10- to 15-minute walk from residential towers. Twenty-three of the 25 participants attend one of these schools. There is also a Montessori school in the Thorncliffe Park neighbourhood; however, none of the participants indicated attending this school.

As children spend a considerable portion of their day at school, the schoolyards play a pivotal role in their daily activities and social interactions (Frost, 2006; Waite, Rogers, & Evans, 2013). Apart from neighbourhood parks, school yards become the primary sites for play, fostering a range of essential developmental experiences. What makes school yards even more crucial is their versatility;

they serve as hubs for play not only during school hours but often continue to be utilized for recreational activities after school. Two of the participants, 12- and 13-year-old boys, mentioned they use the kindergarten yard, located beside the Playground to play soccer after school hours as the Playground does not have such sports fields.

Moreover, the strategic location of schools plays a pivotal role in shaping and fostering networks of play. The journey to and from school is observed as a context for unstructured play, where children engage in games, interactions, and moments of spontaneous fun (R. Moore & Young, 1978). This is because most children identified walking as the main mode of travel to school. Even those who do not attend neighbourhood schools mostly use public transportation. Previous studies of walkability also reveal a walking culture among the residents of Thorncliffe Park for two main reasons, the lower rates of car ownership and walkable distance to regular destinations (Hess & Farrow, 2010). Not spending as much time in the backseat of their caregivers' cars (Karsten, 2005), children of Thorncliffe Park showed diverse play behaviours throughout their daily trips to and from school, which shaped the two important observation intervals in this study.

Morning school travel happens in a more scattered fashion. Overall, in the morning children are mostly accompanied by adults in different compositions, such as one adult per child in a group of two, one adult per child in a group of four or six, and one adult per two or three children. Only older children were seen without adults' accompaniment on the route leading to middle school and high school. They were often walking in groups but in a few instances, alone. Older interview participants attested to having more independence in their daily travels, which supports the observations. Overall, no form of active play was observed, instead socialization, and individual playful behaviours, for instance, dribbling balls while walking were common examples.

In the afternoon, children walking back from middle school or high school fully populate the sidewalk connecting Overlea Boulevard and Don Mills Road to Thorncliffe Park Boulevard. The sidewalk is not wide enough to easily accommodate walking in both directions during this time; other pedestrians who walk in opposite directions were observed to have to step on the street. In this limited space, children walk in packs of friends and/or siblings; very few adults are usually seen among them. After arriving at Thorncliffe Boulevard, playful behaviours would appear as children find more space to move. A vegetation strip buffers the sidewalks along Thorncliffe Boulevard on one or two sides, which extends the walkable width. Moreover, the pedestrian flow narrows down as some children

arrive at their residential locations. During the walk, they sometimes pause and chat or engage in a competitive form of play, such as racing or throwing snow at each other. While older children mostly socialize along the way, younger ones engage in active forms of play such as jumping, spinning, and running. These playful behaviours do not necessarily happen in a group setting. Interestingly all examples of play among the younger children involved natural elements along the sidewalks, such as trees and the entire green buffer separating pedestrians and cars, what I previously referred to as the soft edges (Shadkam & Moos, 2021).

It is important to reflect on children's interaction with traffic in daily school journeys. For that, traffic signage, right of way, and the number and quality of intersections are considered (Shadkam & Moos, 2021). The residential section along and inside the U-shaped Thorncliffe Park Boulevard does not usually experience heavy car traffic and is mostly dominated by pedestrians. The speed limit is 40 km/h along the boulevard and many signalized cross-sections ease pedestrians' crossings. However, examples of jaywalking were documented during the observation sessions. One of the common instances of jaywalking was observed in the morning around the residential Zone A; it is common to see preschoolers accompanied by caregivers walk across the boulevard to shorten their morning trip from approximately 10 to 6 minutes, which is not significant. Reasons for jaywalking can relate to various factors of pedestrian characteristics and site conditions (Brousseau et al., 2013).

Outside of the residential area, heavy traffic is witnessed on Overlea Boulevard and Don Mills Road. Between 2:00 and 4:00 p.m., the usual rush hour, children returning from the middle school and high school must cross two major intersections. I asked about the feelings of safety when crossing the streets in the questionnaire. 24 responses were collected for this question. Twelve out of 24 collected responses were "feeling somewhat safe" when crossing the street alone. Six of the responses were "feeling not safe," and the other six were "feeling very safe." Further discussions with interview participants revealed no major concerns about traffic interaction during school travels with the availability of well-designed intersections and the help of the School Traffic Guards. While some of the participants considered their parent's presence as a condition for feeling safe when crossing the streets, a 12-year-old boy explained: "It is nice to know awful accidents do not often happen in this area, but children still must be careful especially when cars drive fast."

So far, findings show perceptions of safety and proximity contribute to the walkability of everyday destinations, which is in line with previous studies on children's mobility (e.g., Larsen et al.,

2009). Additionally, opportunities for play on the route connecting schools to their residential buildings were understood as an encouraging factor. Earlier, I overviewed examples of spontaneous play on the morning and afternoon school trips. Those examples showed play on the pathways. Here, I focus specifically on the positioning of play destinations to schools and residential locations. For those living in Zone B and attending elementary school or kindergarten, the Playground is in the middle of their everyday school route. According to children living in Zone B, it is common for them to stop by the Playground before going home. By stopping at the Playground when returning from school, children integrate their play time into the travel time. Given the younger age of preschoolers and elementary school children, they are often accompanied by caregivers. Making a stop for play on the way also provides an opportunity for the adults to socialize with one another.

However, stopping by the Playground before arriving home does not naturally and frequently happen for those living in Zone A. A child resident of Zone A explained when returning from elementary school, they do not naturally pass the playground. If they decide to play at the playground after school, which does not happen often, they must walk in the opposite direction. Then, when returning from the Playground, they walk toward the school, pass it, cross the boulevard, and take the sidewalk to their building gate. Therefore, for children in Zone A, structured play is not initially a part of everyday travel, although spontaneous play could still happen along the way and in open spaces surrounding residential buildings. Figure 33 illustrates the positionality of playspaces and pathways connecting residential locations to the Playground, and school area. The quality of the walk and types of play happening along the pathways vary depending on where children live and go to school.

4.6.3 Parks Around the Towers

Children of Thorncliffe Park experienced multiple playspace closures in September and October 2021 due to the COVID-19 pandemic and construction in the Playground. The latter coincided with the start of my on-site observations, which appeared as a unique opportunity to understand how other open spaces in the neighbourhood accommodate children's play. Of all open spaces in the neighbourhood, the Lawn Area between the residential buildings in Zone B was the most popular and according to the study participants their second favourite playspace after the Playground. *The Lawn* or *Lawn Area* are terms often used by the residents to refer to this space. Owned by the residential property owners, this area consists of surface parking lots, lawns that are slightly elevated, driveways, and an entrance to the underground parking. The entire space is separated from the sidewalk by

fences. There are trees all around and inside the lawn sections but there is no water feature. A few benches here and there provide limited seating options. People also sit on larger pieces of stone or the edge of the elevated section of lawns. Cars are parked all around the green sections. No play equipment exists in this area and building regulations do not allow for children's play on the lawn; they often do so regardless.

Besides being a favourite playspace in all seasons, the Lawn Area is a social space for people of all ages. Groups of women, toddlers, and infants in the stroller are frequently seen picnicking on the lawn during the day. They often speak a non-English language (Table 6). In the afternoons, before children return from school, groups of mothers spend time together in the Lawn Area while waiting for the school children (Figure 34). After school, children dominate this space. But older adults gradually take over when the sun is setting. They meet up with neighbours who mostly speak a non-English language, sit in the same spot as observed in earlier sessions, and talk, laugh, and smoke.

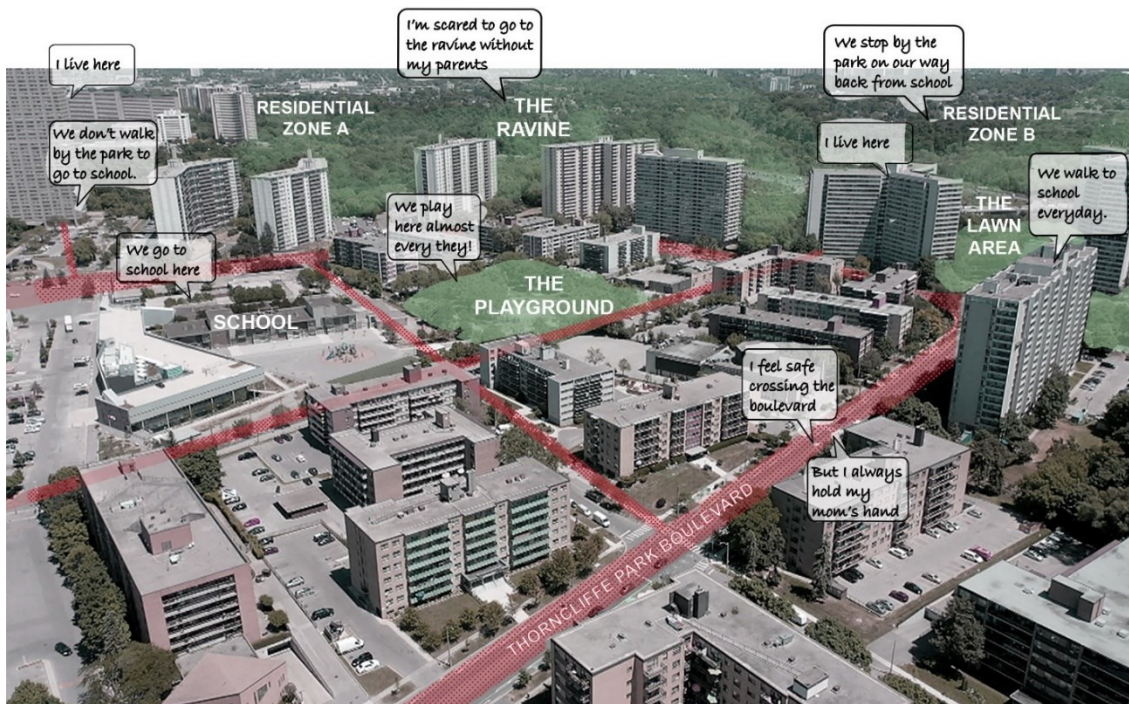


Figure 33 The network of places and pathways identified in Thorncliffe Park (The image is retrieved from Google Maps Street View).

4.6.3.1 A School Day in Thorncliffe Park

The following section presents an average school day in Thorncliffe Park. This is a narrative of what I observed in a diagnostic observation session on September 9th, 2021, between 5:00 and 5:30 P.M. in and around the open green spaces in residential Zone B – the Lawn Area. This narrative will better portray how the public realm functions as a multigenerational play-friendly space.

It is a sunny afternoon; the temperature is 14 C degrees. The playground is still under construction. The front lawn at 43 Thorncliffe Park Drive is crowded with people of all ages. Three boys, around the age of 7 with their bicycles are coming down a slope. One of them is slowly riding his bicycle, one is on the bicycle but dragging his feet on the grass, and one is walking with his bicycle. Once they reach the flat surface, they loop around, go back up and repeat the pattern (Figure 35, top left). Many other children are also playing in various parts of the front lawn (Figure 35, bottom right). Closer to the main entrance, there is a group of three women with three strollers sitting on the grass on their own blankets. Four toddlers are running around them. The toddlers tend to come back to their moms between each play; they never go too far as the moms are deep into their own conversation (Figure 35, bottom left).

Across from them another group of women with two teenage boys are sitting on the curbside. Two other younger boys, around the age of 8 are playing with a soccer ball on the lawn behind them. I am not sure whether these two younger ones are with this crowd too. In the middle of the Lawn Area, two boys around the age of seven are sitting on a tree stump talking with hand gestures. They get up and walk towards a tree that is five steps away from them. One of them climbs the tree and disappears in the foliage, as the other boy cheers him on. On the far end of the lawn, a boy and a girl approximately five years old are crawling under some tall but hollow bushes pretending to go through a tunnel; they are laughing loudly. A group of teenage boys who were previously gathered on the front lawn are now exiting the building complex; one of them is holding a basketball. They walk across Thorncliffe Park Boulevard diagonally as there is no vehicle on the road. Inside the Lawn Area, the two boys that were climbing up the tree had now attracted a couple of girls of the same age. Girls stand by the tree and watch the second boy climb (Figure 35, top right). Then, they make a few attempts themselves, without much effort or success.

At this time, a slightly younger group of children accompanied by who appears to be one of their mothers walk from another lawn section towards the tree. They join others standing around the

tree. The climbing challenge continues as children make their best attempts one by one. I walk towards them, stand by the mother, and start a conversation. “They seem to be having so much fun with this climbing challenge.” “Yes, there is no swing or slide, so they play with everything they find,” she replied with broken English and a thick accent. “Does it usually get very busy in this lawn area?” I asked curiously as there were many children scattered all over the open green spaces around the building playing all sorts of games. “Oh yes!” she asserted. “Well, the Playground is closed. So, children from those other buildings come to play here too” she added while pointing at building 75.

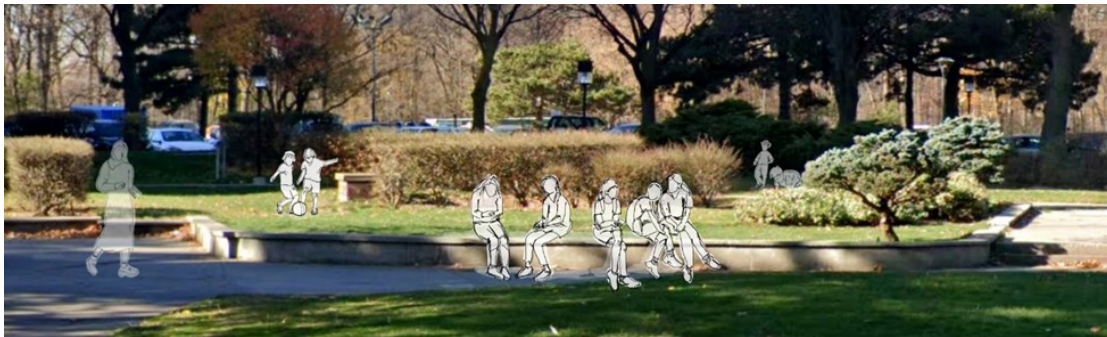


Figure 34 Caregivers socializing in the Front Lawn area waiting for children returning from school (Source: Shadkam, September 2021 about 3:00 pm)



Figure 35 Illustrations based on on-site observations in the Front Lawn area (Source: Shadkam, September 2021 about 5:00 pm)

4.6.4 On Seasonality

It is no surprise that short winter days impact after-school playtime, which interviewees recognized as a factor limiting their play routine. Children (only boys) who showed more enthusiasm about outdoor play mentioned that they usually do not go home after school to eat or rest. Instead, they play immediately after school to take advantage of the short winter days. Others said that their play time in winter is inevitably shorter and less frequent. They play video games or work with tablets in their discretionary time after school.

Shorter daylight hours are not the only limiting factors for outdoor play in winter. Lower temperatures force children to stay inside. A nine-year-old boy explained: “I played every day in September, even if my dad said no, I can’t come, I went alone, [but] I don’t go anymore because it’s really cold now [January 2021] and there’s snow.” Moreover, wintery surface conditions increase the risk of injury. An 11-year-old girl explained:

“I am not really allowed to go outside in the cold unless I need to go to school. When it’s like recess time at school I usually go outside but I don’t really like winter because all the playgrounds are like slippery, and you can’t really go on any slides and so you going to get hurt. And the school shut down the slides and playgrounds and just all you can do is running around on snow.”

Despite such difficulties, a few of the interviewees mentioned that in winter, they prefer to play in the Lawn Area because of its proximity to the residential buildings, lower risk of injury due to icy surfaces, and opportunities to play with snow and make a snowperson. A seven-year-old boy explains “[...] I don’t want to play at the park [because] the park would be slippery with ice. Because in my backyard [i.e., the Lawn Area], there is no ice, there is snow. But in the park, it rains sometimes and then the snow freezes.” Some of the concerns brought up regarding playing in the winter bring us to the next section, where I further reflect on the influences of environmental and social risks on children’s play experiences in Thorncliffe Park.

4.6.5 On Safety

As discussed earlier, safety concerns are one of the biggest barriers to children’s freedom of play in urban environments (Horschelmann & Van Blerk, 2013). In this study, children were asked about how safe they feel when walking in the neighbourhood, crossing the streets, and playing outside

“alone” (Figure 36). These questions target children’s feelings of safety regarding their level of independence. 24 responses were collected for this question. As illustrated in Figure 36, most of the respondents felt “somewhat safe” when doing different outdoor activities “alone” in the neighbourhood. As feeling “somewhat safe” shows uncertainty in children’s answers, we followed up with the interviewees about their safety concerns. The safety concerns brought up by interviewees relate to at least one of the following themes: strangers’ danger (or social risks), fear of traffic interactions, and health concerns.

Concerning strangers’ danger, five of nine interviewees have never experienced being around strangers without their caregivers’ supervision. One 11-year-old girl deliberately explained that she would feel uncomfortable being around strangers without her mother. One 10-year-old girl mentioned that she is not even allowed to go alone to the store located in the lobby of their building. One 7-year-old boy mentioned that he feels comfortable going out alone but is not allowed to. Finally, the parents of a 6- and a 7-year-old girl mentioned that they never let their daughter go out alone even if they were older. For these children, being afraid of strangers mostly seemed a concept inherited from the caregivers and not based on personal experiences due to a lack of independent exposure to strangers’ presence.

