
RESEARCH ARTICLE

"We Take a Risk When We Allow Independent Mobility, but We Take a Risk When We Don't": Social-Ecological Factors Associated with Children's Independent Mobility in Southern Alberta, Canada

Ashley Pierson, Jenessa Doctor, Ulises Charles-Rodriguez, Nguden Kwaghbo, Leanna Marie Brown and Richard Larouche

Faculty of Health Sciences, University of Lethbridge, CA

Corresponding author: Richard Larouche (richardlarouche@gmail.com)

Introduction: Children's independent mobility (IM) has significantly declined over the past century, raising concerns due to its positive associations with active transportation, physical activity, and social and cognitive development.

Methods: To better understand the factors influencing IM, we conducted semi-structured interviews, supplemented by an optional photovoice component, with 18 parents of 7–12-year-olds residing in Southern Alberta. We assessed IM based on Hillman's mobility licenses. We asked parents to discuss the factors that encourage or discourage them from granting IM to their child at multiple levels of influence of the social-ecological model. Based on social cognitive theory, we also asked parents to rate their confidence in their child's ability to move around safely in their neighborhood, as well as the factors affecting their confidence. We analyzed interview data using framework analysis.

Results: The results unveil the intricate balance parents navigate between granting IM and ensuring child safety, often necessitating the use of various strategies. Factors associated with IM spanned all levels of the social-ecological model, including personal (e.g., children's ability to navigate traffic), interpersonal (e.g., parental strategies to encourage or limit IM), community (e.g., perceived social norm), built environment (e.g., short distance to destinations, heavy traffic), and policy factors (e.g., development of walking and cycling infrastructure, lack of enforcement of traffic rules). Parental confidence appeared to be a key enabler of IM.

Conclusions: Our findings suggest that policies and interventions should focus on increasing parental confidence and addressing the above-mentioned social-ecological barriers and facilitators to promote and support children's IM.

Keywords: Independent Mobility; Mobility Licenses; Parental Confidence; Social Cognitive Theory; Social-Ecological Model

1.0 Introduction

Active transportation (AT) is a topic of growing interest for urban planners, policymakers, public health professionals, and researchers given its potential to increase physical activity and improve population health while reducing greenhouse gas emissions that contribute to climate change (Campos-Garzón et al, 2023; Giles-Corti et al, 2016; Larouche, 2018; Mitra, 2013; Sallis et al, 2006). Despite its numerous benefits, studies have consistently reported declines in AT over the last few decades in different countries, including Australia, Canada, China, and the United States (Bassett et al, 2015; Larouche, 2018; Van der Ploeg et al, 2008; Yang et al, 2017).

This trend coincided with a remarkable decline in children's independent mobility (IM)—children's ability to freely navigate public spaces without adult supervision—throughout the past century (Gaster, 1991; Hillman, Adams and Whitelegg, 1990; Shaw et al, 2013). For example, a study conducted in the United Kingdom indicated that the percentage of 7- and 8-year-olds allowed to walk home from school alone decreased from 80% in 1971 to 9% by 1990 (Hillman, Adams and Whitelegg, 1990). Similarly, studies conducted in the United States (Gaster, 1991), Australia (Schoeppe et al, 2016), Finland (Kytä et al, 2015), Denmark (Fyhri et al, 2011), and Norway (Fyhri et al, 2011) have reported decreases in IM among children. This has likely contributed to reported declines in outdoor play and AT (Bassett et al, 2015; Larouche, 2018) and may be a reason why about 80% of youth do not meet current physical activity guidelines (Guthold et al, 2020). IM is consistently associated with higher physical activity (Schoeppe et al, 2013; Stone et al, 2014) and greater use of AT (Larouche et al, 2024; Page et al, 2010). Additionally, IM has been shown to improve cognitive and social development in children and adolescents through the creation of cognitive environmental maps and increased opportunities for socialization (Marzi and Reimers, 2018; Pacilli et al, 2013; Prezza et al, 2001; Rissotto and Tonucci, 2002).

Factors contributing to the decline in IM have been explored in both quantitative and qualitative research. Previous studies have found parental concerns about traffic safety (Fyhri et al, 2011; Riazi et al, 2022), fears related to "stranger danger" (Mitra et al, 2014; Riazi et al, 2022), low social cohesion or neighborhood connectedness (Schoeppe et al, 2015), and unfavorable social norms (McLaren, 2016; Tranter, 2006) to be key barriers to IM. Furthermore, boys typically exhibit higher levels of IM compared to girls (Mitra et al, 2014; Riazi and Faulkner, 2018), and IM generally increases with age (Mitra et al, 2014; Riazi et al, 2019a, 2022). Studies suggest that dog ownership (Christian et al, 2014; Christian et al, 2016; Riazi et al, 2022) and mobile phone access may increase children's IM (Larouche et al, 2023; Riazi et al, 2019a); however, further research is needed to substantiate these findings.

The social-ecological model underlies the bulk of research on children's IM (Bauman et al, 2012; Riazi et al, 2022; Sallis et al, 2006). This model posits that a child's behavior is influenced by various factors across multiple levels of influence ranging from personal factors (e.g., age, gender, and preferences), interpersonal factors (e.g., social support, parental restrictions), community factors (e.g., school practices), built environment (e.g., access to greenspaces, walking and cycling infrastructure), and public policies encouraging or discouraging IM (Bauman et al, 2012; Bronfenbrenner, 1977; Pelletier, Cornish and Sanders, 2024; Riazi et al, 2022; Sallis et al, 2006). While the model captures the diversity of correlates of IM, the use of behavioral theories to identify key mediators to target in future interventions remains underexplored in physical activity research (Baranowski and Jago, 2005; Bauman et al, 2002), and perhaps even more so in relation to IM.