Four other interviewees have indicated some levels of freedom in being outside without caregivers’ supervision. A 9-year-old boy mentioned that he is allowed to play outside with his 13-year-old brother but not alone. He was also told by his mother that the neighbourhood his school is in (a 30-minute walk away from their residential location), is not as safe as Thorncliffe Park. Therefore, he must avoid playing in that area after school and must return home immediately. He must take the bus on days that his parents cannot drive him back home. When asked about what in the other neighbourhood makes it less safe than Thorncliffe Park, he answered “Suspicious people.” He also compared it with his previous residential neighbourhood where they would see examples of “drug-related activities.” One 12-year-old boy mentioned that he is allowed to walk to the neighbourhood playground (an 8-minute walk) and travel to school (a 25-minute bus ride) alone. He was convinced about the importance of not going too far away from home. He explained staying closer to home enables help from his parents if a difficulty arises because at least one of them works from home during the day. In terms of interaction with strangers, he believes that people in his neighbourhood are friendly; although they have been living in this neighbourhood for only 2 years, he has never been in an uncomfortable situation with a stranger.

Interacting with cars is also a major safety concern. Figure 36 illustrates a summary of safety questions asked about the risks of traffic interactions. In section 1.7.2, I discussed results regarding safety while walking and crossing streets. In the questionnaire, I also asked whether children are afraid of cars when playing outside. Twenty-three out of 24 responded “YES.” Moreover, they rated their feelings of safety when playing outside when the neighbourhood parks are closed. Nine out of twelve responded “not safe,” ten chose “somewhat safe,” and five answered “very safe.” I followed up on this concern with the interviewees. The results show that the most problematic area is the Lawn Area in Zone B. The major fear comes from the integration of green spaces, where children play, with the surface parking lots (Figure 35). There are fears about children getting hit by a car when playing as well as cars running over children’s play equipment. “If my ball went under a car, I’d be afraid my ball gets inflated,” said a 7-year-old boy whose ball was damaged by getting stuck under a parked vehicle two times so far.

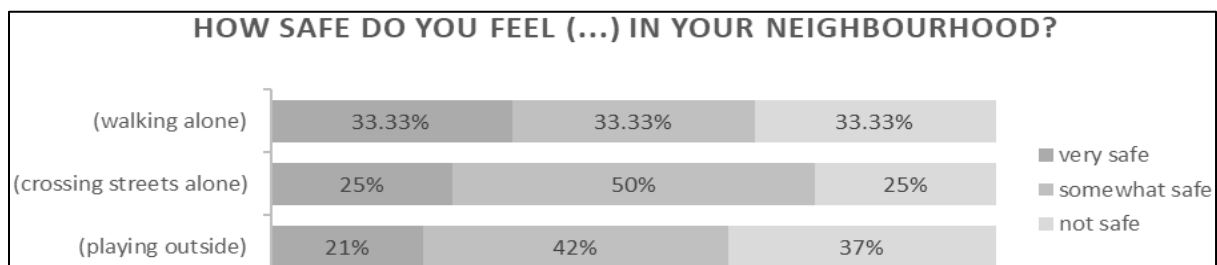


Figure 36 A chart showing the share of responses to the safety questions.

4.7 Discussion

Among neighbourhood playspaces, the Playground (Burgess Park) and the Lawn Area were found to be children’s favourites. As explained earlier, some shortcomings exist. For example, the Lawn Area is not a designated playspace and does not offer any play structure, and the Playground does not provide enough space and equipment compared to the children’s population and is often crowded. However, proximity to children’s home locations and/or schools was the main reason for these spaces to become popular. An exception to this rule is Seton Park, which despite proximity to residential locations remains out of children’s regular play range due to safety concerns explained in 1.7.1.3. Additionally, some relatively further play destinations were found to have seasonal popularity. For instance, Sky Zone indoor trampoline park is more popular in winter, while Water Park attracts children in different seasons for a diversity of reasons. In the Summer, the outdoor pool and

community garden, and in the Fall, the stunning colourful view of the Ravine are points of attraction in Water Park (i.e., Leaside Park).

Despite the limited number of play destinations, children's engagement in the public space is noticeable, highlighting the existence of a play network. I outlined several physiographic and social factors that contribute to this network. Playgrounds, schools, shops, and residential buildings are interconnected primarily through local streets with traffic calming measures, especially Thorncliffe Park Boulevard. Notably, major arteries remain outside the residential core. The deliberate street layout, a product of modernist (Corbusian) planning in the 1960s, significantly facilitates pedestrian connectivity and enhances traffic safety. I also noted that increased walking is perhaps related to the lower rates of car ownership, too. Furthermore, the U-shaped Thorncliffe Park boulevard encircles a multifunctional core with educational, recreational, and commercial spaces. I refer to this core as the *heart* of the neighbourhood. Residents living along the boulevard enjoy convenient access to a variety of amenities at the heart, often just a street crossing away, which was also considered important in shaping the sense of belonging to the neighbourhood by a 10-year-old participant – a known determinant of having a sense of belonging to one's local environment in previous studies (e.g., den Besten, 2010; J Loebach & Gilliland, 2010).

Lastly, the open spaces, including parks, front lawns, laneways, sidewalks, parking lots, and school grounds, are interconnected hierarchically. This hierarchy is pivotal in activating the public realm as a comprehensive play network (Shadkam & Moos, 2021). In a scenario where a child journeys from the elementary school back to their residence in Zone B, they traverse through a sequence of open spaces. Starting from the open spaces surrounding the school, including the schoolyard, the child moves through the open spaces between houses, reaches the playground, engages with play structures and friends, and then continues through the laneway connecting the playground to Thorncliffe Park Boulevard—this laneway is situated alongside the library building. As the child passes the library, they may even venture inside to explore a book. After crossing the boulevard, they walk toward the front lawn in front of their residential building, encountering neighbours, other children, and friends from school. Here, they pause, interact, and engage in play before heading home. This sequence of open spaces – school yard, parking lots, playground, laneway, street, front lawn, and finally home - underpins children's active presence within the neighbourhood. Each space contributes uniquely to the overall experience defining the quality and richness of the play network within Thorncliffe Park.

Discussions with children also revealed an overlap between their physical and social spaces. Children of Thorncliffe Park do not necessarily receive more freedom from their caregivers than what might be expected in contemporary Western societies, as explained in section 1.7.4. They hardly go out alone and require supervision in the public realm. However, because children's spaces are not fully separated from the adults' realm and a hierarchy of open spaces exists, they can play and explore while caregivers engage in social activities. Children's social ties range from close relationships with friends and classmates to less frequent interactions with neighbours, owners of a local store, and even strangers with familiar faces. Yet, stranger's danger plays a precautionary role in the definition of their territorial range. For example, being aware of risk-prone areas helps children adjust the range of their safe territory. As discussed by children, the awareness may come from parents' perceptions, news, or what they have personally experienced (for example, the horror-movie-like experience in Seton Park). However, familiarity is found to be an encouraging factor (for children and/or their caregivers) to extend one's territorial range, like being able to navigate the neighbourhood to get to daily destinations.

It is also worth acknowledging the drawbacks of the play network in Thorncliffe Park. During my site visits, I noted certain shortcomings in the quality of the neighbourhood's pathways, despite the absence of concern expressed by interviewees. Notably, the sidewalks along Thorncliffe Boulevard may benefit from increased width to accommodate the substantial pedestrian traffic, particularly during after-school hours. Additionally, design enhancements are necessary to reduce potential conflicts between pedestrians and vehicular traffic. For instance, the shared pathway connecting Thorncliffe Park Boulevard to the Playground exhibits a width marginally larger than that of a standard car. This design necessitates pedestrians to wait on the further side of the path, allowing cars to pass by safely. To address these concerns, a proposed sidewalk improvement plan for Overlea Boulevard, spanning between Don Mills Road and Thorncliffe Park Drive, offers a promising solution that could vastly enhance the pedestrian experience. If implemented, this plan, as outlined in the "Renewing Overlea Boulevard" proposal (City of Toronto, 2023), holds the potential to rectify these infrastructural shortcomings.

4.8 Conclusion

The objective of this research was to delve into the dynamics of the public realm, exploring its role as a network that offers diverse play opportunities, including parks and playgrounds, within the context

of Thorncliffe Park as an inner suburban tower neighbourhood. By closely observing popular spaces and pathways, this study aimed to decipher the formation of the neighbourhood's play network. The findings illuminated a noteworthy disparity: while the number of play destinations in Thorncliffe Park appears limited compared to the local child population, children's outdoor play experiences remain largely positive. Their sense of safety within familiar spaces and strong social ties with neighbors, beyond immediate family, contribute to this positive outlook. Other key contributing factors identified relate to the neighbourhood configuration including the proximity of schools and play areas to children's residential locations, the strategic placement of Playgrounds along home-to-school routes, and the hierarchical relationship among neighbourhood open spaces.

Residents also expressed concerns regarding access to child amenities and overcrowding in both outdoor and indoor residential spaces. Nevertheless, the local experience in this neighbourhood is deeply rooted in the shared memories across generations, created within the shared public spaces, which also highlights the importance of studying children's presence in the public realm without solely focusing on their independent mobility. Furthermore, quantitative data might suggest Thorncliffe Park falls short of being labelled a definitively child-friendly neighbourhood. Yet, the qualitative narratives and experiences of the children offer a different perspective. This study underscores the importance of employing a socio-spatial lens and a bottom-up approach in planning and considering lived experiences, which is often overlooked in conventional physical planning. A better understanding of lived experiences provides a more realistic vision of how individuals, irrespective of age, navigate, create, deconstruct, and construct identities within their everyday spaces.

Chapter 5 Manuscript 3 *Children's Belonging and Territorial Range in a Multi-Cultural Apartment Neighbourhood: The Case of Thorncliffe Park, Toronto*

The influence of safety factors on children's independent mobility is widely studied across child-friendly city literature, as is the creation of a sense of belonging through outdoor play. However, discussions about the interconnection of outdoor play, neighbourhood configuration, safety, and belonging are often scattered and lack empirical support. To fill this existing gap, I conducted an ethnographic study in Thorncliffe Park, a multicultural, high-density neighbourhood in the inner suburbs of Toronto, to investigate the linkages between neighbourhood configurations, children's level of local belonging, and overall perceptions of safety. Data were collected through observations, questionnaires, and interviews with children aged 7-12. Findings revealed that walkability and having a play network lead to better familiarity with people and places, strengthening a sense of belonging to the neighbourhood followed by improved perceptions of safety. In a positive feedback loop, higher perceptions of safety nurture children's quality and extent of outdoor play experiences at the neighbourhood level. This study contributes to the broader child-friendly planning discourse by mapping the reciprocal cycle of children's place creation through ongoing negotiation of their social and physical boundaries.

Keywords: Sense of belonging; children's safety; walkability; play network

5.1 Introduction

The contemporary urban landscape is a complex mosaic where individuals, families, and communities create and co-create their narratives of belonging. At the heart of this complex system lie the experiences of children, whose interactions with their immediate environment play a significant role in their overall growth and skill development. Feeling safe – both environmentally and socially, is known as one of the determinants of belonging among social geographers and psychologists (Antonsich, 2010; Gill & Howard, 2009; Taylor, 2009). Safety is also a recurring concern in policy-making for child-friendly spaces (Crawford et al., 2017; Foster et al., 2015;

Holloway & Valentine, 2005; Malone, 2007). A sizeable body of literature has long investigated safety concerns related to children's independent mobility in urban spaces (see for example, Alparone & Pacilli, 2012; Buliung et al., 2017; Hillman, 1990; Loebach & Gilliland, 2019; Mitra, Faulkner, Buliung, & Stone, 2014; O'Brien et al., 2000).

However, these arguments mostly remain limited to the relationships between social and environmental risks and children's independent play and mobility. However, how safety is related to the more subjective aspects of children's experiences of urban spaces, namely having a sense of belonging, is understudied. This may be partly related to the common, and mostly North American, misbelief that children do not *belong* to urban spaces and modern planning ideals that contribute to the separation of uses and users (Malone, 2007). As North American cities continue to grow, in particular, become denser, the need to understand how children fit into the urban realm requires re-engagement with how child-friendly planning supports a safe environmental experience without compromising fundamental concepts such as belonging, citizenship, and agency.

This article contributes to this dialogue by asking "What are the linkages between the neighbourhood configuration, children's level of local belonging, and overall perceptions of safety?" To address this question, I explore levels of local belonging and safety perceptions through the act of play in the public realm. For that, I conducted an ethnographic study using systematic non-participant observations, online questionnaires, and virtual one-on-one interviews with children aged seven to 12 living in Thorncliffe Park, a multicultural, high-density neighbourhood in the inner suburbs of Toronto.

The results of the study are presented in three sections. The first part provides an overview of the neighbourhood including its demographic profile, physical configuration, and participants' responses to general questions about safety and belonging in Thorncliffe Park. The second section outlines different aspects of children's outdoor experiences including their familiarity with the neighbourhood environment, what they like and dislike, and their social ties in the neighbourhood. The third part presents the article's discussion, which outlines the important themes discovered to be effective in linking a sense of belonging to perceptions of safety, and the overall everyday outdoor experiences. Finally, I present a framework illustrating this linkage, followed by the concluding points.

There are, however, studies that show how belonging and attachment unfold among children and youth using different scholarly frameworks. For instance, Visser, Bolt, and Kempen (2015) revealed that perceptions about the relationship between socioeconomic status and one's feelings of safety and emotional attachment to a neighbourhood are too context-specific to generally associate higher socioeconomic status with greater safety, thus independent mobility. As the neighbourhood, however, neglected, was a part of children's identities. With a social constructivist lens, Cook et al. (2015) make a similar argument about children's level of active citizenship by investigating the influences of the environment on independence and social connectedness.

5.2 Improved Belonging and Greater Safety: A Two-Way Relationship

Ranked third in Maslow's hierarchy of basic human needs in 1954, belonging resonates across disciplines such as psychology, sociology, and environmental design. An early definition by Anant in 1966 conceptualizes belonging as "a sense of personal involvement in a system so that the person feels to be an integral part of that system" (Anant 1966, p.21 in Hagerty et al., 1992). In other words, belonging entails personal involvement in an environment or relationship, creating feelings of inclusion, validation, and comfort (Wise, 2022).

The importance of discussions about children's sense of belonging to urban spaces is twofold. One, there is a growing concern about children's safety in urban environments known as the realm of adults and automobiles. In North American culture, suburban neighbourhoods, and the supervised private spaces within them, are commonly considered as the place where children are believed to 'belong' (Talen, 2001). As such, investigating ways to improve children's belonging to urban space is inherently a controversial topic as it challenges such perceptions. Moreover, unlike the literature on children's place-making, belonging is a topic still requiring further investigation within children's geography disciplines. Place-making and belonging are not mutually exclusive concepts but have been used interchangeably in previous literature which is worth revising.

In the discussion of a sense of belonging to a physical environment, 'place' is a frequently used term. These studies are mainly rooted in environmental psychology, the study of human behaviour in relation to the built environment. For instance, place-making, sense of place (Lay 1998), and place attachment (Altman and Low 1992) are often used interchangeably to refer to the subjective process related to an individual's perception of an environment, which is integrated with personal experiences, feelings, and memories (Lewicka, 2010). Children's scholars have used the term place in

similar ways. Rasmussen (2002) distinguishes between children's places and spaces to explain the process of making places in adult-created spaces. Hart (1979), in the well-known Phenomenal Landscape Model, uses children's places as one of the main components of children's phenomenal environmental experiences (Hart 1979).

Play and exploration opportunities are important characteristics of a child-friendly city (Kytä, 2002), and exploring a new environment is the beginning of the 'place-making' process for children (Wilson, 1997). However, instead of explorers, children have become "island-hoppers" (Karsten and van Vliet, 2006, p. 152) for two main reasons. First, urban zoning determines the spatial distribution of child-specific spaces. The result is the creation of more adult-dominated urban spaces while children's spaces are mostly limited to institutions or specific sites located across the city (Rasmussen 2004). Second, caregivers' safety concerns are often associated with heavy automobile use in North America (Alison et al., 2008). Transporting children in the back seat of their cars is a way of preventing children's interactions with potential risks, such as a car accident.

Spending most of their time travelling in the back seat of their parents' automobiles between several destinations not only contributes to the car-dependency of North American cities but also disconnects children's bodies and minds from the urban public realm. Meanwhile, walking is considered important in the place-making process (Bourke, 2017; Horton et al., 2013). Through walking children explore their surroundings and make sensory connections with it. The more they walk, the deeper the connection becomes as they constantly create memories and attribute meanings to the environment, objects, and people (Loebach and Gilliland, 2010).

Moore and Young (1978) discuss factors impacting children's phenomenal landscape model proposed by Hart (1977). These factors belong to three realms, the physiographic, social, and inner spaces of the child. Physiographic space consists of the natural and built environment and its elements, such as the sidewalks, trees, or play structures. The social space encompasses all human relationships and cultural values including those of caregivers, which directly influence children. Finally, children's inner space is their mind/body environment and influences their physiological and psychological characteristics, such as age and gender. I will refer to these realms of children's outdoor experiences in the analysis of this paper.

I use the sense of belonging and place-making as two interdependent yet separate concepts. Place-making helps with the formation of a sense of belonging (den Besten, 2010) but is not the only

means to achieve that. Feelings of belonging are also influenced by the sociocultural and psychological aspects of the experience. By distinguishing between a sense of belonging and place-making, I affirm that children do belong to urban spaces and for that, we need to study how the linkages between belonging, safety, and place-making eventually improve the quality of their outdoor experiences in an urbanized world.

This research is in line with the scholarly works, mostly conducted after 2010 that have studied the sense of belonging to a neighbourhood considering children as active users of the public realm. For example, den Bensen (2010) talks about the sense of local belonging and emotional geography in immigrant children. Visser et al. (2015) examine the sense of belonging in a low-income and neglected community among children and youth. Carroll et al (2015) also examined children's sense of place and belonging in an attempt to put 'children first' in urban design policies that are mostly designed for cars and automobiles. Also, Bourke (2017) explores children's construction of a sense of belonging to their urban neighbourhood through everyday life practices.

Accordingly, considering children as active citizens is key to achieving a comprehensive understanding of their spatial and social needs. Planning should respect children as citizens and involve them in the process of public consultation. This idea is supported by the socio-spatial planning theory. Socio-spatial planning aims to focus on the local planning practices informed by the lived experience of communities. This study also subscribes to this humanistic and case-specific approach and considers the social, cultural, and economic aspects of children's experiences as important as the physical aspects of their habitats. It is important to remember that the outcome of socio-spatial planning is not a discrete set of norms applicable to different contexts (Erdiaw-Kwasie & Basson, 2017) and knowledge must be produced through ongoing practices of socio-spatial planning.

5.3 Methods

Relying on an ethnographic case-study approach, the Thorncliffe Park neighbourhood in Toronto, Canada was chosen to gain in-depth insight into children's outdoor play experiences. Data were collected using non-participant observations, online questionnaires, and one-on-one virtual interviews with children aged between seven and 13 years old, approximately. The method benefits from being able to combine the outsider's and insider's perspectives on how children use the built environment

(Pavlidis & Cranz, 2012). Research ethics clearance was received in August 2021. Data collection was carried out between September 2021 and February 2022, during the COVID-19 pandemic.

Non-participant observation was chosen as a widely used method in children's play studies (Smith, 2012), to observe children's natural behaviour without influencing their actions. I acted as a "secret outsider" to remain unrecognized (Zeisel, 2006, p. 117), often observing from a vehicle to avoid disrupting the neighbourhood. Ten observation sessions were conducted, focusing on key locations and times of play activity, with details recorded including location, time, and weather conditions. Key locations were identified based on the most frequently used spaces by children and with consideration of home, school, and park locations as explained by Rasmussen (2004). Key time intervals of observations were before and after school hours on weekdays and from morning to afternoon on weekends.

The design of the questionnaire was informed by the results of the observations and the three realms of factors discussed in the Socio-Ecological model (R. Moore & Young, 1978). In the questionnaire, I focused on outdoor play frequency and physical condition, perceptions of safety and belonging, and demographic information. Participants were recruited through social media and the membership-based in The Neighbourhood Organisation (TNO), a Thorncliffe Park organization offering after-school programs. It is always challenging to recruit children for research and establish trust with the guardians (Skelton, 2008; Spencer, 2021b). Doing so during the COVID-19 pandemic was even more difficult as I was mostly limited to virtual channels. Some respondents expressed concerns about the legitimacy of the research, with comments questioning whether it might be a scam. To address these concerns, I took explicit measures to build trust and credibility. Alongside social media posts, I disseminated similar research materials through familiar local channels, such as TNO, and the neighbourhood Facebook Page, which helped increase the total number of participants. Twenty-five valid questionnaires were collected, initiating conversations that informed subsequent interviews.

Semi-structured interviews were conducted via Zoom with nine of the questionnaire respondents whose caregivers had given consent to be contacted in the future. In the interviews, they described their daily routines and annotated neighbourhood maps to identify their favourite places and pathways connecting them. I then discussed why they like or dislike a place. These topics were used in previous research with children to measure belonging (see e.g., den Besten, 2010; H Matthews &

Limb, 1999; Visser, Bolt, & Kempen, 2015). Depending on their questionnaire responses, I followed up on the details of their play experiences regarding neighbourhood configuration, safety perceptions, and feelings of belonging. Interviews lasted at least an hour, with participants also invited to draw their *dream playspace* to further express their ideas. Besides their response to the researcher's questions, children shared many great stories during the interviews. Some supplementary tools such as neighbourhood map annotation and drawing activities facilitated deeper conversations. Despite challenges in interpreting children's language, these methods enhanced the richness of the data collected, aligning with literature emphasizing the importance of varied approaches in understanding children's perspectives (Carroll et al., 2021; Prince, Allin, Sandseter, & Ärlemalm-Hagsér, 2013). Transcriptions of the interviews provided rich qualitative data for analysis, an approximately 32,000-word document.

I employed phenomenological analytical methods to analyze the collected data. This method is widely utilized for understanding ethnographic data or lived experiences; which allows for an in-depth exploration of the phenomena under study but requires significant time investment (Finlay, 2014; Wertz et al., 2011). My analysis began by synthesizing observations into annotated pictures to capture children's spontaneous play, reflecting a methodological choice to protect privacy and remain unnoticed during observations. Interview transcripts were then reviewed through open reading, leading to the identification of four main themes: play, safety, belonging, and seasonality. I, then, categorize the recurring concepts within the transcripts into physiographic and social realms (informed by the Socio-Ecological framework) to deepen understanding of influential factors and be able to further interpret findings. I used a combination of visual and text-based techniques to analyze the data, acknowledging the necessity of diverse forms of representation to capture children's experiences comprehensively as discussed in previous research (Carroll et al., 2021; Hanssen, 2019; Holt, 2004; Tudge et al., 2012). I also used direct quotations from interviews to avoid misinterpretation of children's opinions. The findings of this study are presented in sections 5.4 and 5.5 followed by an analytical discussion in section 5.6.

5.4 Neighbourhood Background

In this section, I introduce the physical and socio-demographic characteristics of the Thorncliffe Park neighbourhood. In this introduction, I combine my findings with earlier studies on the neighbourhood (Agrawal & Rutgers, 2014; Dempsey, 2012; Hess & Farrow, 2010; Inam, 2019). I also rely on the

neighbourhood's land use plan and the neighbourhood profile created based on the 2016 census data (City of Toronto, 2016).

5.4.1 The Neighbourhood Configuration

Established in the 1960s, the neighbourhood is located in the inner suburbs of Toronto and features separate yet complementary land uses, characteristic of planning trends of the times. The residential section of the neighbourhood follows Le Corbusier's "Towers in a Park" model with more than 34 residential buildings surrounded by open/green spaces and surface parking lots. The residential area is shaped along the U-shaped Thorncliffe Blvd. At the centre of the U exists a mall, a school, a playground, and a community centre with a public library. Further from the centre, chain mega stores such as Costco and Home Depot are located. Families share open spaces and children don't have access to private playspaces. Previous studies also show that there is a shortcoming of child amenities in the neighbourhood given the child population (Webb, 2015). These characteristics make a suitable case for this study.

Table 7 Thorncliffe Park Neighbourhood profile created based on Statistic Canada, the 2016 Census of Population (Source: City of Toronto, 2016).

Social and physical characteristics	Thorncliffe Park	Toronto
Population	21,108	2,731,571
Population Density	6,787	
Children under 14	27%	15%
Immigrants	64%	51%
Average household size	2.92	2.42
Median household income	\$46,595	\$65,829
Unemployment rate	13%	8%
Renter households	89%	47%
Ground-related housing	6.5%	55.7%
Public transit to work	45.3%	37.0%



Figure 37 Residential area, schools, and parks indicated on Thorncliffe Park neighbourhood map (source of the base map: Google Map)

5.4.2 Children's Everyday Spaces

In this study, Rasmussen's institutional triangle of home, school, and playspace is considered to indicate important destinations in children's daily lives in the neighbourhood (Rasmussen, 2004). As shown in Thorncliffe Park's land use plan retrieved from the City of Toronto Official Plan (Figure 37), schools, parks, and shopping centres are located near dwelling units. The approximate residential locations of the participants of this study are marked as Zone A and B on the map. There are five educational institutions within or adjacent to the neighbourhood boundaries including a kindergarten, an elementary, a secondary, and a high school. Seven out of nine interviewees attend one of the educational institutions shown in blue on the map. Two of the interviewees attend schools that are further away from the neighbourhood and are not indicated on the map.

There are six playspaces in Thorncliffe Park including two parks with play equipment and sports fields (Burgess Park and Leaside Park), one skate park (Vanderhoof Park), the green spaces along the Don River (Seton Park), an indoor trampoline park (Sky Zone), and the Lawn Area in front of the residential towers in Zone B. Among them, Burgess Park, which is known as *the Playground*

by most participants, is the most popular playspace in the neighbourhood. Other popular playspaces are the Lawn Area and the Leaside Park, also known as the Water Park because of its swimming pool facilities.

According to a comprehensive study of walkability in 8 tower neighbourhoods in Toronto, the residents of Thorncliffe Park have shown the highest rate of pedestrian satisfaction among all other case studies (Hess & Farrow, 2010). Observations of this study also show that sidewalks in the neighbourhood are always active, and a culture of pedestrianism seems to exist. Additionally, the neighbourhood has great transit access (Toronto Centre for Active Transportation, 2015); based on the 2016 census, about 45% of people over 15 years old use public transit as their main mode of commuting to work. The findings of this study indicate that walking and using public transit are popular modes of transportation among school children, too.

5.4.3 Demography, Safety, and Belonging

Thorncliffe Park is a highly multicultural neighbourhood in the inner suburbs of Toronto. Its population of about 22,000 is extremely diverse with 64% of the population immigrants from Pakistan, Philippines, India, Afghanistan, and other places in Asia and Europe. This neighbourhood is known as one of the arrival neighbourhoods for newcomers to Canada with almost 19% of the population being recent immigrants, people who landed in Canada within the past five years. Besides having a diverse population, Thorncliffe Park has the largest population of children under 14 among other neighbourhoods in the city of Toronto. About 5,600 children live in Thorncliffe Park, in other words, one-third of the population is children under 14 years old (Dempsey, 2012). Table 7 represents Thorncliffe Park's demographic profile based on the 2016 census data and compared to city-wide figures.

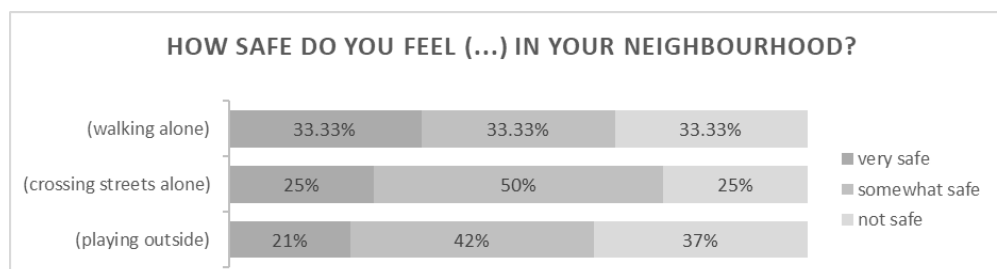


Figure 38 A chart showing the share of children’s responses to the safety questions. A total of 25 responses were received to these questions.

I investigated children's perceptions of safety in the questionnaire. Children were asked about how safe they feel when walking in the neighbourhood, crossing the streets, and playing outside "alone" (Figure 38). These questions target children's feelings of safety regarding their level of independence. 24 responses were collected for this question. As illustrated in Figure 38, most of the respondents feel "somewhat safe" when doing different outdoor activities "alone" in the neighbourhood. As feeling "somewhat safe" shows uncertainty in children's answers, we followed up with the interviewees about their safety concerns.

The safety concerns brought up by interviewees relate to at least one of the following themes: strangers' danger (or social risks), fear of traffic interactions, and health concerns. The first two are widely studied as major safety concerns in children's geographies (Horschelmann & Van Blerk, 2013). Health concerns are embedded within the two categories of environmental or social risks. For example, getting injured in a car accident or by a stranger causes physical and mental harm to the child. However, due to the whole new concerns revolving around the coronavirus, it is worth considering a category for health concerns in the post-pandemic era. Much other research has also investigated the direct and indirect impacts of the pandemic on children's environmental experiences (e.g., see Moore et al., 2020).

My findings suggest that even for the more independent children, the perception of safety is conditional. Distance from home, the presence of other children, and how safe the neighbourhood is known to be are among the influential factors in children's range of outdoor activities. Of course, parental approaches and their perceptions of safety impact children's freedom of movement as well as their understanding of potential risks and dangers in the neighbourhood environments. A 13-year-old boy expressed confidently that he feels comfortable around strangers and has no restrictions from his caregivers to go out alone. He also added that he is never technically alone as friends or his brother accompany him. A 9-year-old boy mentioned an interesting but thought-provoking statement. "Even if no adults are around when I play with my friends, I feel safe because our neighbourhood has secret cameras set up like inside of trees." This statement is not factual but shows how adults' perceptions can influence children's feelings of safety.

According to the participants' lived experiences, strangers' danger is not particularly a major safety concern in Thorncliffe Park. First, not all children have experienced being around unknown people without their caregivers' presence. Second, children who had the privilege of being outdoors

without adults' supervision have not mentioned any examples of experiences challenging interactions with people in the neighbourhood. However, stranger's danger still plays a precautionary role in the definition of their territorial range. For example, being aware of risk-prone areas helps children adjust the range of their safe territory. The awareness may come from what children are told by parents, or what they have experienced, or heard from the news.

Overall, after discussions about feeling safe, all nine interviewees collectively agreed that Thorncliffe Park is a safe place for children. This conclusion was in line with previous studies. According to Agrawal and Rutgers (2014, p.129), Thorncliffe Park is 'safe, friendly, caring, [...] and welcoming for immigrants despite the limited employment opportunities.' They further add that the residents of Thorncliffe Park "have a sense of belonging and a social, religious, spiritual, psychological well-being that transcends their economic hardship." Other studies also describe the Thorncliffe community as socially engaged and proactive in making local changes (Zhuang, 2018); in this article, I argue these characteristics all together improve residents' overall perceptions of safety in the neighbourhood.

In the questionnaire, children were asked to rate their sense of belonging to the neighbourhood. Relying on the existing literature (Antonsich, 2010; Taylor, 2009; Wise, 2022), I defined a sense of belonging for children as "Some people have good memories from some places and feel like they belong to those places. How much do you belong to your neighbourhood?" I emphasized the relationship between memories, place, and belonging to encourage children to rate their belonging based on their spatial experiences. Eighteen out of 25 participants (72%) responded "a lot," five children (22%) answered "a little," and two others (6%) responded, "I don't know." These ratings were then discussed with the interviewees to understand why they felt a certain way. All interviewees expressed a great sense of belonging to Thorncliffe Park for different reasons. Many have mentioned that they have all the necessities they need.

"[...] we have like doctors around. We have places we can get groceries; Food Basics is just a couple of blocks away and we have lots of restaurants or cafes and we have a doctor like clinic around one block away" (a 10-year-old girl born in Dubai and with experience living in New York City, Calgary, and Toronto).

Some have mentioned that the neighbourhood is beautiful because of “all the buildings” or because of “the parks and flowers.” Some shared stronger statements about their sense of belonging to the neighbourhood. For example, a 9-year-old boy originally from Palestine who lived in the neighbourhood for 5 years explains that “the neighbourhood will collapse without my existence.” Some mentioned that the neighbourhood is beautiful because of “all the buildings” or because of “the parks and flowers.” Some shared stronger statements about their sense of belonging to the neighbourhood. For example, a 9-year-old boy originally from Palestine who lived in the neighbourhood for 5 years explains that “the neighbourhood will collapse without my existence.”

5.5 How the children of Thorncliffe Park experience the neighbourhood

In this section, I discuss children’s experiences considering their levels of familiarity with the neighbourhood’s environment, places they like versus places they dislike, and their existing social network. These factors are also discussed among the findings of previous studies, which examined the social and/or environmental attributes of neighbourhoods regarding children’s daily experiences of their local environment.

5.5.1 Environmental Familiarity

When asked “Do you know a lot about your neighbourhood?” a 9-year-old boy firmly answers “YEAH!”

Familiarity with the neighbourhood spaces has been found influential in children’s perceptions of safety and emotional attachment to the neighbourhood. In a study of children’s perception of their “deprived” neighbourhood, Visser and colleagues discovered a common sense of comfort among those well familiar with what is where in the neighbourhood (Visser et al., 2015, p. 36). They have also discussed how familiarity is naturally attained over time. Children who recently moved to the neighbourhood showed less attachment to what was well-loved by others who lived longer in the neighbourhood. In the Phenomenal Landscape Model, too, Hart emphasizes the longer one lives in a neighbourhood, the more they develop environmental knowledge about their locales (Hart, 1979). Knowing and liking the neighbourhood is proven to improve their sense of citizenship (Cook et al., 2015).

In the questionnaire, children were asked how long have lived in Thorncliffe Park. Survey responses reflect the duration of the participants' tenure in Thorncliffe Park: 11% residing for less

than 5 years, 78% for 5 to 10 years, and 11% for over a decade. Given the participants' age range, most have spent a significant portion of their lives in Thorncliffe Park. Among the interviewees, only a 12-year-old boy, recently transplanted to the neighbourhood, exhibited limited knowledge beyond playgrounds and residences. Contrastingly, long-term residents demonstrated awareness of the neighbourhood's spaces, even if not frequented them.

To examine the level of environmental familiarity, I introduced Thorncliffe Park's Google Map to the interviewees, requesting to annotate the map by marking their everyday destinations and the usual routes to them. A majority exhibited competence in map comprehension and navigation. Exceptions were noted among 7- and 6-year-old girls, who required parental guidance to recall certain locations. Throughout the interview, participants, without a map, used memory to reference various neighbourhood sites, skilfully providing directions to guide my understanding of their everyday pathways. Their spatial cognition of the neighbourhood was striking.

Daily movements between home, school, and play destinations constitute another catalyst for increasing environmental familiarity as indicated in previous research (O'Brien et al., 2000; Rasmussen & Smidt, 2003). For instance, a study on children's pedestrian behaviours also revealed that walking practices are effective in creating a deep environmental familiarity indicated by the participants' wayfinding abilities and their "secret" knowledge of the neighbourhood (Horton et al., 2014, pp. 108-109). The findings of my study also reveal that walking remains the preferred mode of transportation among Thorncliffe Park's school children and a high degree of familiarity with destinations accessible on foot from residences (e.g., parks, schools, and shopping centers) was evident. This daily routine of walking to destinations not only fosters a sense of independence but also establishes a direct, physical connection between their bodies and the spaces they inhabit (Christensen & OBrien, 2003; Horton et al., 2014). It's through these walks that Thorncliffe Park's children learn about their immediate surroundings and form attachments with their neighbourhood spaces, one step at a time. To support this argument, I further elaborate on children's journey from school based on my interviews.