This qualitative study utilized a combination of semi-structured interviews and photovoice to investigate the barriers and enablers of IM from the perspectives of parents of children aged 7–12 years living in Southern Alberta, Canada. Informed by the social-ecological model

(Bronfenbrenner, 1977) and Bandura's social cognitive theory (Bandura, 1986; Bandura, 1998), this study aimed to explore the factors associated with IM and the role of parental confidence/self-efficacy to inform future interventions. Bandura's theory is regarded as one of the most useful for understanding the process of behavior change and informing health promotion interventions (Bandura, 1998; Gauvin and Bélanger-Gravel, 2017). It revolves around the construct of self-efficacy that represents a person's belief about their capacity to perform specific actions, which can be determined by behavioral, personal, and environmental factors (Bandura, 1998; Gauvin and Bélanger-Gravel, 2017). Hence, the application of social-cognitive theory could allow one to conceptualize how social-ecological correlates may affect parental confidence and, in turn, opportunities for IM.

2.0 Methods

2.1 Participants and settings

We used convenience sampling to recruit 18 parents (or legal guardians) of 7–12-year-olds residing in Southern Alberta, predominantly located near the cities of Lethbridge (population ~100,000) and Calgary (population ~1.3 million). We initially recruited participants through word-of-mouth and posters displayed at the university campus, in local businesses (e.g., coffee shops, YMCA), in a health clinic, and on social media platforms (e.g., Facebook, Twitter). Only one parent per family was interviewed and asked questions regarding one of their children. These methodological choices helped recruit participants who provided a diversity of perspectives. If participants had more than one child in this age range, they were asked to answer questions based on the child whose name came first in alphabetical order. We encouraged participants to refer other eligible parents by sharing the recruitment poster. Informed consent was provided electronically through the DocuSign platform, and the study protocol was approved by the university research ethics board. Participants were provided a \$20 gift certificate for the interview and another \$20 certificate if they took part in the optional photovoice. Data were collected in the summer and fall of 2022.

2.2 Procedures

Semi-structured interviews, lasting 30–60 minutes, were conducted by a bilingual (English and Spanish) and experienced interviewer. Interviews were conducted online via Zoom, which facilitated the recruitment of participants living in rural areas and avoided travel costs. Interviews began with a preamble introducing the concept of IM. One interview was done in Spanish, and all others were done in English. Interviews were audio-recorded and transcribed verbatim by a research assistant. The Spanish interview was transcribed in English by the interviewer.

The interview guide (Supplementary File 1) included three sections. First, participants were asked general questions about household characteristics that might influence their child's IM (e.g., parent age, gender, and education; household income; other adults in the household). Second, short response questions were asked to assess the child's IM based on Hillman, Adams and Whitelegg' (1990) mobility licenses, which were shown to be valid in a previous Canadian study (Larouche et al, 2017). These assess permission for the child to walk or bike home from school, go to other places within walking distance, cross main roads, go out after dark, cycle on main roads, and travel on local buses on their own. These questions are usually administered in a "yes" or "no" format, and the number of "yes" responses can be tallied to obtain an IM index ranging from zero to six (Larouche et al, 2017). Finally, open-ended questions were asked to explore the factors that encourage or discourage parents from granting their child IM at all levels of influence of the social-ecological model.

In line with social cognitive theory, we asked parents about their confidence in their child's ability to safely move around their neighborhood without adult supervision. After asking the question in qualitative terms, we asked parents to rate their confidence on a scale ranging from 0 to 10, with 0 representing no confidence and 10 representing full confidence. Then we asked parents about factors that could affect their confidence, including specific questions about mobile phones and dog ownership.

Following the interview, parents were invited to complete an optional photovoice activity. Participants who agreed were provided with practical guidelines for taking photos ethically, based on the recommendations of other researchers and the University of Pennsylvania Institutional Review Board (Bugos et al, 2014). Participants were instructed to take photographs of locations in their neighborhood that either encouraged or discouraged their child's IM, and to email these images to the senior author, along with a brief description of the location and its significance.

Photovoice is an engaging method that allows participants to express their community's strengths and concerns through relevant photographs (Wang and Burris, 1997). This technique has been used in previous studies focusing on AT among children (Fusco et al, 2012) and adults (Bhandal and Noonan, 2022; Guell and Ogilvie, 2015). It is a complementary method that can help researchers gather additional data about participant experiences, generating new insights and producing more detailed results (Bhandal and Noonan, 2022; Fusco et al, 2012; Guell and Ogilvie, 2015). The combination of interviews and photovoice exemplifies methodological triangulation and can enhance the rigor of qualitative studies (Bekhet and Zauszniewski, 2012).

2.3 Analysis

The interview transcripts were analyzed with the "framework" approach developed by Ritchie and Spencer (1994), whose ontological perspective is that reality exists independently of individuals' subjective understanding, but is only accessible through individuals' perception, discourse, and interpretations (Baldwin and Bick, 2021; Ritchie, Spencer and O'Connor, 2003). It comprises five steps: (1) familiarization with the data, (2) identification of a thematic framework, (3) indexing (i.e., coding) of the interview transcripts, (4) charting, and (5) mapping and interpretation (Ritchie and Spencer, 1994). As described by Ritchie and Spencer (1994), framework analysis is a pragmatic method that allows both themes and sub-themes identified *a priori* or emerging from the data (i.e., emergent themes). In our case, *a priori* themes included constructs from the social-ecological model and the social cognitive theory. Four research team members (two women and two men of different ethnicities) were involved in the first two steps, providing a diversity of perspectives. They read the first 10 interviews and identified themes/sub-themes independently before a consensus meeting was held to generate the first draft of the framework. Two team members (the senior author and a research assistant) independently indexed all transcripts in Microsoft Word before meeting to compare their coding and resolve any disagreements by consensus. When needed, they amended the interview framework to capture new emergent themes/sub-themes and/or add nuances to existing ones. Then, the research assistant compiled all coded extracts in a Microsoft Excel document where each sheet provided a compilation of responses to each interview question. Previous research using framework analysis illustrates that Microsoft Excel can be used efficiently for this purpose (Larouche et al, 2012; Swallow, Newton and Van Lottum, 2003). The spreadsheet was reviewed by the senior author, who led the interpretation of the findings and invited the interviewer and research assistants to provide input on interpretations, tables, as well as the selection of quotes to exemplify the different sub-themes.

The senior author also performed descriptive statistics (i.e., frequencies, mean, and standard deviation) on the closed-ended questions to summarize participants' sociodemographic characteristics, their children's IM, and parental confidence in their child's ability to move safely around their neighborhood without adult supervision. The frequency of sub-themes was tabulated to help distinguish common and uncommon themes (Larouche et al, 2012; Lorenc et al, 2008).