A 12-year-old boy showed very high levels of familiarity with the neighbourhood despite his fairly short time, 2 years, living in the neighbourhood. He is allowed to walk to the neighbourhood playground (an 8-minute walk) and travel to school (a 25-minute bus ride) alone and has never been in an uncomfortable situation when alone in the neighbourhood. A 13-year-old boy also shared

interesting experiences in this regard. He considered his highly active routine of walking and playing in the neighbourhood because of familiarity with spaces and people and as he elaborated “feeling comfortable around strangers.” Therefore, a reciprocal relationship existed between children’s environmental familiarity and the frequency of being outdoors and feeling comfortable or safe. With his routine active movements around the neighbourhood, he showed high levels of confidence.

Another influential factor in the level of environmental familiarity was the placement of residential buildings, schools, and parks. Children who live in Zone A were less familiar with neighbourhood spaces than those who live in Zone B (Figure 37). The reason mostly relates to their usual home-school paths. This discrepancy is traced back to their habitual home-school routes. Zone A’s children attending the elementary school, simply cross Thorncliffe Boulevard and walk straight to the school. However, Zone B’s children attending the same school, have a longer journey after crossing the boulevard. They walk through the heart of the neighbourhood, where the playground, library, and community centre are located. While Zone B’s path was lengthier, it allowed them to linger at the playground or library post-school. A 10-year-old girl residing in Residential Zone A explains:

“[The Burgess Park] is not on my way, we go from the other side. So, once we come out [of school], we start walking forward and then we go right, and then we go forward. But for the Burgess Park, all my friends go that way because they’re usually in building B, but I’m in A.”

Overall, the level of neighbourhood familiarity Thorncliffe Park’s children have is shaped by the interplay of neighbourhood layout, time, and everyday routines. This mix of factors turns the neighbourhood into a space interwoven with personal experiences. The following sections delve into children’s place-making experience by examining their favourite playspaces.

5.5.2 Favourite playspaces

Looking at what children like and dislike in the neighbourhood is a widely used strategy among children-friendly city scholars to understand neighbourhood experiences and perceptions (e.g., (Carroll et al., 2015; Cook et al., 2015; den Besten, 2010; Elsley, 2004; Loebach & Gilliland, 2010; Visser et al., 2015). As play is the most common way of place-making for children (Murnaghan,

2019), in this study I focused on liked and disliked playspaces. These concepts were mostly discussed in the interviews to validate the results of observations.

Most of the interviewees indicated the Playground (i.e., Burges Park) as their favourite neighbourhood playspace. A few reasons were discussed for this. First, the Playground offers various play structures and opportunities to children of all ages. The recently added splash pad was mentioned multiple times as an element increasing the Playground's popularity. Moreover, as discussed earlier, for a group of children who live in Zone B, the Playground is conveniently located on their way to school fostering frequent visits. "I think the reason that [the Playground] is more populated is because obviously, it's right next to school." Explains a 12-year-old boy. Finally, the Playground is a well-known public space among all residents as a location for cultural practices and seasonal festivals (Zhuang, 2018), making it more accessible to different generations.

A 7-year-old boy, who no longer lived in Thorncliffe Park at the time of the interview, shared the following memory of the Playground. In his memory, he associates an important event, the born of his younger brother with the use of the playground and how over time he and his family used this playspace:

"[I like the Playground] because I could play with my family. Because we used to play soccer, tag, hide and sick, and then my brother was born. And then we used to play peekaboo with my brother, and my mom and dad used to just sit on the bench when I was playing with my brother when he was a baby. And then we both grew up and then we would play soccer together and I played with swings and slides and cause my mom and dad are very old they just rest on the bench (he jokes)."

The second most favourite playspace is the Lawn Area in front of Zone B's residential buildings. This green space with no play equipment is not a formal playspace but has served as one in two stances of playground closures, during the COVID-19 pandemic lockdowns and when the Playground was undergoing construction. Daily, the Lawn Area is used as an informal playspace, especially for children residing in Zone B. The Lawn Area is also a communal space for all neighbours to gather, chat, and spend time outdoors, despite limited seating options.

The following is how describes the Lawn Area as one of his favourite playspaces. The description of a 7-year-old boy emphasizes the accessibility of the Lawn Area making it almost an

extension of their dwelling, where they would pause for play before or after other actions. Again, here, the child is associating the space with a series of past events:

“[...] there is like a path and around the path, there is like grass. We used to like, when my mom went to like any operation or something or for a test, we like go to visit her and stopped at the ground [the Lawn Area]. And then, me and my dad and my [younger] brother then we’d play tag or something and my dad rests and plays on his phone.”

Lastly, Water Park (Leaside Park), although less popular, emerged as a preferred playspace for a few of the participants. An 11-year-old girl appreciated Water Park's quiet compared to the usual overcrowding at The Playground. This quiet allows using the play equipment without being concerned about potential injuries from other children competing over play equipment. Secondly, she perceives Water Park as more suitable for older children because of its sports facilities, walking trail, panoramic view of the Don Valley Ravine, and the presence of a community garden. This sentiment aligns with the perspective shared by a 13-year-old boy, who also enjoys the Water Park under specific circumstances. For instance, he highlighted swimming during the summer, appreciating the vivid colours of the Don Valley trees in the Fall, and playing soccer with friends when the park is unoccupied. These elements and opportunities collectively offer diverse play opportunities throughout different seasons to a broader age range. Previous studies (Pitsikali & Parnell, 2020, p. 7) have also revealed similar opinions about play equipment being suitable for “babies.”

While I asked about what children like about the existing playspaces, I also indirectly discussed possibilities of play on the way to other destinations to understand play-related favourite spaces as play and exploration are important themes in studying children’s sense of place (Murnaghan, 2019; Wilson, 1997). I asked, “Are there any interesting places in your neighbourhood that you'd like to go to on your way to other places?” 13 out of 25 participants answered yes to this question and added the name of the place(s). Children could name as many places as they would like to. Their responses clustered around three categories: play, shopping, and cultural pursuits with play destinations most frequently mentioned. The Playground, ice skating rink (in an indoor sports facility), Play Paradise (an indoor play facility with an admission fee), and sand park (a part of The Playground) were among the answers. The second most popular was shopping destinations such as the pet shop, the fruit truck (see, Figure 39), and the Superstore (a Canadian chain supermarket).

Finally, a couple of participants mentioned the library and the mosque as places they would visit on their way to other destinations.

Even though this question did not directly target favourite playspaces, it revealed that the act of play is indeed important in shaping children's spatial preferences. Previous empirical studies have also revealed similar connections between play and favourite spaces. For instance, den Bensen's (2010) investigations of the interconnection of belonging and the development of likes and dislikes among immigrant children, revealed a strong association between the most liked places and possibilities of play. Yet these favourite spaces are often generally perceived as neglected or places for drug use. It is also important to mention that a sense of belonging among a group of children may adversely create separation among others. My 11-year-old participant who was afraid of getting injured in the so-called crowded Playground preferred the quiet Water Park. Other empirical examples also show such dynamics concerning bullying and the tensions between different groups of children especially created based on age or gender (Crawford et al., 2017; Veitch et al., 2007).



Figure 39 Individuals buying fruits and vegetables from the “fruit truck,” a local grocer that brings produce to the neighbourhood and accepts cash only as explained by the residents. The truck remains in Zone A residential towers’ parking lot for a limited time (documented for two hours in two observation sessions). (Photograph taken on October 1, 2021)

In addition to identifying children's preferred playspaces, the questionnaire explored the concept of a *hangout spot* within the neighbourhood. Only seven out of 25 participants responded they have a hangout spot. Further elaboration about what hangout spot means to children was sought during the interviews, revealing insights from two older participants, a 12-year-old boy and a 10-year-

old girl. Both accounts revealed common threads. The hangout spots were defined as hubs for gathering and social interactions with friends. Equipped with seating arrangements, they provide an enclosed atmosphere surrounded by natural elements. Research findings of Andrea Cook and others show abilities to hang out in enclosed spaces improves children's sense of agency as these spaces give them freedom from the "gaze" of caregivers (Cook et al., 2015, p. 541). However, none of my participants showed tendencies to remain out of sight of caregivers or relate this condition to their favourite hangout spots.

"I wouldn't really call it a hangout spot but there is this little like tiny house in the park and me and my friends sometimes hangout there start chatting. [...] There is like little seat inside. There is a bunch of holes in the roof and an area where we can all get in. Not holes as in like caused by a damage, like holes as in like so air and light can get in" (12-year-old boy).

"[...] maybe I could make like little field. Maybe there could be some benches and probably lots of trees in that area and there could be like some lights, you know hanging lights, hanging from one, two, three trees in that area if they are having a picnic and for sure [parents] could come in the field and maybe there is a little trail there that [they] could walk and watch their children play, probably a couple of feet away" (10-year-old girl).

The findings about children's favourite playspaces reveal recurring themes. Firstly, individual preferences influence children's perspectives regarding their preferred neighbourhood playspace. Some of the preferences related to desiring a quiet versus crowded environment, proximity or distance from their residence, and the presence of diverse play structures or ample room for active group activities. Secondly, the places children hold dear are intricately intertwined with both spatial and social dimensions, often encapsulating good memories or important events. For instance, one participant derived joy from observing the autumn colour of trees lining the Don Valley Ravine in friends' company; another recollected family bonding in the Lawn Area. Lastly, children's favourite spots invariably contain an element directly associated with their enjoyment. These specific features contribute to their place attachment, exemplified by instances such as the splash pad in the Playground, the significance of a swimming pool that evokes the essence of summer, the vivid tree colours signifying the arrival of Fall, the infusion of natural light and fresh air in their enclosed

hangout spot, and other comparable instances. In the next section, I will elaborate on the existence of contrasting experiences, revealing places that children tend to avoid.

5.5.3 Places to Avoid

In Thorncliffe Park, one playspace appeared to be outside of the habitual range of most participants, Seton Park, also referred to as Valley Park by the residents. I previously mentioned that Seton Park is mostly a picnic destination to go to with family and family friends. Due to two major safety concerns, it is actively excluded from children's everyday playspaces in this neighbourhood. First, walking on the driveway leading to the park is perceived as risky for pedestrians, especially children, in terms of interactions with cars. The path is curved and sloped; cars driving to the park often naturally accelerate at the end of the pathway and drivers lack adequate visibility because of the road curvature. Risky traffic interactions are one of the most popular factors in limiting children's access.

Another concern is suspicious drug-related activities in Seton Park by male adults according to the study participants. Similar reasoning was mentioned in previous research when children dislike a neighbourhood space, often related to unfamiliarity with the space or not having "eyes on the street" (Elsley, 2004; Visser et al., 2015, p.42). This sentiment was further discussed with a 9-year-old boy who shared a "scary" memory, as he put it:

"We're just scared to go there because it's behind our buildings. [...] it has lots of fens and sometimes in the fence where water goes, we are scared of... we always watch horror movies like Penny Wise. We saw something red in the sewers. So, that time we liked going there, we weren't scared but after we saw something red, we never went there again."

Another example involves a 9-year-old boy who travels on foot for about 30 minutes from his residence to attend school. His mother firmly instructs him to refrain from engaging in play around the school premises after classes and mandates that he promptly takes the bus back to Thorncliffe Park. Additionally, this individual draws a comparison between his former neighbourhood in Scarborough and Thorncliffe Park. He elaborates that he and his older brother found the parks there less appealing despite their larger size compared to those in Thorncliffe Park. "The neighbourhood had a lot of drugs," he adds and explains they did not feel safe playing in the neighbourhood parks without supervision. These instances show while some unpleasant memories prompt children to steer

clear of specific areas, they may also be told by their caregivers to avoid certain areas. As Weller & Bruegel (2009, p. 634) argue, personal experiences along with perceptions reproduced through children's social networks contribute to the construction of "fearful spaces." I will further discuss parental influences on perceptions of safety in section 5.5.4.

5.5.4 Social Space

Based on the Socio-Ecological Model, children's social space encompasses their interpersonal relationships and cultural values, directly influencing their environmental experiences (Moore & Young, 1978). Having strong social relationships holds significance in shaping a sense of local belonging (Bourke, 2017; den Besten, 2010; Veitch, Bagley, Ball, & Salmon, 2006; Wise, 2022). In this study, participants offered insightful perspectives on their neighbourhood's social fabric, revealing the breadth of their human connections, ranging from familial bonds to peer relations. Additionally, these connections extend to informal interactions with what I refer to as *familiar strangers*, such as neighbours, local store cashiers, and school crossing guards. In this section, I will elaborate on the dimensions of children's social spaces based on their lived experiences and further discuss the interplay between the social and physical realms of their environmental experiences, drawing from Moore and Young's Socio-Ecological Model.

Firstly, the influence of family in shaping children's social space is very pronounced. Parents, grandparents, siblings, and cousins were identified as integral members of their social network by the participants. This finding aligns with the considerable role that families play in determining children's use of outdoor spaces (Horschelmann & Van Blerk, 2013; Weller & Bruegel, 2009). This tendency is rooted in caregivers' safety concerns and the pervasive practice of protecting children as vulnerable individuals (Frost, 2012; Holloway & Valentine, 2000; Valentine, 1997). Families' constant presence was also recognizable when children were asked to identify with whom they usually go to everyday destinations. 25 children responded to this question for school, neighbourhood park, and a store close to home separately; only one of the participants indicated going to *school* alone.

In addition to this question, most interviewees highlighted that when outside, they are never alone. For those with younger siblings, their outdoor experiences are closely intertwined with the presence of both the younger sibling and a caregiver. A case in point is an 11-year-old girl who is always accompanied by his mother and 5-year-old sister. Those with older siblings had a different experience and often received supervision and guidance from the elder sibling on behalf of the

caregivers. For instance, a 9-year-old boy with a 13-year-old brother shared that they frequently venture outside together. A 10-year-old girl, too, articulated that she is permitted to go to the local supermarket without her parents only if her older brother accompanies her.

However, this dynamic was only identified for older brothers. For example, a 9-year-old boy with a 13-year-old sister mentioned that his sister rarely spends time with him outdoors. Although not generalizable, there seems to be an association between gender and care provision for the younger sibling in the public realm, when caregivers are absent. Traces of such relationships were also discovered by Cook et al (2015, p.533), in the case of an 8-year-old girl who did not like to play outside with her younger brother.

Besides their caregiving roles, family members were also identified as children's playmates. While friends still formed a significant part of children's play networks, a few of the participants explicitly emphasized the inseparable role of their family members in their joyful outdoor play experiences. could envision enjoyable play experiences with their families even in the absence of friends. As one 10-year-old girl explained:

“[...] friends are just like people that I want to mostly like time pass or play with, but my family is the only thing I play with the most. So, if I didn't have friends, I'd just like practice with my dad, or doing monkey bars or anything [with my baby brother]” (7-year-old boy).

Peer relations were explored during discussions with the interviewees. Given that children in Thorncliffe Park predominantly attend nearby schools, it is unsurprising that the majority of their peer interactions originate within or along the route to school. These interactions encompass a spectrum of relationships, ranging from close friendships to classmates (or non-classmates) who interact occasionally. One 13-year-old boy nicely described that the shared experience of “going to the same school” catalyzes expanding social networks beyond the confines of the immediate neighbourhood. Notably, this participant emphasized that a considerable number of children residing in adjacent neighbourhoods, particularly Flemington Park and Leaside, also attend the same school. As a result, he expressed feeling at ease exploring these neighbouring areas and occasionally playing in their local parks. In fact, this sense of familiarity emerges as a significant factor, in contrast to stepping into an entirely unfamiliar environment.

Existing literature considers age and gender as influential factors in children's level of independence (Buliung et al., 2017; Hillman et al., 1990; Horschelmann & Van Blerk, 2013; O'Brien et al., 2000). It was not a surprise that all the participants whose outdoor experiences depended on their friendships were boys between 9 and 13 years old. Being given more freedom of play, this group was able to build a friendship network in the neighbourhood through different channels. Although most of their friendships are based in school, living in the same building, playing in the same park, or finding friends through parents or older siblings are other ways of establishing social relationships.

Beyond the school-based social networks, a portion of children's social connections has emerged serendipitously through their presence in neighbourhood spaces. Notably, all friendships established in this manner were cited by participants who characterized themselves as "social." A 12-year-old boy, who has resided in the neighbourhood for a mere two years, has remarkably developed a robust network of friendships. Burgess Park, situated half an hour away from his residence, has served as the backdrop for all these newfound friendships. Similarly, a 13-year-old boy, having called Thorncliffe Park home for five years, elaborates on the diversity of his friendship circle. Spanning from three or four close companions to a wider group of approximately 30 individuals, all connected through their shared participation in park activities. He aptly narrates the role of play in forging novel social bonds:

"[...] three years ago, one time I just went with my brother, and we just got a soccer ball and from that day everyone started joining and we just all became friends with random strangers from the park."

This anecdote vividly shows play can serve as a conduit for the formation of spontaneous social connections. Similarly, the neighbourhood-based social network ranges from friendships to interactions with familiar strangers. "I pretty much know everyone I see [in the neighbourhood] by face and name!" explains an 8-year-old boy when asked about his knowledge of the neighbourhood.

Cultural differences do not seem to be a barrier to children's social relationships. When asked about the impact of culture on their outdoor play behaviour, children consistently took a neutral position showing that they get along with other children regardless of their backgrounds. Originally from India, a 9-year-old boy who would like to build a cricket field in the neighbourhood, explains that "my friends are from different countries, and they all love to play cricket with me". Children

shared similar opinions about their relationships with other adults. One of them mentioned that the employees of the stores in the neighbourhood who come from different backgrounds are usually very kind to him. Another child believes that everyone around this area is “good enough” to get along with.

“We are from Palestine and our neighbours are Turkish. We have a strong bond with them although they are from different countries. They usually bring us food and my parents give them food too. We have a lot of relationships with our neighbours.”

Culture and language play more important roles in adults’ social life. My observations show that adults who speak the same language tend to cluster together in outdoor spaces. They even seem to have particular hangout spots in the neighbourhood usually in front of their buildings. One of the parents who was beside their child during the interview mentioned that many people in the neighbourhood are from the same culture as theirs and they usually only hang out with people who they know (and speak the same language). Although they know that they live in a diverse neighbourhood, socialization with neighbours who come from different countries is limited to short conversations in communal spaces or on the front lawn of the buildings.

Findings reveal that children’s social space is well integrated into the triangle of home, schools, and playspaces, which are the common everyday spaces (Rasmussen, 2004; Rasmussen & Smidt, 2003). The physical and social attributes of their space are pretty much overlapping as per existing literature (e.g., Carroll et al., 2015; Horton et al., 2014; Lin et al., 2022; Veitch et al., 2006, 2007), and it is important to be studied simultaneously. Children’s friendships and social networks emerge mostly from these places and examples from Thorncliffe Park show that this emergence predominantly happens through play. In this article, I argue that the existing overlap between the social and physiographic realms of children’s experience is effective in creating a strong sense of belonging and improving perceptions of safety. In other words, children constantly negotiate and redefine their social and environmental boundaries; better familiarity leads to more emotional attachment creating what they call their favourite place. Children’s favourite places must be sufficiently safe for them to return, and improve their environmental knowledge and social ties while making new memories.

5.6 Discussion: The Significance of Overlapping Social and Physiographic Spaces

With the evidence from Thorncliffe Park, it is now easier to comprehend the reciprocal dynamic between belonging, safety, and the extent and quality of neighbourhood experience through play. In this section, I argue that the effective overlap between the social and physiographic spaces is facilitated by three themes emerging from the findings: the walkability of everyday destinations, peer relations and other social ties, and the difference between real and perceived risks.

5.6.1 The Walkability of Everyday Destinations

The findings point out the impressive environmental familiarity demonstrated by children as most of them navigated neighbourhood maps flawlessly and even recalled and described neighbourhood sites without needing a map. This spatial awareness underscores the depth of their experiences and their ability to navigate their environment. One crucial determinant of this level of neighbourhood familiarity is the reliance on walking for daily movements between the triangle of home, school, and playspace.

The consistent walking routine not only strengthens their mind/body connection with the physical space (Horton et al., 2014) but also fosters informal play on the regularly taken pathways giving children more chances of place-making compared to when they are being transported in the backseat of their caregivers' car (van Vliet & Karsten, 2015). Even taking public transportation results in better engagement with the environment and people (Cook et al., 2015), which is a means for developing spatial cognition and social skills. This statement was supported by two instances where children attended schools beyond the neighbourhood boundaries but still showed high levels of environmental familiarity.

In addition to walking, a few other factors were identified as influential on children's levels of familiarity with neighbourhood spaces. The distinction between children living in different zones within Thorncliffe Park showcases the influence of the neighbourhood's physical layout on this matter. The example of children living in Zone B with an everyday chance of walking by their favourite playground and children living in Zone A with a shorter path to school illustrates how residential location impacts children's exposure to different parts of the neighbourhood. Zone B's children were more informed about what the neighbourhood offers.

Lastly, the discussion on environmental familiarity emphasized the importance of time spent outdoors. The differences between recent arrivals and long-term residents highlighted how familiarity is developed over time and how this influences children's interactions with their environment. However, comparing time lived in the neighbourhood is not sufficient to ensure environmental familiarity. The more important measure is the frequency and length of exposure to neighbourhood spaces often through outdoor play and “walking...just walking (Horton et al., 2014; R. C. Moore, 1987, 2017).”

5.6.2 Peer Relations and Other Social Ties

As per the Socio-Ecological Model, the length and frequency of children's exposure to place-making opportunities are influenced by factors such as walkability, neighbourhood layout, and personal preferences (Moore & Young, 1978). According to Bourke (2017), children's social interactions play a pivotal role in transforming spaces into places of belonging. Additionally, the significance of *knowing people* has been recognized as crucial for both feeling safer and fostering a sense of community, particularly among rural children in comparison to their urban counterparts (Valentine, 1994). However, my analysis of children's family, peer, and community interactions underscores that a sense of belonging is a co-product of familiarity with both people and places. In simpler terms, when positive aspects of both the physical and social environments coincide, a stronger sense of belonging emerges.

The narrative of a 7-year-old boy's memory demonstrates how the Playground became a place intertwined with his family's experiences, from playing together to moments related to the birth of his younger brother. This personal narrative highlights the interconnections between a physiographic setting (the Playground) and social ties (here, family). Similarly, acknowledgement of peer relationships mostly revolved around school – another physiographic realm of experience. In addition to the school as a destination, pathways connecting it to the residential buildings were also found to foster friendships, given the example of playful behaviours discussed previously.

In addition to memories, and personal experiences, discussions on favourite playspaces identified that the unique attributes of each space play a role in forming greater emotional attachment. Natural and manufactured elements were mentioned in children's stories, such as the water, the lawn, the snow, and “fun” play structures. Moreover, some discussed or imagined certain physical

characteristics for their hangout spot – a hub for social interactions in the neighbourhood with an enclosed atmosphere, seating arrangements, and connections to nature or greenery.

Another supporting fact for this argument is children's interest in visiting “other places” on their way to regular destinations, which shows their desire for diverse environmental experiences and social interactions. For instance, going to the playground on the way to school, stopping by the fruit truck before going home, and spending time in the public library to engage in seasonal programs. This emphasizes that “destination and journey matters,” to use Whitzman and colleagues' phrases (Whitzman, Worthington, & Mizrachi, 2010). These spatial experiences further extend beyond their social ties.

Family, peers, and *familiar strangers*, all contribute to children's overall sense of belonging to their local community. Interestingly, cultural differences seem not to be significant barriers in children's interactions as opposed to adult residents who tend to mostly socialize with those from similar backgrounds and mother tongues. Playspaces, formal or informal, are central to their experiences providing not just play opportunities but also forming their social network and personal memories. This sets the stage for exploring contrasting experiences and places children tend to avoid in the following section.

5.6.3 Risks: Real or Perceived?

Safety is a critical concept in child-friendly cities research and practice. There is often argument about the distinction between real and perceived risks (Horschelmann & Van Blerk, 2013) as well as discussions on how parental risk-taking tolerance has significantly decreased influencing children's freedom to explore, take risks, learn, and grow (Frost, 2012; Hand et al., 2018; O'Brien et al., 2000). Many factors are known to influence perceptions of safety, thus children's engagement in outdoor play in urban areas. Cars and road traffic cause great barriers to children's active mobility (Veitch et al., 2006). Strangers' danger is another factor (Horschelmann & Van Blerk, 2013), and so is the child's competence in handling what may be a risky situation (Christensen & O'Brien, 2003).

Discussions of safety are also correlated to children's agency, active citizenship, and as a determinant of families' social capital. For instance, Weller and Bruegel's study in the UK speaks to children's role in shaping parents' social capital in the same way that families' greater social capital facilitates children's access to resources and networks (Weller & Bruegel, 2009). Freeman and Tranter's (2011) study in New Zealand expanded this argument to the effects of children's

independent mobility in strengthening local communities. In a few deprived Dutch neighbourhoods with high records of crime and violence and a lack of child amenities researchers, surprisingly, found a strong sense of community and great social capital among the neighbours (Visser et al., 2015). Evidence from this qualitative study showed that neighbourhood perceptions were empowered by the active presence of children and youth in the public realm creating a sense of trust among friends, neighbours, and families.

Urban living certainly comes with risks and challenges for children; yet additional anxiety over what *could* happen if children roam and play beyond the physical boundaries of playgrounds only impedes achieving child-friendly improvement goals. Central to this argument is the differentiation between real dangers and potential risks. First, based on child development studies, children must take risks to grow; second, access to “sufficiently safe” space, as opposed to risk-free spaces, gives them the chance to develop a sense of belonging to surrounding social and physical spaces (Hanssen, 2019, p. 55). Along the same line, the urban public realm has been recognized as an educator improving children’s competence, especially in social skills (De Visscher & Bouverne-de Bie, 2005, 2008), making them “streetwise” (Weller & Bruegel, 2009, p. 629), and facilitate their active citizenship (Cook et al., 2015).

Earlier, I elaborated that environmental familiarity is affected by a blend of neighbourhood configuration, time (length of residence in the neighbourhood), and routines (everyday walking and playing in the neighbourhood). Children with a deep familiarity with their neighbourhood, possess the cognitive tools to distinguish between safe and unsafe spaces. For instance, avoiding play in Seton Park was based on this environmental knowledge. However, avoiding Seton Park did not result in confinement in isolated spaces; children of Thorncliffe Park have continued venturing beyond their everyday space while remaining alerted about the risk-prone areas. Therefore, feeling safe evolves from the mere absence of danger to a harmonious coexistence with one’s surroundings.

I argue the interplay between having a strong sense of belonging, the ability to perceive safety amidst potential risks, and the expansive nature of environmental experiences creates a positive feedback loop. I visualized this important reciprocal relationship as a circular process. As children navigate their neighbourhood, they are constantly renegotiating, redefining, or reclaiming spatial boundaries is an ongoing conversation between the children and adults (Hugh Matthews, Limb, & Taylor, 2004). Throughout this process, what Weller and Bruegel (2009) call the reproduction of

neighbourhood perceptions through families and friends' networks, their perceptions of safety improve resulting in deepening their belonging.

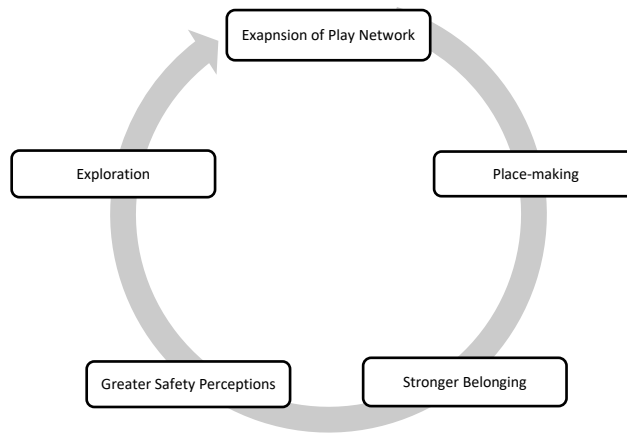


Figure 40 Factors influencing children’s breadth and depth of environmental experience create a positive feedback loop that reinforces senses of belonging, safety, and exposure to opportunities for place-making.

5.6.4 Limitations of the Discussion

Due to a small sample size of children, the collected data doesn't fully cover the personal aspects of children's outdoor experiences, referred to as the *inner space* in the Socio-Ecological Model (Moore & Young, 1978). Factors like age, gender, physical skills, social abilities, and personal preferences comprise children’s inner space. This study briefly touched on how these factors might relate to the findings, such as the role of older siblings in providing supervision and how gender influences the type and scope of their support. However, more systematic assessments are needed to substantiate these results. This could involve adding gender-related questions to questionnaires or having participants explicitly comment on the influence of their siblings on their outdoor experiences and formation of the local belonging. Factors tied to the physiological and psychological aspects of experiences could be explored further in future research.

5.7 Conclusions

The study's findings underscore high levels of local belonging among participants. Key contributors to local belonging in Thorncliffe Park are effective neighbourhood layout and strong social cohesion among residents. Findings suggested that socioeconomic status and cultural differences matter less

when social cohesion is robust. In Thorncliffe Park, the overlap and synergy between children's physical and social spaces played a crucial role in developing a sense of belonging to their neighbourhood. Walkability and opportunities for spontaneous play on the routes to school resulted in higher chances of place-making and the establishment of a stronger sense of belonging to the local community. With a stronger sense of belonging, children's perceptions of safety were also improved, which in turn encouraged roaming around the neighbourhood, visiting places and interacting with people. In other words, children will gradually expand their range of neighbourhood experiences.

Most participants in this study reported feeling “somewhat safe” in the neighbourhood, as opposed to “not safe” at all. As discussed by others, access to sufficiently safe spaces is crucial in creating opportunities for exploration and developing a sense of belonging. On the contrary, lack of safety causes alienation from the neighbourhood spaces, diminishing children and their families' local connections. My findings support this argument while revealing safety as a nuanced aspect of children's daily lives. In simple terms, children's perceptions of safety change under different circumstances. Through the findings, I identified a direct relationship between safety and familiarity with neighbourhood spaces. Being familiar enables them to distinguish between safe, somewhat safe, and unsafe areas. The evidence for this statement is Seton Park along the Don River, and “behind the residential buildings” as a so-called unsafe space. Additionally, the sensation of “being watched,” for instance in the Lawn Area, heightened safety perceptions whether through direct supervision or by just being around what I called *familiar strangers*. In perceptions of safety, I have also found traces of gender-based approaches, which are worth investigating further, especially in a multicultural context like Thorncliffe Park.

Unlike the dominant part of the existing literature, this study does not factor in independent mobility when examining children's neighbourhood experiences. My findings indicate that even when children are dependent on others, such as when walking with peers and parents, or playing while caregivers socialize, the positive feedback loop (Figure 40) is still effective. While research on independent mobility holds value, it is critical to consider the current approaches toward children's freedom and agency. Asking, for instance, in today's North American urban society, how likely is it to see children frequently roam around the neighbourhood entirely alone? When I asked, “Do you feel safe walking and playing alone in the neighbourhood?” a 13-year-old participant of my study who showed great spatial awareness, independence, and social skills, responded, “I'm technically never

alone.” That said, perhaps focusing on the act of play or walking as an independent activity, as suggested by Horton et al. (2014), merits consideration for the promotion of child-friendly cities.

In the studies of child-friendly cities, we should, for instance, reassess popular concepts such as “territorial range” based on contemporary spatial and social needs. When in the mid-20th century, scholars proposed the concept of territorial range as a unit of assessing children’s outdoor play experiences, urban spaces were still not entirely taken over by automobiles. While the theoretical frameworks presented back then are still helpful in understanding the breadth and depth of children’s outdoor experience, it is urgent to reproduce conceptual frameworks informed by today’s experiences. For instance, for children whose experience is mostly bound to the backseat of their caregivers’ cars, territorial range constituted separate non-contiguous spaces contrasting with the initial definitions (Moore & Young, 1978).

In this study, I relied on children’s lived experiences and developed what I refer to as the positive feedback loop of belonging and safety. My proposed framework elucidates the interconnection of social and special realms. Instead of considering factors such as independence, I emphasized the importance of the continuity of *experience* (e.g., spatial, social, emotional, etc.), which is known to directly impact the development of spatial cognition among children (Christian et al., 2017). By revisiting and enriching this foundational concept, the current study helps researchers and practitioners better comprehend and address the contemporary challenges that influence children's agency and wider engagement with their surroundings.

Chapter 6 Conclusions and Implications

This research aimed to advance understanding of the factors influencing children's presence in their local environment and explore the potential of activating the urban public realm as a play network, providing additional playspace beyond public parks and playgrounds. Throughout this study, my recognition of influential factors evolved from a focused consideration of the tangible, physical aspects of children's environment to a careful comprehension of the non-materialistic, sociocultural attributes of children's landscape. This is not to ignore the importance of physical space, but rather to underscore the dynamic and reciprocal linkages between the physicality and sociology of children's outdoor experiences. This gradual change of perspective informed the methodological approaches I attained in two phases of the research, from an expert-oriented morphological analysis of neighbourhoods in Portland to a child-centred ethnographic investigation in Toronto.

In the upcoming sections, I summarize the key research findings corresponding to my specific research questions ranging from a survey and analysis of the physical space (presented in Chapter 3), to understanding the day-to-day play experiences within a triangle of home, school, and playground (presented in Chapter 4), to comprehending the linkages between the physical and socio-cultural spaces and its broader influence on the social construct of childhood (presented in Chapter 5). Subsequently, the contributions of this study to urban planning theory and practice are discussed along with the study's methodological limitations. I close by restating the research contributions and summarizing implications for future child-friendly planning and design.

6.1 Key Research Findings Corresponding to the Research Questions

Considering the growing concern over gentrified, youthified and re-urbanized city centers becoming childless, this study aimed to investigate ways of activating the urban public realm as a dynamic site for children's play. The intent is to find ways to help improve the child-friendliness of urban neighbourhoods both in terms of diversity of play opportunities and in terms of encouraging children's agencies in spaces that are otherwise mostly dominated by adults. Overall, the empirical findings of the study reveal the spatial and temporal dimensions of children's outdoor play experiences in different neighbourhood layouts, such as low-density suburban; compact and mixed-use urban; high-density, and high-rise inner city. Additionally, the findings further advance our understanding of the dynamic links among children's agencies, safety, and a sense of local belonging.

In other words, the argument of this research shows children's agencies improve their safety by advancing their familiarity and attachment to their surrounding environment. In the following, I break down the specific research findings in response to three main research questions answered in Chapters 3, 4, and 5.

6.1.1 RQ1: How does the physical configuration of the public realm influence children's play opportunities in high-density versus low-density residential neighbourhoods?