3.0 Results

Eighteen participants were included in the analysis. The average age was 41.2 ± 6.2 years, while the children discussed in the study had an average age of 9.6 (SD = 1.3 years). Most parents identified as women ($n = 14$; 78%) and 11 (61%) of the children identified as boys. All five photovoice participants identified as women. Most parents had a university education ($n = 15$; 88%), worked full time ($n = 9$; 53%), had one motor vehicle in the household ($n = 9$; 53%), and lived in the same household as other adults ($n = 14$; 78%). Questions about education, employment, and vehicle ownership were accidentally skipped for one participant, so the denominator is 17 for these questions. Six parents reported that their child had a cell phone, and seven parents reported having a dog. On average, parents rated their confidence in their child's ability to move around safely as a 7.7 (SD = 1.4) out of 10 and granted their children 2.3 (SD = 1.4) mobility licenses. The most granted licenses were, in order: to cross main roads, to walk or bike to other places within walking distance, to come home from school, to go out after dark, to cycle on main roads, and to use public transit. It should be noted that some licenses were deemed not applicable; for example, two parents said that their child was homeschooled, and three parents stated that they live in areas without access to transit. Six main themes were identified, including: (1) parental confidence in children's ability to navigate the neighborhood safely without supervision; (2) parental limits and restriction placed on children's IM; (3) parental support and encouragement of children's IM; (4) positive and negative views of children's IM among neighborhood parents; (5) neighborhood factors that encourage or discourage children's IM; and (6) government policies that affect children's IM. For each theme, key sub-themes and examples are provided in **Tables 1** to **6**.

3.1 Intrapersonal factors

Table 1 summarizes the factors that were positively and negatively associated with parental confidence in granting IM to their child. The quotes in **Table 1** illustrate that parents' confidence often stemmed from their perception of their child's characteristics, including maturity, ability to navigate traffic, ask for help, and abide by rules or the law. While many parents attributed their confidence to their child's abilities, some emphasized the complexity of this confidence. For instance, a mother of a 10-year-old girl pointed out,

"My concern is not with her decision-making, my concern is that sometimes even as an adult, things suddenly happen. My concern is with those unanticipated things; if I am not there obviously, I can't be, even when I'm there sometimes, weird things happen all of a sudden. I will say we take a risk when we allow independent mobility, but we take a risk when we don't also, so it is all about weighing those things out."

This statement points to the complexity of decision-making and challenges the idea that children's safety is guaranteed in the presence of an adult.

Table 1: Parental confidence in children's ability to navigate the neighborhood safely without supervision.

Sub-themes	<i>n</i>	Example Quote
Confident: Has the maturity/skills to navigate traffic	8	"...my daughter is really, really careful... she's always very concerned about the traffic. If there is a vehicle very far away, she will stop and wait until it passes before she crosses. I am not much concerned about that [traffic] because of this." – Mother of an 11-year-old girl
Confident: Feels like they would be able to take care of themselves/ask for help	6	"If I give her a bit of freedom in my neighbourhood, I am hundred percent sure she will be able to take care of herself." – Father of a 10-year-old girl
Confident: Does what they are told	4	"My confidence level goes up because he is a very mature kid, and I can trust that when I tell him to do things he would listen. I give him the reason. I explain how to be safe. He is very good about listening." – Mother of a 10-year-old boy
Not confident: Because the child lacks awareness or skills to navigate traffic	7	"She is not the most aware person. It is just her personality, like she will be walking down the street and if she saw an interesting bird flying by, she will be so fascinated with this bird that she would probably walk right into traffic [laughs]. That is just how she is, she gets so focused on something... She needs to have more awareness and I would also like her to have more confidence in herself." – Mother of an 8-year-old girl
Not confident: Due to driver's behavior	2	"...that [irresponsible drivers] has unmotivated me to grant permission to my son to bike to some places where he needs to cross main roads. I have encountered people that drive that are not that responsible. In places where it is forbidden to drive at high speed, the fact of not having signs that say that you have to slow down worries me. It depends on their judgement when they see a child if they slow down, but they don't always have a good judgement." – Mother of an 11-year-old boy
Not confident: Other	1	"It depends how far; I think she gets lost quite easily... Any further than that [the few streets around the house] because we do have some main roads then my confidence will go down somewhat in her ability to find her way back" – Mother of an 8-year-old girl

3.2 Interpersonal factors

Parents discussed how they aim to ensure their child's safety by placing limits and restrictions on their child's IM (**Table 2**). Some parents set specific boundaries, including knowing the child's whereabouts, enforcing curfews when it gets dark, restricting access to certain areas like rivers, and limiting the distance their child can go alone. Others assess IM on a case-by-case basis, such as a mother of a 10-year-old boy who mentioned, "We kind of tailor it [IM] to each child's personalities and what they feel safe with. Ultimately as a parent, I want my child to be independent, but I also do not want them to be afraid to have that mobility if it is worrisome and starts affecting mental health." Again, this suggests that parents consider their children's maturity and personal characteristics when setting boundaries. The quotes in **Table 2** suggest parental decisions about their child's IM are shaped by their relationships, and the child's ability to conform to parental expectations.

Table 2: Parental limits and restriction placed on children's IM.

Sub-themes	n	Example Quote
Need to know whereabouts	10	"...the most specific limit is that he tells me where he is. So –if you want to go and skate, you will be in the skate park area near your school, because if you move, you [have to] come and tell me where you are going, because if something happens, I don't know where to find you. So, this is the part that I really ask from him – tell me where you are going to be and for how long you are going to be there." – Mother of an 11-year-old boy
Home before dark (or a specific time of the day)	9	"...we do not allow any children, whether male or female until a particular age outside after sunset... We do not allow it until eighteen, that is the rule of my family and I follow that." – Mother of a 9-year-old boy
Tell the child how far they can go	7	"I set limits on distance and time, when they have to come back or how far they can go." – Mother of an 8-year-old boy
Case by case	6	"Yeah, it is really on a case-by-case basis depending [on] where she is going, what time of day it is." – Mother of an 8-year-old girl
Limits access to the river/ water source	5	"Yes, because we have a river very close. If she's down there she knows, even if she is in the river she knows how far she can go out. Especially as she is still learning to swim and under currents etcetera." – Mother of an 8-year-old girl
Go with a friend or sibling	5	"We also increase supervision [in winter], you would have to go as a group, you definitely need your siblings because it is dark even though it is only five o'clock." – Mother of a 10-year-old girl
Can go to specific people's home (e.g., if participants know the parents)	4	"I want to be sure I have an idea of who he is talking to and playing with to know the kind of values this person is adding to his life." – Father of an 11-year-old boy
Other (put restrictions due to child's behavior)	3	"...I have had it where she forgets to tell me she is going somewhere, or she did not make sure I heard her when she was going to a friend's house or did not check with me first so I feel that granting her more mobility that would start happening more often then I won't know where she is." – Mother of an 8-year-old girl
Cannot take public transit	2	"I do not give her the freedom to take the public transport or go away far from home." – Father of a 10-year-old girl
Does not feel the need to put restrictions	2	"He has errands or task-based things or says I am going to sit out in the park for half an hour. We discuss it before he goes, so I have an expectation, I would not say I put limits on it. We have not run into anything right now yet with his wanting to be out longer than I think will be appropriate" – Mother of an 11-year-old boy

3.2.1 Parental support

Many parents mentioned using various strategies and tools to encourage their child's IM while considering safety (**Table 3**). One mother of a 10-year-old boy explained how she utilizes "walkie-talkies" for communication, encourages her son to "walk with some friends," and does "safety practices" along with "coaching him on which route to take to school." It is implicit that such strategies can help develop parental confidence. Other parents mentioned utilizing similar practices to encourage IM, including allowing their child to use a mobile phone. Five parents claimed that doing so encouraged IM by providing them more security. However, the unintended consequences of phone use were highlighted by a few parents. One mother of a 10-year-old boy said "We have already had experiences where he abuses it, so no [we] do not allow him to have a mobile phone. He would not use it for the right factors [reasons]. He will use it to game."

Notably, the quotes in **Table 3** illustrate wide variability in support for IM. For instance, the mother of a 10-year-old boy admitted that they have not been doing anything to support his IM, whereas another mother of a 10-year-old boy said that she deliberately sends her three children out with the expectation that they will not come back home for three hours.

Table 3: Parental support and encouragement of children's IM.

Sub-themes	<i>n</i>	Example Quote
Teach children what to do to stay safe	11	"I have been telling him little things he can do to keep him safe and also to become conscious of things that could happen, things he could be exposed to, the people he shouldn't talk to and those he should associate with." – Father of a 10-year-old boy
Encouragement to play outdoors/go to the park	9	"Yes, I would like her to be more independent sometimes. I am trying to build the confidence in her to go do those things on her own." – Mother of an 8-year-old boy
Buddy system	7	"I also encourage him to walk with some friends I know are his age and are also walking home, and I know their moms. I tell him, it is not just walking home, it is an opportunity for him to be social with his friends." – Mother of a 10-year-old boy
Use phone/walkie-talkie to stay in touch	5	"... we have some walkie talkies and the school park that is close to our house and the other park are within range and we can talk on the walkie talkie. I will sometimes send all 3 kids out and say, you need to be out for 3 hours. You are not allowed to come back home [laughs]. If they need to communicate with me, they can use the walkie talkies." – Mother of a 10-year-old boy
Encouragement to be active/watch less TV	3	"I do encourage her to go and investigate... Like last night my husband, because I've got COVID, took her on a roller blade. He lets her go ahead to just go and explore a little bit... She can sometimes take the lead in where she wants to go as well. Like when she says can I, she is trying to push the boundaries and sometimes we will let her. And sometimes to encourage her she's a little bit uncertain she has walkie talkies we will let her go ahead and she can radio back in." – Mother of an 8-year-old girl

(Contd.)

Sub-themes	<i>n</i>	Example Quote
Practice runs (go with parent first before going alone)	2	"We definitely encourage and support it by doing small steps. Small steps like I am going to stand on the corner, you are going to cross the street by yourself and play in the park. In half an hour, I am going to come back to the corner, and you will cross over to me, and we will walk home together... We also do practice runs for example, you are going to ride independently to the dollar store, as a family we would do that first. Maybe a couple of times depending on distance." – Mother of a 10-year-old girl
Disagreement between parents	2	"I try to, my husband leans more towards, he is trying to restrict. We are having a constant struggle; he doesn't like them going alone much. I'm trying to allow them; he is trying to restrict them." – Mother of an 11-year-old girl
Encouragement to walk the dog	2	"We try to get her to go for a walk, yes. Take the dogs for a walk. That's another thing I don't know if it's a hinderance or a benefit, we have two dogs that are quite protective, and I assume that would help her." –Father of an 11-year-old girl
No (at the moment)	2	"Me and my husband have done a terrible job of supporting that mobility. It is a precious commodity, we know he has to learn it and he should be doing it, but we just haven't done it yet. I think that is maybe where it will be a detriment to him in the future. When he has to go to a further school and take the city bus, we are not crafting him to have that independent mobility. This is probably some big weakness of ours that we have done out of routine and because it makes us feel better – Mother of a 10-year-old boy
Encouragement to walk in front of parents (looking from distance)	1	"If it's any further somebody will accompany. Not necessarily next to her but we are around. She has that level of independence, it's in between. She kind of feels like she's on her own but we are there [smiles]." – Mother of an 8-year-old girl
Encourage IM as long as child reports their whereabouts	1	"Yes, you can have the same independence, but you always have to tell me where you are. It is a 'give and take.' I will be comfortable granting him more permission to the extent to which I feel more confident [of his safety]." – Mother of an 11-year-old boy

3.2.2 Dog ownership

Four of the five parents who participated in the photovoice took a picture of their dog, indicating that it supported their child's IM. Of them, one mother of a 10-year-old wrote: "The presence of a large dog will often deter those who may seek to do harm to others, so it makes me feel more confident that my son will be safe when he is walking alone outside." Similarly, three interviewees said that their dog made them more confident in granting their child IM. One father of an 11-year-old girl commented,

"We have two dogs that are quite protective, and I assume that would help her... We are not in an area where we have large carnivores... but there are still coyotes which will pack up [so] our dogs will keep them away for her personal security. There are also badgers which can be aggressive."