To address this question, I examined and compared the physical aspects of the public realm in two youthified and two family-oriented neighbourhoods in Portland, Oregon. I looked at the network of spaces and pathways that could potentially accommodate informal play within children's surrounding environment. This exploratory study eventually laid out the broad parameters of my research and revealed important measures to be considered in examining the neighbourhood's child-friendliness in terms of safe traffic interactions. Among them are road and intersection design, lower traffic speed, visible signalling, giving the right-of-way to pedestrians, wider sidewalks, and animating and greening the public realm. More car-oriented features observed in youthified neighbourhoods negatively affect child-friendliness, while soft edges provide safety buffers and more play opportunities along the pathways.

Observations from neighbourhood cases in this study revealed beneficial and somewhat contradictory information. One important conclusion was that the characteristics of pathways in central versus more suburban parts of the city cannot be treated the same in terms of design assessment. More central locations are, often intentionally, designed with connectivity, walkability, and proximity to services in mind. Suburbs are often portrayed as more child-friendly. However, my findings show that this is likely restricted to the private realm, for example, a private yard functioning as a children's playspace. Otherwise, the public realm in suburbs commonly prioritized cars over pedestrians. For example, the distance to parks and playgrounds was longer in the suburbs than in the central neighbourhoods in Portland, and suburban pathways often lacked sidewalks. The understanding acquired at this stage illuminated the path for further investigating the influence of other factors on children's play experiences, such as cultural background, parenting approaches, personal preferences, and social norms. The next two research questions will elaborate on these factors.

6.1.2 RQ2: What are the types and quality of play happening on the pathways connecting residential locations to schools and local playspaces?

For this question, I investigated the types of play happening in the urban public realm through onsite observations and examination of children's lived experiences in Thorncliffe Park, a high-density tower neighbourhood in Toronto, Canada. I looked at the spatial and temporal dimensions of active free play happening in the open spaces surrounding the residential towers as well as on the way to and from school. The findings of this case study show that despite the inadequacy of play infrastructures in Thorncliffe Park, children's active presence in public spaces is recognizable. Children of Thorncliffe Park do not necessarily receive more freedom from their caregivers than what might be expected in contemporary Western societies. They hardly go out alone and require supervision in the public realm. However, because children's spaces are not fully separated from the adults' realm they can play and explore while caregivers engage in social activities.

Thorncliffe Park's case reaffirmed the importance of neighbourhood walkability in facilitating children's active presence. Not only are schools within a 15-minute walk from residential locations, but the availability of playspaces on the routes between home and school also encourages playfulness during the daily walks. Another informative observation of this study was that children's spaces are not fully separated from the adults' realm, which means children can play while caregivers engage in social activities. Therefore, despite the limited levels of independence, the children of Thorncliffe Park are not entirely isolated from the urban public realm. The findings at this stage revealed interesting links between children's agency and safety, which called for a more in-depth analysis sought next.

6.1.3 RQ3: What are the linkages between the neighbourhood configuration, children's level of local belonging, and overall perceptions of safety?

To address this question, I investigated the connections between children's perceptions of safety and a sense of belonging to place-making experiences through outdoor play. The findings of this study revealed that greater play opportunities and walkability of everyday destinations result in higher chances of place-making and the establishment of a stronger sense of belonging to the local community. The participants showed significant levels of familiarity with people and spaces in the neighbourhood, which was also an indicator of their stronger sense of belonging. A stronger sense of belonging to the local community improved children's perceptions of safety, which in turn

encouraged roaming around the neighbourhood more frequently and interacting with people. Being present in the neighbourhood (without serious fears of strangers and car traffic) gradually expands their network of play. I visualized this reciprocal relationship as a positive feedback loop that constantly improves the overall neighbourhood experiences of children (Figure 41).

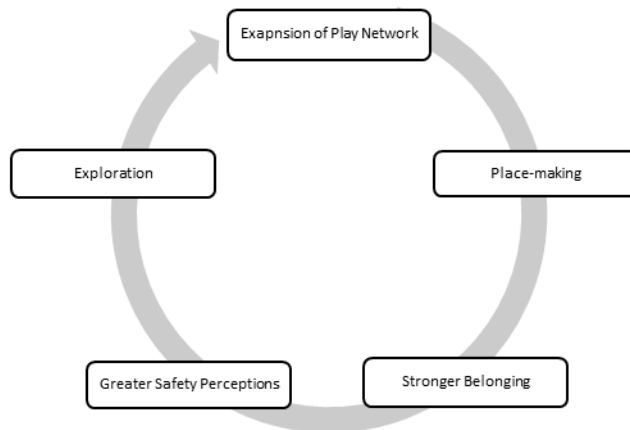


Figure 41 Factors influencing children’s breadth and depth of environmental experience create a positive feedback loop that reinforces senses of belonging, safety, and exposure to opportunities for place-making.

6.2 Contributions to Planning Theory and Practice

This research contributes to at least three areas within the field of planning and urban studies more broadly. Firstly, it contributes to the discourse on Smart Growth planning, which in theory envisions social diversity in urban cores but in practice often fails to fully deliver on the practical needs of families with children. Secondly, this study advances the seminal theoretical studies proposed almost eight decades ago, refining key concepts used to measure children’s experiences in their environment, such as the concept of “territorial range.” In the following section, I will provide further explanations about these two contributions. Finally, this study offers evidence-based insight into children’s adaptation to the use of public spaces during a pandemic.

6.2.1 Advocates for Families with Children in Achieving Smart Growth Planning Goals

My research contributes to the ongoing planning debates around urban sustainability, particularly in the context of Smart Growth strategies in North America. These strategies aim to create a high-

density urban core with a mix of building types, uses, households, amenities, and transit options (Litman, 2018; smartgrowth.org, n.d.). However, the dominance of a younger, childless population in urban centers has led to the assumption that urban environments are not well-suited for children (Horschelmann & Van Blerk, 2013; Talen & Coffindaffer, 1999). Housing affordability and larger living spaces are known as the main drivers for families moving to suburbs, rather than access to private yards (Hyojung Lee, 2018; Moos, 2014; Schoeppe et al., 2015). Neighbourhood case studies in Portland specifically showed contradictory features that could complicate residential location decision-making of families with children. A suburban “family-oriented” layout offers more suitable housing options, which are hard to find in the center. Instead, the central neighbourhoods offer everyday walkability and playfulness which is harder to find in car-oriented suburbs.

Findings from the Thorncliffe Park case provided compelling evidence proving these earlier assumptions. To begin with, Thorncliffe Park also offers relatively larger apartment units, such as three-bedroom units, with affordable rents. Furthermore, the physical features attracting the Millennial generation to the central parts of metropolitan areas, such as walkability, access to multi-modal transit, and proximity to public amenities and entertainment (Hyojung Lee, 2018), also contribute to enhancing child-friendliness in Thorncliffe. It showed that not only is children's active presence in the urban public realm possible but also highly beneficial for improving the social sustainability of the neighbourhood. The case of Thorncliffe Park highlights the positive impacts of children's engagement in urban spaces and dispels the misconception that urban environments are inherently unsuitable for children.

While this research advocates for the creation of a child-friendly public realm, it also aims to increase awareness of the current gaps in the housing market, where the minimalistic condominium-style housing fails to fully address the needs of families with children. This gap could be addressed by providing diverse and affordable living spaces in the urban core where also more environmentally sustainable living is possible. More family-oriented housing options together with a more child-welcoming public realm would accelerate achieving the “smart” planning objectives that have not yet been fully achieved. Embracing child-friendliness as a fundamental aspect of urban planning can lead to the creation of vibrant, sustainable, and inclusive cities that cater to the needs of all age groups, ultimately enhancing the overall quality of urban life.

6.2.2 Advances Socio-Ecological Models of Children's Play by Revising Theoretical Considerations

The current study contributes to the advancement of our understanding of existing place-based theories and conceptual models. Many contemporary empirical studies, including this research, have continued to rely on theoretical frameworks established in the early to mid-20th Century, such as Roger Hart's Phenomenal Landscape Model and Robin Moore's Socio-Ecological framework. These theoretical models had mostly taken a needs-based approach and were informed by environmental psychology (M. Francis & Lorenzo, 2002). Later and coinciding with the launch of the Child-Friendly Cities Initiative (CFCI), Matthews and Limb (1999) discussed the importance of integrating the environmental psychology lens with the socio-cultural geography of children. Their comprehensive review of the existing theoretical framework brought attention to children's active agency and cultural differences going beyond the factor of age. It is worth mentioning that the scholars of the earlier needs-based movement, such as Roger Hart, have also contributed to the CFCI, especially by advancing knowledge of children's meaningful participation in urban planning (see, e.g., Hart, 1992).

With the communicative turn in planning and emphasizing children's rights to participation (Healey, 1992), the body of child-centred research has grown recently (Carroll et al., 2019; Cordero-vinueza et al., 2023; Gillespie, 2013; Malone, 2013). The approaches to child-friendly urbanism have shifted over time from top-down to bottom-up, without changing the conceptual frameworks proposed in the mid-20th century. While Bronfenbrenner's Ecological Development Theory and Hart's Phenomenal Landscape Model remain relevant to current research, it is crucial to acknowledge and address the contemporary challenges that have emerged since their inception. Even though this study does not propose a new conceptual model, it redefines "territorial range" – a fundamental concept used in the Phenomenal Landscape Model. I acknowledge that territorial range may not always follow a continuous sequence, but I emphasize the importance of planning for the continuity of experience, as it directly impacts the development of spatial cognition among children (Christian et al., 2017). Three considerations of this study could improve the advance the practicality of the existing theoretical framework:

Introducing the term play network as a part of the public realm and a site for everyday playfulness.

The play network serves to clarify the concept of territorial range for contemporary urban children. Territorial range traditionally refers to children's environmental experience through

independently roaming around their home locations (R. Moore & Young, 1978), which for most contemporary children leads to a walkable territorial range of virtually zero distance from their home location. Like territorial range, a play network consists of places and pathways surrounding children's home location without strictly delineating independent mobility. The act of walking was proven more important (Horton et al., 2014) than walking independently, in the formation of children's play network in Thorncliffe Park (sections 4.6.2 and 5.6.1).

Moving away from the dualism of dependent and independent mobility, this research embraces intergenerational coexistence (van Vliet & Karsten, 2015) as the very requirement to enhance safety in children's local environment. Intergenerational coexistence fosters greater social cohesion and the community's eyes on the street transcending safety provision through the obligatory norms such as parental supervision and isolation of children's spaces. The Lawn Area in Thorncliffe Park underscored the benefits of having intergenerational public spaces on the child-friendliness of the neighbourhood (section 4.6.3) and overall perceptions of safety (sections 4.6.5 and 5.6.3).

Place-making is a process undertaken by children, surpassing the mere physicality of adult-created spaces, and encompassing personal experiences, memories, and emotions (Rasmussen, 2004). Empirical examples of place-making were particularly evident in discussions regarding children's favourite playspaces and the cultivation of a sense of belonging (section 5.5.2). This study also acknowledged place-making along the pathways. The journey to a destination, whether alone or with company, profoundly influences the formation of personal connections to the environment.

By revisiting and updating key components of established theoretical frameworks, such as introducing the concept of play network, and emphasizing intergenerational coexistence and place-making as a child-led process within the network of play, my research adds valuable insights to the field. The work helps researchers and practitioners better comprehend and address the contemporary challenges that influence children's engagement with their surroundings. In that, it extends the existing body of knowledge.

6.2.3 Offers Insights into Children's Adaptation to the Use of Public Spaces During a Pandemic.

This study contributes to a part of the literature that targets the impacts of viral outbreaks on children's environmental experiences. My onsite observations coincided with the period when playgrounds were shut down due to the COVID-19 pandemic. Even after this period, the main playground in Thorncliffe Park was closed for renovation. This coincidence turned out to be a golden opportunity for my data collection. I was looking at the spaces beyond parks and playgrounds that accommodate children's play. The playground closures provided additional sources of evidence for this research.

Besides the observations, gathering insight into the impacts of the pandemic on children's play routines was another significance of this study. Not only in terms of limiting social interactions but also in terms of having more motivation to be outdoors. As a 12-year-old participant nicely put it "Honestly, my outdoor play routine started because of Covid." He further explained that since the schools were closed and his parents were working from home all day, outdoor play became a source of keeping active for him. The findings of my study are in line with other concurrent research assessing the impact of the COVID-19 pandemic, and suggesting a delicate balance between protecting children from health concerns (i.e., the viral outbreak) while maintaining their overall physical and mental well-being by staying active (McCormack, Petersen, Naish, Ghoneim, & Doyle-Baker, 2023; Mitra et al., 2023; S. Moore et al., 2020)

6.2.4 Contextualizes the Importance and Use of Communicative Approach in Child-Friendly Planning

The findings from my research strongly advocate for the application of Communicative Planning Theory in the creation of child-friendly cities. Firstly, it underscores the crucial role of communicative problem-setting within the planning process. Secondly, it highlights the necessity for planners to cultivate a diverse skill set that extends beyond technical planning knowledge.

A core value of Communicative Planning is the integration of diverse voices and values into planning processes. This approach aims to facilitate meaningful dialogues among various stakeholders to promote a more democratic and equitable planning process (Healey, 1992; Westin, 2022). Unlike the Rational Comprehensive Planning Processes where planners often dominate with

technical expertise, communicative planning positions planners as mediators among different actors (Brooks, 2017). Critics of the communicative approach argue that it often fails to produce tangible outcomes (Healey, 1999). While I acknowledge some validity to this critique, I argue that communication can be strategically infused into the rational top-down planning tradition. Participation should not be tokenistic but rather embedded as a core value from the outset, particularly during problem-setting. As noted by Schön (1979), problem-setting is frequently overlooked in planning processes, with planners assuming they can solely identify existing problems.

The initial phase of my study illuminated a new perspective on the necessity of children's participation in the research. A comparison of youthified and family-oriented neighbourhoods in Portland revealed that evaluating the child-friendliness of public spaces necessitates an understanding of actual play behaviours and social contexts. Relying on the built form and using urban design criteria that make walkable and lively neighbourhoods for young adults did not guarantee play and child-friendliness of the urban environment. If a similar urban form analysis approach was taken to study child-friendliness in Thorncliffe Park, the absence of playgrounds may seem like an obvious issue, prompting a planner to propose building more playgrounds if space permits. While this could benefit a neighbourhood with many children, it may not address deeper concerns like safety perceptions and motivations for outdoor play. This highlights the socially constructed nature of urban problems and why communication with the actors is important in better identifying the problems.

Furthermore, communicative planning emphasizes emotional connection with participants, necessitating skills such as deep listening, empathy, and openness to diverse perspectives (Erfan, 2017; Sandercock, 2000). My research with children in Thorncliffe Park reinforced the importance of drawing from multiple disciplines. For example, insights from early childhood communication helped interpret children's explanations and emotional cues during interviews. Additionally, caregivers' input provided valuable context for understanding children's responses. Using visual communication through mapping and drawing also helped with the activation of children's imagination and maintaining meaningful conversations during the interviews. Maps and drawings were not directly used as data but were tools to facilitate the researcher-participant dialogue. This emphasizes the importance of acquiring visual communication techniques, which for me, was achieved through architectural education.

6.3 Study's Limitations

This research had several methodological limitations. One category of limitations was at least partially caused by the social distancing orders in place during the COVID-19 pandemic. The other two main limitations concern the qualitative and ethnographic nature of the research; first, in terms of how generalizable the findings are; then, challenges of working with multi-ethnic populations. I have summarized three main limitations of the current research in the following.

6.3.1 Impact of COVID-19 Pandemic on Human-centred Research Design

Like other human-centred research conducted during the COVID-19 pandemic (Scott-Andrews et al., 2020), my study was also affected by the limitations brought about by the pandemic, which necessitated a change in the research design. Originally, I had planned to conduct walk-along interviews with children to directly engage them in the data collection process and observe firsthand how they used and interacted with different spaces in their local environment. However, due to the COVID-19 pandemic and the implementation of social distancing guidelines, conducting research with human subjects on-site became impractical. As a result, I adopted a new data collection approach, using non-participant onsite observations and virtual methods such as questionnaires and interviews to incorporate children's opinions.

Recruiting children for research is a challenging task (Carroll et al., 2019). Doing so during a pandemic presented additional difficulties. The process encountered various obstacles. One primary challenge was establishing trust with the guardians through virtual channels. Some respondents expressed concerns about the legitimacy of the research, with comments questioning whether it might be a scam. To address these concerns, I took measures to build trust and credibility. Alongside social media posts, I disseminated similar research materials through familiar local channels that I had established connections with earlier. For instance, a neighbourhood WhatsApp group, administered by one of the residents, reposted my research information among the neighbours, which proved effective in recruiting participants. Additionally, local organizations were kind enough to share research information with their members through email lists, which also helped in the recruitment process. Accessing these channels posed challenges as many people were working from home during the pandemic, with limited access to their office phones, which were my primary contact information.

Despite the difficulties posed by the COVID-19 pandemic, the data collected through these modified methods holds substantial value and provides valuable insights, also enhancing our understanding of outdoor space use in times of crisis.

6.3.2 Finding a balance between the breadth and depth of ethnographic research

Ethnographic, and qualitative studies are time-intensive (Till, 2009), particularly when it comes to managing time and scope. The Portland case study, for instance, faced limitations as it aimed to compare multiple neighbourhoods across various parts of the city. Due to the need for efficiency, the study focused primarily on on-site surveys and urban form analysis, thereby sacrificing the collection of data on user experiences. However, this limitation was recognized, and the subsequent stage of research sought to address this issue.

To mitigate such constraints and gain more in-depth insights, the subsequent phase focused on a single case study in Toronto, which was also chosen for its geographic accessibility for the researcher. This strategic shift allowed for a more comprehensive exploration of user experiences and behaviours within the context of the chosen neighbourhood, enriching the overall findings of the research. By acknowledging and addressing these challenges, the study demonstrated its adaptability and commitment to providing a deeper understanding of the factors influencing children's active presence in the urban public realm.