Yet, other dog owners did not feel more confident due to attributes such as the dog's behavior, training, and size. This was mentioned by a mother of an 8-year-old boy who said, "...no [having a dog does not increase our confidence in granting our child IM] because our dog is a little crazy. Anything could happen right, so now's double the worry. We are still training her."

Moreover, improperly managed dogs can negatively impact other community members. For instance, a mother of a 9-year-old boy shared that her child's confidence in IM was severely affected after being attacked by a dog. She explained,

"He used to go and play on his own, he was confident. Everything was fine, but he was attacked by a dog in the summer camp. It is a trauma for him... He was confident to play in the neighbourhood without any hesitation, but now because of the dog attack, he got that trauma... [and] he has lost confidence [in IM]."

This mother became an advocate for bylaws surrounding responsible pet ownership. She mentioned that she even "made a petition to the city" to enforce stricter pet ownership bylaws, but "stopped promoting that" due to harsh backlash online. Despite this, she said, "I think they [the city] are doing proper steps now" regarding enforcing dog supervision and tags. Nonetheless, she still struggles to get her son to engage in IM.

3.3 Community factors

Community factors, such as social norms and perceived views of other parents, can also influence a parent's willingness to grant their children IM. As highlighted in **Table 4**, parents had diverging perceptions about whether other parents are supportive or restrictive of their child's IM. For example, two mothers of 10-year-old boys said, respectively, "I also have neighbours where everybody knows each other, we are meeting on the sidewalks to chat and talk so there is a lot of that high degree of contact between neighbours" versus "I can't say I know everybody in my neighbourhood, like their opinions but I have to admit I do not see a lot of children running up and down the street." These statements highlight the concepts of observational learning and how social modeling from the social cognitive theory (Bandura, 1986; Bandura, 1998) may influence parents' perceptions of what is acceptable or safe for their own children. Three parents perceived a decline in IM compared to when they were kids, and one of them discussed that one contributing factor is that many parents are still at work when the school day finishes, so they register their child in after-school activities where they can pick them up after work. In contrast, a mother of an 11-year-old boy observed increased IM since the pandemic: "Now I do see more kids in our neighbourhood together on their bikes or in the parks. Before the pandemic, I never saw any of that".

Table 4: Positive and negative views of children's IM among neighborhood parents.

Sub-themes	<i>n</i>	Example Quote
Other parents are generally supportive (e.g., encourage kids to play outdoors, walk to school, etc.)	9	"I also have neighbours where everybody knows each other, we are meeting on the sidewalks to chat and talk so there is a lot of that high degree of contact between neighbours. I know my child, if I am not home and something is wrong... neighbours have come over [to my house] to say "oh your mum is not home yet. Has there been some missed connection, are you okay, do you need something?" There is that small community piece to it and children being able to do their own thing is very much positively viewed." – Mother of a 10-year-old boy

(Contd.)

Sub-themes	<i>n</i>	Example Quote
Other parents are concerned about safety	6	"I can't say I know everybody in my neighbourhood, like their opinions but I have to admit I do not see a lot of children running up and down the street. That includes my own children [laughs] so I would guess that the attitude is that they would see it negatively. That they do not necessarily see it as the safest. I do see kids walking to school, sometimes several blocks [away] and such but it is rare that I would see, especially a young child walking on their own to school. Usually there would be a parent or an older child or sibling." – Mother of a 10-year-old boy
Neutral/polarized (i.e., it varies between families)	5	"I will say our neighbourhood is really divided. In our area we have some parents who do not really let their kids out at all, they are afraid to let them go out to play. My kids have to go to their door, call me so their parents know they have permission to go in and play. They are uncomfortable with my kids walking themselves home... On the other hand, we have a mass of completely unsupervised children, like young unsupervised kids. I have gone to the park when there are children in diapers without adults..." – Mother of a 10-year-old girl
Feels other parents are generally restrictive	4	"I honestly feel like the other children in my neighbourhood have less independent mobility than mine do. I have noticed that some of my child's friends, me allowing her to walk to their house alone has ...their kid's see it and then want to walk to my house alone. Parents have been kind of receptive to that for their own children. But I do feel a lot of parents have negative view of letting their children out these days." – Mother of an 8-year-old girl
Today's children have less IM	3	"Compared to when I was a kid, I feel there is less children [who are granted] independent mobility [and] less children on the street but I also grew up in the country and a smaller town than Lethbridge so that probably contributed to it as well." – Mother of a 10-year-old boy
There are not many children playing outdoors (due to construction or involvement in after school activities)	2	"The after-school programs, maybe because they [parents] are not home, their kids are not coming home (...), they [children] will go to the after-school program, and they get picked up by their parents and brought home." – Mother of a 10-year-old boy
Social norm is to drive everywhere	2	"They do not encourage it as a society [independent mobility]. It is the norm to drive everywhere, and it is not a norm to ride your bike, and it is unsafe because there are not enough bike lanes and paths. There aren't people obeying the rules of the road." – Mother of a 10-year-old boy
Increased IM since COVID-19	1	"I noticed a huge shift during the pandemic where a lot of kids his age suddenly were outside without supervision because (...) we hit a phase when people realized ten-year-olds were probably okay to walk a couple of blocks, sit out an apartment building without adult supervision nearby" – Mother of an 11-year-old boy

(Contd.)

Sub-themes	<i>n</i>	Example Quote
As long as children are not alone	1	"But I learned from other neighbours that have kids his age and to some extent they allow their kids to do certain things on their own, [but] they make sure that for instance if he is going out, he has to go out with a friend his age, a neighbour. I have a next-door neighbour the child is friends with mine, so they tend to do a lot of things together." – Father of a 10-year-old boy
Other parents are too permissive	1	"In the rural area, nobody gives any thought to protect the kids at all. The neighbor has a ten-year-old and he will be driving up the gravel road at a quite hefty pace, with no helmet on a quad. That is the way it is." – Father of an 11-year-old girl

3.4 Built environment

At the built environment level, many parents discussed that access to well-maintained pathways and bike paths and short distances to destinations such as parks, playgrounds, schools, and shops supported IM (Table 5). All photovoice participants included at least one picture of parks or pathways separated from traffic. One mother provided a picture of a pathway that connects to the playground her 8-year-old son usually goes to. Furthermore, two participants included at least one picture showing supportive crosswalk infrastructure for pedestrians. A mother of a 10-year-old boy provided three pictures of flashing lights at an intersection and added, "flashing lights increase my confidence that my son will be able to cross the road safely and that drivers will be able to see him. Not only do the lights get the attention of drivers, but it also makes my son stop and be more aware of his surroundings when he is crossing a major road". Additionally, low traffic volumes, traffic calming measures, the presence of other responsible adults, and the availability of other children in the neighborhood were identified by parents as elements that can foster IM. A mother of an 8-year-old girl exemplified these factors by stating,

"I think physically it is set up quite well [the built environment] [with] multiple playgrounds, pathways through the ravine in the center of the community, there are two schools in the neighbourhood, there are shops we can walk to, so I like it for those reasons [...] There are traffic calming things like speed bumps in front of the schools. It is pretty good physical feature wise."

A mother of an 8-year-old girl provided a picture of speed bumps on their street and noted that this helps slow traffic, but added, "however, you will note there are no sidewalks, and this is a barrier for young children". She also provided images of street segments with and without crosswalks and added that "Crossing neighbourhood roads is often more challenging than major ones as there are no crosswalks and my daughter doesn't have much road sense! She will happily walk out from behind a parked car." Her contribution highlights interactions between built environment features and her daughter's behavior that can affect her willingness to grant IM.

Other parents reported that heavy traffic and dangerous drivers who disregard traffic rules discouraged them from granting IM to their child. Perceived high crime rates, particularly those related to drugs and harassment, were emphasized as deterrents as well. For instance, a mother of a 10-year-old girl pointed out, "We have had a lot of problems with needles, persons who are definitely under the influence or overdosing in our neighbourhood, even on our lawn." Such safety concerns undermined parents' support for IM. Neighborhood demographics also affect parents' willingness to grant IM. For example, some parents were concerned

that other children and youth could have a bad influence on their child. Other parents worried about a lack of social cohesion and insufficient opportunities for their child to interact with peers. The social-ecological model recognizes the importance of interactions between levels of influence (Sallis et al, 2006) and the views discussed in this paragraph suggest interactions between the social and built environment levels.

Table 5: Neighborhood factors that encourage or discourage children’s IM.

Sub-themes	n	Example Quote
Short distances to places (e.g., parks, playgrounds, school, shops)	16	“We live in a small community where everything is fairly close, so he is able to go independently to the bike park, the swimming pool, the library, or to the playground” – Mother of a 10-year-old boy
Low traffic/speed and/or traffic calming	10	“The area in which my son hangs out is much less transited [by cars], and it gives me much more peace if he bikes, walks, or crosses any streets because even if they are somewhat big, they are not that transited. I have the confidence that he can push the [crosswalk] button, and there won’t be a car driving by without paying attention, and I can grant him permission to be on his own for a longer time for further distances” – Mother of an 11-year-old boy
Access to pathways	8	“If the bike paths weren’t there, I don’t think we would let him bike by himself” – Mother of a 10-year-old boy
Other children in the neighborhood	6	“I live in a friendly neighbourhood where there are other kids of his age around... I notice that these friends of his are good friends, they have good manners. I consent to him playing with them because he will learn good things from them too” Father of an 11-year-old boy
Other people who look out for children (“eyes on the street”)	4	“One thing I like about my neighbourhood is the fact that the neighbours look out for each other’s property including the kids. I believe a neighbour who sees my kid maybe trying to cross the road would assist my kid in doing that. Also, an adult who is around the playground where my kid and others are playing would watch from a distance to make sure they are playing safe and no one gets injured just in case.” – Father of a 10-year-old boy
Heavy traffic/dangerous drivers	9	“I would like our community to develop better habits on speed for vehicle traffic. I think that is a big factor in the trust for me, I know that the posted speed limit on the street we live is 50 km, but because it is a throughfare, people generally travel faster than that. I know that in our community there is complaints of people travelling faster and it is something that is a difficult habit to change.” – Mother of a 10-year-old boy
Crime, drugs, harassment, sexual abuse, etc.	8	“She is at that transition age, the typical worry about her mobility isn’t getting lost, its creepy adults, personal security issue” – Father of an 11-year-old girl

(Contd.)

Sub-themes	<i>n</i>	Example Quote
Lack of supportive infrastructure (e.g., sidewalks, cycle paths, crossings, signage)	5	"The city is currently fixing it, but there were some areas where there were no sidewalks. Literally outside our building [gestures], there is no sidewalk. I have been a little conscious about that. At eleven I do not really care, but certainly when he was five do not walk there because you will have to go the roadway" – Mother of an 11-year-old boy
Lack of children to play with	3	"Where we live now... we moved to this house a little over two years ago and prior to this we lived in a town house complex. I think that was better for mobility than where we live now... we didn't have a backyard but there was a big shared green space that always had kids in it. Where we are now, there aren't as many kids in the neighbourhood... I know that there are some other kids sort of around the corner at the other side of the block, but it is far enough away that they don't automatically mix if mine are playing too... it is more limiting." – Mother of an 8-year-old boy
Animals (e.g., unleashed dogs, "wild" animals)	3	"There was an incident with him in the neighbourhood... He used to go and play on his own, he was confident. Everything was fine, but he was attacked by a dog in the summer camp. It is a trauma for him... you know he used to go with his friends in the neighbourhood... He was confident to play in the neighbourhood without any hesitation but now because of the dog attack, he got that trauma... he lost confidence." – Mother of a 9-year-old boy
Natural environment/topography (e.g. hills)	3	"We have a lot of hills in this neighbourhood, and it is partly one of the reasons he does not cycle because when you leave our garage you are on a big hill but they did not connect the bike paths so we have to go through the community before we can connect to hundreds of miles of bike paths." – Mother of an 11-year-old boy
Lack of social cohesion	2	"Being in a residential neighbourhood, if they are playing in an area where there is really nowhere they can go... that they would know to go for safety or for help, that is really what concerns me." – Mother of a 10-year-old boy
Nowhere to go	1	"I do not think our neighbourhood is especially conducive to kid's gaining a lot of that independence because there is nowhere to go" – Mother of an 8-year-old boy
Negative influence from other children	1	"In my neighbourhood, we have lots of young kids who exhibit negative character, so allowing my kid to move around in an environment that is not safe to her and could affect her status and also hampers or urges exposure to uncertainty or negative behaviour. I try to keep my kid at home and let her grow [up] with me." – Father of a 10-year-old girl

Willingness to grant IM varied widely even among parent respondents with children of the same age. **Figure 1** displays contrasting opinions about IM from a father of a 10-year-old girl and a mother of a 10-year-old boy. This comparison illustrates how social and built environment factors can affect parental perceptions of IM.