However, when working within a unique context, the generalizability of the findings can be questioned. The Toronto case study, the Thorncliffe Park neighbourhood, has a unique characteristic among high-rise neighbourhoods in the city of Toronto; it has the highest children's population, constituting 27% of the total residents aged under 14 years old. This characteristic is both a strength and a weakness for research. On the positive side, the substantial number of children offers a variety of opportunities to study their outdoor activities and interactions in urban spaces. However, the concentration of children in Thorncliffe Park makes it challenging to generalize the findings to neighbourhoods, which for example, have a smaller child population. This difference potentially influences peer relations and children's social networks.

Therefore, it is important to approach the conclusions with caution when extrapolating them to other urban settings. Despite this limitation, the insights gained from this study remain valuable in understanding the intricate relationship between children's active engagement in public spaces and the

specific dynamics of Thorncliffe Park's urban environment. Moreover, the in-depth analysis of this unique case can serve as a reference point for future research in other similar neighbourhoods and inspire tailored urban interventions that promote active lifestyles and enrich children's play experiences in diverse urban contexts.

6.3.3 Overcoming Language Barrier When Working with Ethnic Populations

One unforeseen limitation that emerged during the study was the language barrier, which impacted the participant recruitment process in a neighbourhood with a large share of recent immigrants from non-English speaking countries. While the children themselves were proficient in English communication, the caregivers' limited English proficiency became an obstacle in obtaining their consent for participation. Consequently, a few potential participants declined to take part in the research, creating an equity issue and rendering the study inaccessible to a segment of the immigrant population. This issue is also faced by other scholars, such as Karsten (2008) in a qualitative study about the use of neighbourhood sidewalks conducted among local and immigrant families. Immigrant families have significantly shown lower rates of participation due to language barrier. However, there are studies which predicted this issue and prepared multilingual research documents appropriate for the target population (see, e.g., Uyesugi & Shipley, 2005).

A key takeaway from this study, with important implications for future research, is the necessity to ensure research documents and promotional materials are accessible to individuals from diverse linguistic backgrounds, particularly when most of the target population consists of immigrants and newcomers. To address this concern proactively, I would have produced research documents and information in the top three non-English home languages in Thorncliffe Park, which include Urdu, Pashto, and Farsi, in addition to English. Of course, translation costs must have been considered within the research budget too. By adopting this approach, the research could have effectively overcome the language barrier and promoted greater inclusivity, enabling the engagement of a more diverse and representative group of participants. This not only improves participant recruitment but also contributes to the implementation of more inclusive research practices that consider the specific needs and preferences of the studied community.

6.4 Implications for Future Child-friendly Practices

Based on the empirical findings from the two case studies in Portland and Toronto, this research contributes valuable insights that can be implemented to enhance the play-responsiveness of the public realm in high-density (as discussed in Thorncliffe Park in Toronto) and low-density neighbourhoods (as studied and compared with high-density neighbourhoods in Portland). These contributions are important as ongoing densification of the urban centers may further compromise the availability and quality of outdoor playspaces. The following implications are drawn from the study:

6.4.1 The Walkability of Everyday Spaces

Findings underscore the importance of walkability within everyday spaces. Walkability is an outcome of density, block size, proximity to amenities, and quality of the pathways (Ewing & Handy, 2009; Moudon et al., 2016) but is also directly influenced by the neighbourhood's sociocultural landscape – often overlooked in neighbourhood policy goals (Talen & Koschinsky, 2013). The findings of the Thorncliffe Park case study support previous studies that argue pedestrian-friendly environments encourage people to *choose* walking over driving, instead of being forced to walk because they do not have access to other means of transportation, for example, due to the lower rates of car ownership in a community (Hess & Farrow, 2010). My findings also further supported the body of literature advocating for the act of walking as a playful activity (Horton et al., 2014) and as a community-empowering means (Bourke, 2017). Section 4.6.2 provided many examples of playfulness on the way to and from school. Walking to everyday spaces, alone or with others, contributes to children's overall skill development and advances feelings of safety and belonging.

6.4.2 Enhancing Safety in Traffic Interactions

The study supports the existing literature on the significance of street layout design and traffic management in creating safer and more accessible spaces within the public realm (Hess, 2008; Hess & Farrow, 2010; Larsen et al., 2009; McMillan, 2007). This finding is important as fear of cars, if not *the* most, is one of the most concerning issues in creating child-friendly neighbourhoods (H. E. Woolley & Griffin, 2015). I provided concrete examples supporting this argument in three neighbourhood layouts: the compact smaller blocks of youthified neighbourhood in Portland, low-density curvilinear family-oriented neighbourhoods in Portland, and the 1960s towers-in-the-park models studied in Thorncliffe Park, Toronto. Together these case studies confirmed that implementing traffic-calming measures, such as lower speed limits around the residential buildings,

signalized intersections, and additional mid-block crosswalks, especially along the longer and curvilinear streets foster safer pedestrian movements around the neighbourhood.

6.4.3 Enhancing Safety Through Soft Edges Along the Pathways

The provision of soft edges along pathways, effectively separating pedestrian and vehicular traffic, emerged as a finding presented in Chapter 3. As opposed to hard physical boundaries such as fences, incorporating soft edges, such as green buffers ensures the safety of children and pedestrians while still enabling them to freely navigate space and engage in playful activities. Evidence from Thorncliffe Park supported my earlier argument about soft edges with the many examples of playful activities documented on the green buffers along the sidewalks (section 4.6.2). The provision of soft edges along the pathways is considered in previous child-friendly, also pedestrian-friendly, urban design guidelines, such as “Planning for Children in New Vertical Communities” (Nasr et al., 2017). More empirical evidence such as the ones presented in this research is required to improve design concepts used to implement soft edges along the pathways in different neighbourhood settings. For instance, what can be done along curvilinear roads with inconsistent and relatively narrow sidewalks – often experienced in suburban residential areas?

6.4.4 Optimizing Open Space Distribution Within the Play Network

This study highlights the importance of providing a diverse range of open spaces, encompassing private, semi-private, semi-public, and public areas, within the children’s play network. The significance of open space distribution has been extensively discussed in the late 20th-century environmental design literature. For instance, in the seminal work of Chermayeff and Alexander, *Community and Privacy*, a series of neighbourhood typologies are presented offering a variety of public and privately-owned open spaces. Each typology shows different possibilities for flexible boundary setting and social interaction among neighbouring houses (Chermayeff & Alexander, 1965). Furthermore, Oscar Newman in the urban design document titled *Defensible Space* advocated for the hierarchy of open spaces in residential areas, indicating that the use of open space is more of a negotiable matter among neighbours than based on land ownership on papers (Newman, 1996). Negotiating the uses of neighbourhood spaces is a social process in which people constantly adjust their level of interaction with the spaces and people. Flexible private-public boundaries encourage social interactions across various contexts and user groups. Considering play as a form of

socialization, the hierarchical distribution of open spaces is conducive to the provision of a range of play opportunities.

The findings of this research further strengthen these understandings by focusing on urban form analysis and children's lived experiences. The results demonstrated in Chapter 3 compared the functionality of this range in suburban versus urban settings concluding that in both cases, having a range of open spaces, from private to public, empowers children to exercise their agency in relation to actual risks, their age, and their level of autonomy. Closer to home, more private play spaces with higher levels of supervision are prevalent. In contrast, when open spaces are strictly divided into private and public, children are forced to choose one option over another, such as deciding between a backyard as a safe private area or a street as a potentially dangerous public space.

Moreover, my analysis of the Thorncliffe Park neighbourhood layout revealed that the strategic positioning of the formal playspaces in the neighbourhood has contributed to activating the greater network of open spaces. As discussed in section 4.7, children returning from school walk through a series of open spaces, including the schoolyard, playground, laneway next to the library, and the Front Lawn, interacting with friends and neighbours along the way. These various spaces form a vibrant play network within Thorncliffe Park, enriching children's experiences in the neighbourhood. By incorporating semi-private and semi-public open spaces, a dynamic play environment is created, allowing children to gradually explore farther distances, associated with a more public setting, thus expanding over time what is known as their “territorial range” (R. Moore & Young, 1978).

6.4.5 Intergenerational Public Spaces

The study advocates for the development of intergenerational public spaces, which serve as gathering spots for people of all ages. These spaces not only promote social cohesion but also provide children with opportunities for play and interaction with adults. The evidence from the Thorncliffe Park neighbourhood, presented in Chapter 5, supports at least three benefits that intergenerational public spaces offer. First, being in these spaces encourages a sense of shared responsibility, thus improving children's agency. Second, they foster a sense of community among all, which eventually improves parental perceptions of safety. Third, intergenerational spaces allow caregivers to socialize while children play. This opportunity is an important time-out for the caregivers, while still being able to participate in the collective act of supervision.

6.4.6 Designing Winter-Proof Surfaces

Ensuring the availability of winter-proof surfaces within the children's immediate outdoor environment is crucial for year-round play. According to the lived experiences shared by the participants of this study, most public playgrounds in Thorncliffe Park do not support active free play in winter and children avoid using play equipment and running on the concrete surfaces covered by ice and snow. This forces them to spend longer time indoors during the winter. Moreover, shorter winter days limit the time available for outdoor play after school. Whereas having immediate access to an open space covered by grass, and perhaps snow, can encourage safe and fun winter games with less time required for travelling. By offering grass-covered surfaces in front of buildings (such as the Lawn Area in Thorncliffe Park), children will have immediate access to outdoor play opportunities with less time required for travelling. They can engage in outdoor play even during colder months, supporting their physical and mental well-being. Feedback on winter play experiences emerged as a theme in the conversations with children. However, seasonality is an important yet understudied topic in the child-friendly city literature in Canada, which calls for further systematic examination of children's play experiences in long and severe winters.

6.5 Conclusion

In conclusion, this study sheds light on several factors regarding children's engagement with their neighbourhoods and the broader urban environment. I acknowledge the methodological limitations of ethnographic research (generalizability of an in-depth analysis of lived experiences) and the challenges posed by the COVID-19 pandemic in terms of recruiting participants and engaging in in-person conversations and explorations of the neighbourhood. Nonetheless, this study provides valuable evidence-based insights into the creation of child-friendly spaces in different neighbourhood settings including central compact, inner-city high-rise, and low-density suburban. My research advocates for a network of play, instead of play destinations, consisting of everyday places and pathways. In that, I offer practical design implications, such as reimagining traffic-pedestrian interfaces, optimizing the placement of everyday destinations, and the provision of diverse open spaces that cater to various community needs. Empirical examples of this research also highlight the often-neglected linkages of the socio-cultural and physiographic factors, influencing the use of the neighbourhood play network. The study reveals that there is a reciprocal relationship between neighbourhood configuration, children's agency and a sense of belonging, and their perceptions of

safety. Importantly, this research further bridges theory and practice by embracing a more inclusive perspective on the design of North American metropolitan centres. Employing an intergenerational approach will eventually address the existing gap between high-density development and the social diversity of households in central neighbourhoods. First, urban policy must actively consider families with children must be actively considered in policy-making, especially regarding the availability and affordability of housing for families with children in city centres. Then, the creation of intergenerational public spaces must be prioritized over creating age-specific spaces, such as the common fenced playgrounds. Ultimately, these approaches in planning and design pave the way for more child-friendly cities fostering vibrant, inclusive, and resilient urban environments for the generations to come.

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Appendices

Appendix A: Recruitment Poster



School of Planning

We are looking for **children 7 to 12 years old** who live in the **Thornccliffe Park neighbourhood, Toronto** to participate in an **online survey about:**

Children's Outdoor Play Experience

Participation in this survey will take approximately **20 minutes** of you and your child's time. To thank your child for participating, you will be entered in a draw to **win one of five \$50 cash prizes**.

Interested? Go to the link below:

<https://www.surveymonkey.com/r/PLAYOUTSIDE>

Need more information?
Contact Anahita Shadkam via email:
anahita.shadkam@uwaterloo.ca

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board.

Appendix B: Information Letter and Consent Forms for Questionnaire and Interviews



Information Letter – Parents/Guardians – Questionnaire

Title of the Study: Children’s Outdoor Play Experience in Thorncliffe Park Neighbourhood

Principal Investigator/Faculty Supervisor: Markus Moos, University of Waterloo, School of Planning, Faculty of Environment, 519-888-4567x41113, mmoos@uwaterloo.ca

Student Investigator: Anahita Shadkam, University of Waterloo, School of Planning, Faculty of Environment, anahita.shadkam@uwaterloo.ca

To help you make an informed decision regarding your participation, this letter will explain what the study is about, the possible risks and benefits, and your rights as a research participant. If you do not understand something in the letter, please ask one of the investigators prior to consenting to the study. You can copy/paste/save the information and consent letter if you want a copy for your records.

Invitation to Participation

Your child is invited to participate in a research study about children’s outdoor play in urban environments. The purpose of this research is to 1) examine how children feel about playing on the sidewalks and streets around their homes, 2) understand different forms of play that happens in sidewalks and streets, and 3) identify important play spaces in the neighbourhood. We are also looking to understand how the Covid-19 pandemic may have changed the quality, frequency, and range of children's outdoor play in the Thorncliffe Park neighbourhood. This is important because neighbourhoods located in the centre of metropolitan areas are very dense with limited open spaces. Children who live in those neighbourhoods may not have access to a private yard. This survey intends to inform future planning and design projects aiming for the creation of safe public play spaces for children living in dense urban neighbourhoods such as Thorncliffe Park.

This study is being undertaken as a part of my (Anahita Shadkam) PhD research. I plan to combine my literature and onsite observation with the information I gather from the lived experiences of children through surveys.

Your Child's Participation

To participate in this study, your child must 1) be between 7 and 12 years old and 2) live in the Thorncliffe Park neighbourhood. No other inclusion /exclusion criteria are considered for participation in this research.

Your child will complete a web-based survey consisting of 25 questions in total. Participation in this survey will take approximately 20 minutes of your time.

- In the first section of the survey, “what do you play, where do you play”, we want to know about the types of games and outdoor activities children do in your neighbourhood. We would like to identify important play locations in your neighbourhood. We highly recommend that your child expresses their own opinion in this section. However, you may help them with the overall understanding of questions and with the phrasing and articulation of answers.
- The second section, “sidewalks and safety”, focuses on your child's perception about playing on the sidewalks. We ask questions about the overall safety and suitability of the sidewalks for play purposes in your neighbourhood. In this section, children have the chance to share their ideas about how to make sidewalks safer for play.
- Finally in the third section of the survey, “a little about your family”, we ask a few demographic questions. It is recommended that you help your child with answering these questions.

Your Child's Rights as a Participant

Is participation in the study voluntary? Your child's participation in this study is voluntary. Your child may decide to leave the study at any time by not submitting their responses. Their answers will still be recorded up until the point they have decided to leave the survey. If they/you wish to delete the recorded answers, you should contact the researcher via email (Anahita.shadkam@uwaterloo) immediately. It is not possible to remove your data from the study once collected because data is anonymous, all identifying information is removed from the data immediately.

Will I receive anything for participating in the study? To thank your child for participating, your email address will be entered in a draw for your child to win one of five \$50 cash prizes. If your child wins one of the prizes, we will send you \$50 via e-Transfer for your child. Your odds of winning one of the prizes is based on the number of individuals who participate in the study. We expect that approximately 50 individuals will take part in the study. Information collected to draw for the prizes will not be linked to the study data in any way, and this identifying information will be stored separately, then destroyed after the prizes have been provided.

What are the possible benefits of the study? Participation in this study may not provide any personal benefit to your child. I hope that the results of this study will inform future urban planning practices in creating more child-friendly neighbourhoods.

What are the risks associated with the study? There are no known or anticipated risks associated with your child's participation in this study. If your child may refuse to participate or may withdraw at any time. In this case, your child's data will be removed from the collection undertaken in this research project.

Will my identity be known to others? Only the research team will know your child's answers to the survey's questions.

Will my identity be kept confidential? Your identity will be confidential. When results are reported no identifying information will be reported. Email addresses will only be used to contact the winner of the draw and are not stored with the survey responses. If your child would like to participate in a follow-up interview to discuss survey responses in greater detail your email will be temporarily stored with the survey responses and replaced with a code to protect your privacy.

Data will be stored in an encrypted folder on my password-protected laptop. Only the research team will have access to study data. No identifying information will be used in my thesis or any presentations or publications based on this research. The surveys will be retained for a minimum of 7 years, after which they will be destroyed.

You will be completing the study by an online survey operated by SurveyMonkey. When information is transmitted or stored on the internet, privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). SurveyMonkey temporarily collects your contributor ID and computer IP address to avoid duplicate responses in the dataset but will not collect information that could identify you personally.

Questions, Comments, or Concerns

Has the study received ethics clearance? This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (REB #42650). If you have questions for the Board contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or reb@uwaterloo.ca.

Who should I contact if I have questions regarding my participation in the study? If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact Anahita Shadkam at anahita.shadkam@uwaterloo.ca.

Consent Form – Parents/Guardians – Questionnaire

By providing your consent, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

Title of the Study: Children's Play Experience in Thorncliffe Park Neighbourhood

I have read the information presented in the information letter about a study conducted by Anahita Shadkam, under the supervision of Dr. Markus Moos, School of Planning, Faculty of Environment, University of Waterloo. I have had the opportunity to ask questions related to the study and have received satisfactory answers to my questions and any additional details.

I was informed that participation in the study is voluntary and that I can withdraw this consent by informing the researcher.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board (REB #42650). If you have questions for the Board contact the Office of Research Ethics at 1-519-888-4567 ext. 36005 or reb@uwaterloo.ca. For all other questions contact Anahita Shadkam at anahita.shadkam@uwaterloo.ca.

Permission Decision: ☐ YES – I would like my child to participate in this study

☐ NO – I would not like my child to participate in this study

Do you give permission for the use of your child's anonymous quotations in any thesis or publication that comes from this research?