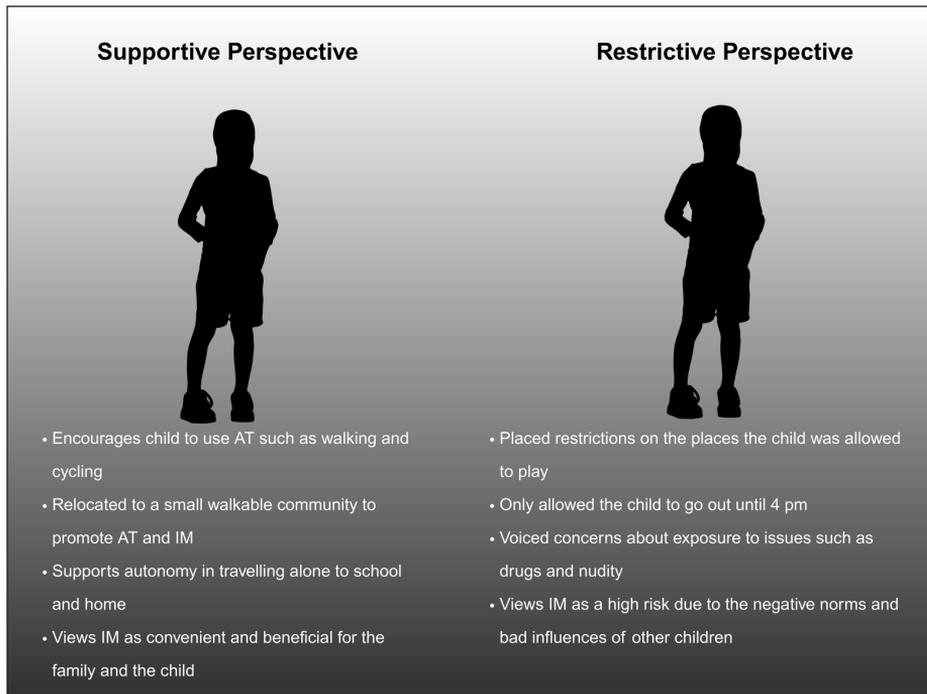


Figure 1: Contrasting opinions about IM. The supportive parent was the mother of a 10-year-old boy, and the restrictive parent was the father of a 10-year-old girl.

3.5 Government policies

Government policies (**Table 6**), representing the broadest level of influence within the social-ecological model, can significantly impact the built environment factors discussed. This was evident in parents' comments expressing their desire for governments to implement speed limits and stop signs, and to ensure sufficient police presence to enforce these traffic regulations. Several parents attributed the lack of playgrounds, cycling and walking infrastructure, and enforcement of traffic and safety rules in their area to inadequate policies. One mother of a 10-year-old boy encapsulated these concerns by stating, "I think a big factor [why children's IM has decreased] is accessibility. We do not live in walkable communities. I do not think we build them... there are not enough bike lanes and paths, there aren't people obeying the rules of the road..., [and] signages are terrible." These quotes emphasize how policies prioritizing motorized traffic can create environments that deter parents from granting IM to their children. In contrast, three parents did not believe government policies played a significant role in children's IM, with one mother of an 8-year-old girl noting that the government does not "have a big influence" and a father of an 11-year-old girl arguing that this is not something that governments pay attention to. The differing opinions may reflect various perspectives about the role and responsibilities of governments at different levels (e.g., municipal, provincial, federal).

Table 6: Government policies that affect children's IM.

Sub-themes	<i>n</i>	Example Quote
Parks and walking/ cycling infrastructure	10	"... it is something that is extremely valued in the community to have pedestrian connectivity infrastructure. The trail system that is separate from the sidewalks is well maintained and is cleared of snow in the winter... [the priority] is to make sure that there is a lot of spaces in the community that the town invests in clearing the sidewalks and clearing trail systems so they can be used as much year-round as possible." – Mother of a 10-year-old boy
Does not do enough to address safety issues (e.g., needles, lack of lighting, gravel, traffic, etc.)	7	There used to be a... school that has an area that is not yet developed by the city that has a lot of bushes and an area where I have seen people, let's say, that does not look that trustworthy... This is a place where I wouldn't let my son walk alone, for example. It is a dark place, full of bushes, and out of sight of other people that could help a child if needed. This worries me, precisely, because a week ago there was news [of incidents] that happened... I think governments don't do enough to make neighbourhoods safe places. – Mother of a 10-year-old boy
Lack policies to support IM (e.g. education policies discourage IM, lack of community schools).	7	"... I work in childcare and the way our provincial legislation is for ECE (early childhood education) and early childhood is not promotive of independence of children... Some schools do not even want your kids to walk to and from, they want parent to pick up and sign out... Even the way curriculum is formed inhibits independence in kids, even the way public education is taught [inhibits children's independent mobility]." – Mother of a 11-year-old girl
Traffic rules (e.g., school zones, low speed limits, zoning)	6	"I would say the access to parks here is pretty easy. We have sidewalks, clear marked intersections, [and] playground zones that seem well maintained" – Mother of a 10-year-old girl
Lack of enforcement of rules (e.g., traffic laws, unleashed dogs) or insufficient police presence	6	"Even if there are [policies], they are no surveillance or enforcement given what I have seen, many unleashed dogs in parks. They [owners] leave them without a leash in places where it is likely there can be children around. This is something I think the city should survey much closer, in any area of the city, really... This is a red flag for me, it stops me from granting more independence. In this sense, it's better for parents to be [close by] more often. If we, the parents, know that there is a constant police vehicle that goes to the playground... I think we would be more confident [they are safe] because we would know that the neighbourhood is constantly watched." – Mother of an 11-year-old girl
Lack of walking/cycling infrastructure/low walkability	5	"I think a big factor is accessibility. We do not live in walkable communities. I do not think we build them. There are a few but there are very few and outside in very far communities. They are not close to downtown. It is unsafe because there are not enough bike lanes and paths. There aren't people obeying the rules of the road... [and] the signages are terrible." – Mother of a 10-year-old boy

(Contd.)