☐ YES

☐ NO

If you agree with your child's participation in this survey, please indicate their age and gender below. This information will be used to identify possible relationships that may exist between children's play experiences and their age and/or gender.

Your child's age: _____

Your child's gender: _____

☐ Girl

☐ Boy

☐ Prefer not to answer

☐ Other (please specify): _____

If you agree with your child's participation in this survey, please click next. On the next page, your child will be asked to indicate if they agree to participate. [here comes the child assent form]

[These questions will come after all the survey questions]

To the parent/guardian:

If your child is interested in being contacted for a follow-up phone or online interview to expand on survey responses please enter your email address below. To protect your privacy we will replace your email address with a code within two days. Giving consent to be contacted by the researchers does not mean that you agree for your child to participate in the interview.

Email address: _____

[These will come at the end of the survey and email addresses will be collected through Google Forms]

Thank you for facilitating your child's participation in this survey!

If you would like to enter the draw for your child to win one of five \$50 cash prizes please click here.

[This is the transcript for the Google Form]

Enter the draw for your child. Five \$50 cash prizes!

If you would like to enter the draw for your child to win one of five \$50 cash prizes please enter your email address below.

Your email address is stored separately from the survey data and will only be used to contact the winners; after which it will be deleted. Email address: _____

Information and Consent Form – Children – Questionnaire

Your parents or guardian have allowed me to tell you about a project that I am working on with a couple of other people. The project is on **outdoor play spaces in your neighbourhood**. I am going to tell you about our project, and then I am going to ask you if you are interested in taking part in the project.

Who are we?

My name is **Anahita Shadkam** and I am a student at the University of Waterloo. I work in the Department of Planning.

Why are we giving you this form?

We want to tell you about a study that involves children like yourself. We want to see if you would like to be in this study too.

Why are we doing this study?

We want to use your opinion and make better outdoor playspaces for children like yourself.

What will happen if you are in the study?

I would like to invite you to participate in a computer survey. The survey will ask you questions about your play experiences. There are 25 questions in the survey. It will take you about 20 minutes to answer these questions.

First, it will ask you about what do you play outside of your home. Second, the survey will ask you about where you play in your neighbourhood. Third, it will ask you if you play on the sidewalks. We want to know if sidewalks are good places for play. Lastly, it will ask questions about your family and where you live. While doing these things, your parent or guardian will be beside you. But we want your answers. All you have to do is try your best. If you have tried your best and do not know how to answer the questions, you can ask your parent or guardian.

Are there good things and bad things about the study?

What we find in this study will be used to make better outdoor playspaces in neighbourhoods like the one you live in. As far as we know, being in this study will not hurt you and it will not make you feel bad.

Will you have to answer all questions and do everything you are asked to do?

If we ask you questions that you do not want to answer then skip them and go to the next question.

Who will know that you are in the study?

The things you say and any information we write about you will not have your name with it, so no one will know they are your answers or the things that you did.

The researchers will not let anyone other than themselves see your answers or any other information about you. Only your parent or guardian who is beside you will know your answers.

Do you have to be in the study?

You do not have to be in the study. No one will get angry or upset with you if you don't want to do this. And remember, if you want to stop answering the survey questions you can click through to the end of the survey to enter the draw..

Do you have any questions?

You can ask questions at any time. You can ask now or you can ask later. You can email us or you can talk to someone else at any time during the study. Here are our names and email addresses.

Anahita Shadkam

Anahita.shadkam@uwaterloo.ca

Markus Moos

mmoos@uwaterloo.ca

DO YOU WANT TO BE IN THIS STUDY?

-YES

-NO

IF YOU WANT TO BE IN THIS STUDY, CLICK NEXT TO START THE SURVEY.

Information and Consent Form – Children – Interviews

Participant's code: _____

Hello! My name is **Anahita Shadkam** and I am a student at the University of Waterloo. I work in the Department of Planning.

[...] weeks ago, you took part in a survey about outdoor play spaces in your neighbourhood. In the survey, we asked you about the games you play outside of your home. We also asked about where you usually play in your neighbourhood.

Your parent/guardian have allowed me to invite you to this interview. I want to ask some more questions about play spaces in your neighbourhood. But why are we doing this?

I am going to spend a few minutes to explain why we want to talk about this with you. You can ask questions at anytime. You can also ask me to repeat things or explain more about them.

After I explained things about the study, I want to see if you would like to be in this interview. Does that sound good?

Okay, let's get started! We are doing this study because we want to use your opinion and make better outdoor playspaces for children like yourself.

If you decide to take part in this interview there are some different things I will ask you.

First, I will ask you about some of your answers in the survey. Because we are interested to know more about how you play in outdoor spaces.

Second, I will ask you to talk about where you play in your neighbourhood.

Third, I want to ask you to make a drawing of your favourite playspace in your neighbourhood. You can draw on paper or make a digital drawing.

Lastly, we will think about things we can do to make your neighbourhood a better place for children's play.

It will take you about one hour to do all these things.

While doing these things, your parent or guardian can be beside you. All you have to do is to try your best. If you have tried your best and do not know what to say or do next, you can guess or say 'I do not know'.

What we find in this study will be used to make better outdoor playspaces in neighbourhoods like the one you live in. As far as we know, being in this study will not hurt you and it will not make you feel bad.

If I ask you questions that you do not want to answer then tell me you do not want to answer those questions. If I ask you to do things you do not want to do such as the drawing, then tell me that you do not want to do them.

If you decide to participate in this interview we would like to record our voices. We call this audio-recording. We want to audio-record the interview because we want to make sure that we write down everything correctly.

The things you say and any information we write about you will not have your name with it, so no one will know they are your answers or your drawing.

The researchers will not let anyone other than themselves see your answers or listen to your recorded voice. Only your parent or guardian who is beside you will know your answers.

You do not have to be in the study. No one will get angry or upset with you if you don't want to do this. And remember, if you decide to be in the study but later you change your mind, then you can tell me you do not want to be in the study anymore.

Do you have any questions?

You can ask questions at any time. You can ask now or you can ask later. You can email us or you can talk to someone else at any time during the study. Here are our names and email addresses. [names and email addresses will be shared through chat box on Zoom or Webex]

Anahita Shadkam

Anahita.shadkam@uwaterloo.ca

Markus Moos

mmoos@uwaterloo.ca

DO YOU WANT TO BE IN THIS STUDY?

-YES

-NO

ARE YOU OKAY WITH THE AUDIO-RECORDING?

-YES

-NO

Appendix C: Questionnaire and Interview Questions

Online Questionnaire



Let's play outside!

Children's Outdoor Play Experience in Thorncliffe Park Neighbourhood, Toronto

4. What do you play? Where do you play?



Meet Ana!

She is 9 years old.

Ana loves playing outside.

She would like to know what
you think about playing outside.

6. How much did you play in your neighbourhood last week?

Complete the table below.

		How much did you play?
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

7. Choose places you visit often and let me know with whom you usually go there.

You can add one more place to the list as "other".

	Alone	With friend(s)	With brother(s)/sister(s)	With parent(s)/guardian(s)
School	☐	☐	☐	☐
A park close to home	☐	☐	☐	☐
A store close to home	☐	☐	☐	☐
Other	☐	☐	☐	☐

What is the "other" place you visit often?

8. How long is the walk from your home to the closest park? Answer in minutes.



9. Ana likes to stop by a pet shop in her neighbourhood every time she goes to the park.

Are there any interesting places in your neighbourhood that you'd like to go to on your way to other places?

☐ No

☐ Yes, a/an ...

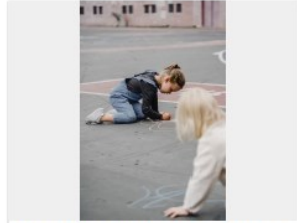
10. Do you have any hangout spots in your neighbourhood?

☐ Yes

☐ No

☐ I don't know

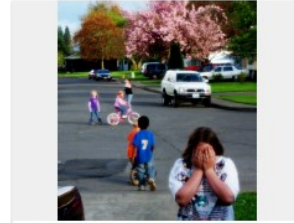
11. From the images below, which ones do you usually do in your neighbourhood?
Choose "none of the above" if you don't do any of these activities in your neighbourhood.



Chalk Required Activities



Play in Nature



Group Games



Ball Games



Socializing

☐ None of the above

12. What other activities do you do in your neighbourhood?

13. Ana likes to play Four Square with other kids in the neighbourhood but they are too loud and their neighbours will get angry.

Are there any games or activities that you would like to do in your neighbourhood but it is not possible?

Name of the
game/activity:

Why can't you do
it?



Let's play outside!

Children's Outdoor Play Experience in Thorncliffe Park Neighbourhood, Toronto

5. Sidewalks and Safety

14. How safe do you feel walking alone in your neighbourhood?

- ☐ Very safe
- ☐ Somewhat safe
- ☐ Not safe

15. How safe do you feel when crossing the roads in your neighbourhood alone?

- ☐ Very safe
- ☐ Somewhat safe
- ☐ Not safe

16. If the parks are closed, how safe do you feel playing outside in your neighbourhood?

- ☐ Very safe
- ☐ Somewhat safe
- ☐ Not safe

"Playground Closed in Chicago River Park During Stay at Home Order for COVID19"
by Raed Mansour is licensed under CC BY 2.0



17. Is it safe to play on the sidewalk in your neighbourhood?

- ☐ Yes
- ☐ No

18. When playing on the sidewalk, are you afraid of cars?

- ☐ Yes
- ☐ No

19. Would you play on the sidewalk if other people are seating or eating?

☐ Yes

☐ No

20. Are sidewalks in your neighbourhood wide enough for children's play?

☐ Yes

☐ No

21. Are sidewalks in your neighbourhood smooth or bumpy?

☐ Smooth

☐ Bumpy

☐ Somewhat smooth, somewhat bumpy

"Slow children at play" by astonishme is licensed under CC BY 2.0



22. Ana thinks that their neighbourhood needs signs like "SLOW! CHILDREN AT PLAY". This sign will warn others about the places in the neighbourhood, where children usually play. Do you agree with her?

- ☐ Yes
- ☐ No
- ☐ I don't know



Let's play outside!

Children's Outdoor Play Experience in Thorncliffe Park Neighbourhood, Toronto

6. A little about your family

In this section, if you are not sure or don't know the answer to any of the questions, you can ask an adult to help you.

23. Where were you born?

☐ In Canada.

☐ In ...

24. How many years have you been living in your neighbourhood?

25. Some people have good memories from some places and feel like they belong to those places.

How much do you belong to your neighbourhood?

☐ A little

☐ A lot

☐ I don't know

26. Ana's family lives in a tall building. They have a big open space that has benches. They usually play with other kids on the lawn.

Which one is similar to where you live?

- ☐ I live in a **house** with a yard. We don't share the yard with other kids.
- ☐ I live in a **house** that has a yard for me and my neighbours to play.
- ☐ I live in a **tall building** that has an open space for everyone who lives nearby to play.
- ☐ I live in a **tall building** that doesn't have any open spaces for play.

27. How many bedrooms are there in your home?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

28. How many people live in your home including yourself?

- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6 or more

29. How many brothers and sisters do you have?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3 or more

30. How many people in your home go to work?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3

To the child:

Ana wants to thank you for helping her understand how other children play in their neighbourhoods!

31. To the parent/guardian:

If your child is interested in being contacted for a follow-up phone or online interview to expand on survey responses please enter your email address below.

To protect your privacy we will replace your email address with a code within two days.

Giving consent to be contacted by the researchers does not mean that you agree for your child to participate in the interview.

Thank you for facilitating your child's participation in this survey!

If you would like to enter the draw for your child to win one of five \$50 cash prizes please [click here](#).

Prompts for Online Interview

What is your favourite play space in your neighbourhood?

Can you show me on the map? Here is Burges Park, here is the main intersection, ...

Is there any play equipment there?

Are there trees around it?

Are there any benches?

How far is it from your home? Can you walk to that place?

How often do you play with other children in your neighbourhood?

Would an adult supervise you?

Do you go to the same school?

Where do you play? What do you play?

Make a drawing to show what does a fun play day in your neighbourhood looks like?

You could show:

your favourite place in the neighbourhood

the fun activities you do

the people you play with

You can do a digital drawing or draw on paper.

Can you explain ... in your drawing?

In the survey, you said that you are afraid of cars when playing on the sidewalk. How should we separate sidewalks from the streets?

Do you like to play on a crowded street/sidewalk? Or do you prefer playing in a less crowded space?

What do you wish to have in your street so that you could play outside more often?

How do you think we can make sidewalks safer for children?

Is there anything that you'd like to do to make your neighbourhood more fun for children's play?

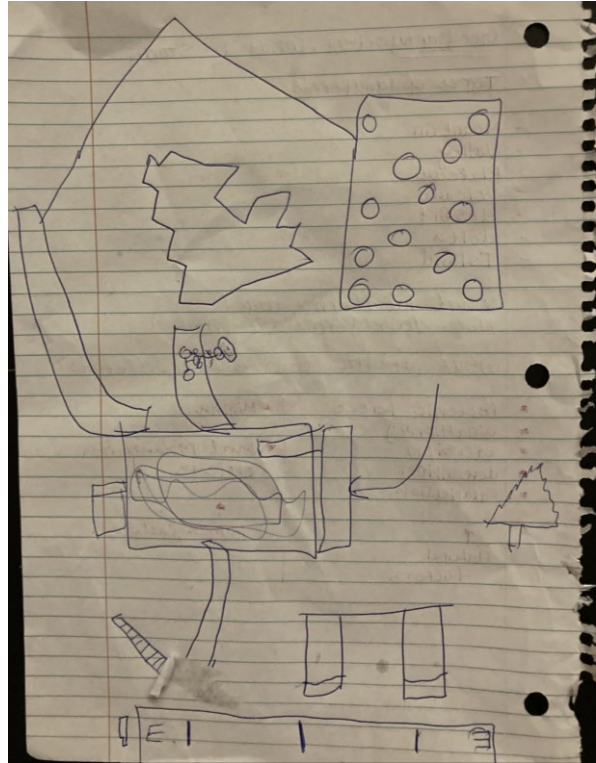
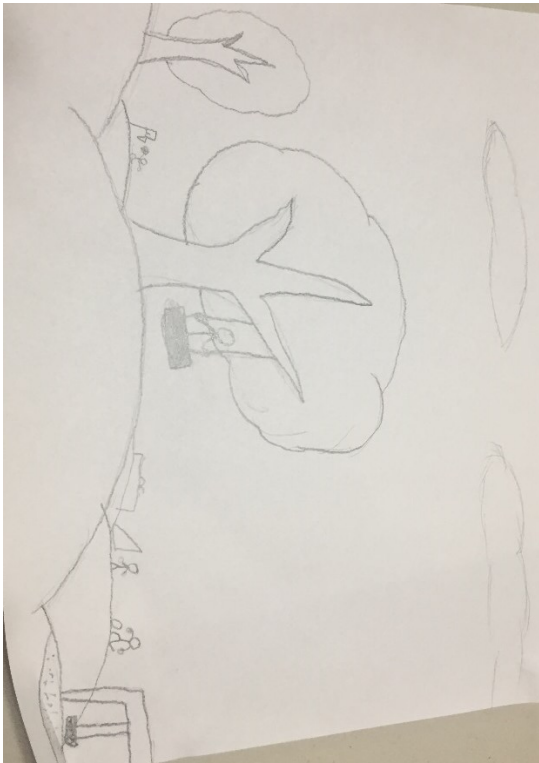
Appendix D: A Dream Playspace – Children’s Drawings



Girl-11



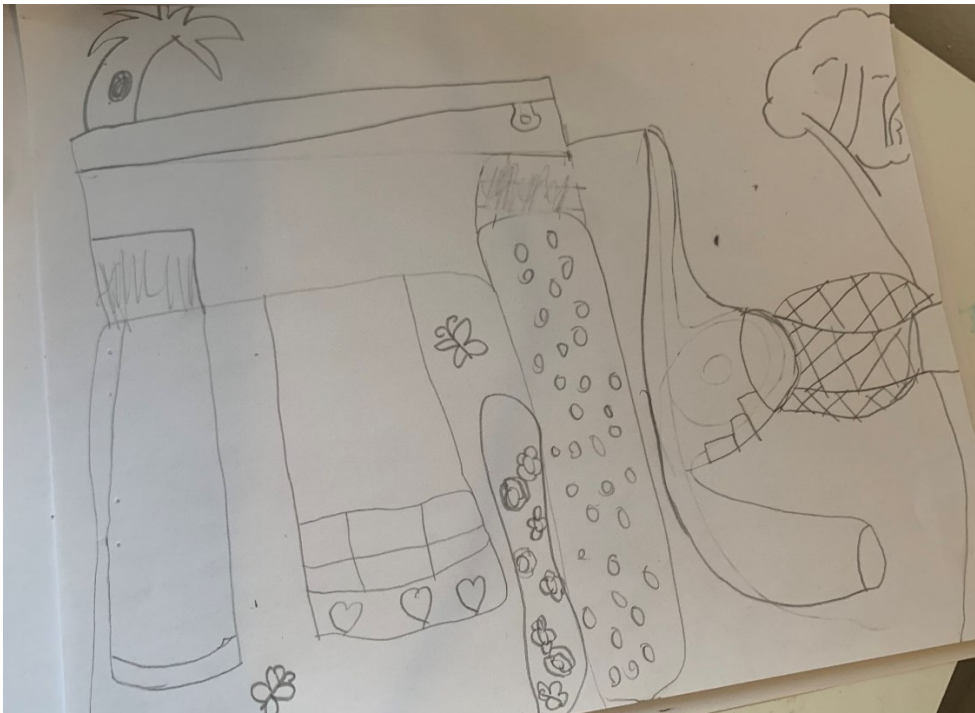
Boy-7



Boys-9



Girl-6.5



Girl-10



Boy-13