Sub-themes	n	Example Quote
Lack of parks/playgrounds	3	"What they can do to encourage is that they can build more parks and safer playgrounds for kids of his age so they could go there to play, make friends of their age group and learn a few other things."- Father of an 11-year-old boy
Lack of buses	3	"If I were going to send them on public transit, I wouldn't want them to take several transfers. Lethbridge public transit is... I wouldn't call it functional; I would call it bare bone. It [Lethbridge transit] maybe gets people somewhere not very easily. It is hard to navigate as an adult and I don't think kids could do very well at navigating their way around it. I don't think they will even be willing to do that." – Mother of an 8-year-old boy
Government has a limited role with respect to IM	3	"I don't think most governments pay any attention. It's not something they actively try to promote or inhibit. It is what it is. I don't think there is much thought given to kid's mobility." – Father of an 11-year-old girl
Police presence	2	"It is something the bylaw enforcement works on to ensure... that there is safe pedestrian travel not just for the children specifically in the school areas and recreation facilities but for other people who would like to use those." – Mother of a 10-year-old boy
Lack of training/education (e.g., for pet owners)	2	"I have a petition [to encourage the city to create a responsible pet ownership law], but I do not promote it anymore. I was promoting it until about two months [ago]... I have seen more than seven hundred people sign [the petition]. I do not promote it anymore because I cannot tolerate bullying [that I was experiencing on social media from promoting the petition]." – Mother of a 9-year-old boy

4.0 Discussion

Our study examined the factors that encourage and/or discourage IM from the perspectives of parents of 7–12-year-olds living in Southern Alberta. Parents discussed multiple factors across varying levels of influence within the social-ecological model that affected their willingness to grant IM, including interpersonal factors, such as parental confidence, limits and restrictions, and support; community factors like social norms and the perceived views of other parents; the built environment; and government policies. Parents used various strategies to support and/or delineate their child's IM. Despite the individualized nature of these strategies, many common factors were identified that either encouraged or discouraged IM. These findings provide a foundation for developing interventions that can increase children's IM.

4.1 Interpersonal level

Our results suggest that the more confident parents are in their child's ability to move around unsupervised, the more likely they are to grant IM. These findings are consistent with social cognitive theory (Bandura, 1986; Bandura, 1998) as well as Riazi and colleagues' (2022) systematic review. Many parents discussed that their confidence is affected by characteristics of their child (e.g., maturity, awareness of traffic) and the broader environment. Our findings align with those of Johansson (2006) who found that Swedish parents' attitude toward their

child's independent travel depended on characteristics of the child, such as age, maturity, and the perceived need to supervise their child. Johansson (2006) also reported that, although parents gave high ratings to their child's maturity, they still expressed a strong need to protect their child. Similarly, parents interviewed in our study reported high levels of parental confidence and relatively low levels of IM. This apparent discrepancy may reflect the role of social norms, which was discussed by some interviewees. Dowling (2000) also discussed how, in suburban Sydney (Australia), driving children to school and other places was viewed as "good parenting."

Moreover, as encapsulated in the quote in our article's title, some parents spoke about allowing IM as taking a "risk." A randomized controlled trial has shown that parents' risk tolerance can be increased through a risk reframing intervention (Brussoni et al, 2021). Risk reframing can help parents recognize the difference between risks (which children can evaluate and decide on a course of action) and hazards (which children cannot assess for themselves and have no clear benefit) while recognizing the developmental benefits of "risky play"—a concept that can encompass IM (Beaulieu and Beno, 2024; Brussoni et al, 2021). This approach could be adapted to promote IM while targeting key correlates of risk tolerance, which, according to a national study, include parental concerns about crime and traffic safety as well as socio-demographic factors (Faulkner et al, 2025).

When asked about the factors that influence their confidence, many parents discussed that their child lacks awareness or skills to navigate traffic. While the provision of pedestrian safety education programs in schools may seem warranted, a systematic review of randomized controlled trials was unable to find evidence that such interventions reduce the risk of road injuries (Duperrex, Bunn and Roberts, 2002). Although they may be well intended, these interventions may unintentionally contribute to blaming the victims in cases of road crashes, such as faulting individuals for not wearing high-visibility clothing (Roberts and Edwards, 2010; te Brömmelstroet, 2024; Walker, Tapp and Davis, 2023). However, such interventions may be popular among parents and policymakers because they do not challenge the hegemony of motor vehicles (Roberts et al, 2010; Walker, Tapp and Davis, 2023). Indeed, over the last century, there has been a cultural shift toward "motonormativity," which is defined as "a shared bias whereby people judge motorised mobility differently to other comparable topics" (Walker and te Brömmelstroet, 2025, p.1). This widespread bias may explain the disproportionate focus on lecturing vulnerable road users rather than focusing on environmental and policy change that can directly improve road safety (Roberts, 2010; te Brömmelstroet, 2024; Walker, Tapp and Davis, 2023). Examples of the latter include the adoption of Safe Routes to School programs, low traffic neighborhoods, traffic calming, and lower speed limits—all of which have been shown to reduce road injuries (Laverty, Aldred and Goodman, 2021; Roberts, 2010; Tranter, 2018). Broader adoption of such interventions could reduce parental concerns about traffic and potentially increase IM and AT (Tranter, 2018).

Parental support is another interpersonal factor that influences IM. We found that parents used several strategies to support and encourage their child's IM such as dog ownership and mobile phone use. Previous studies have associated dog ownership with increased IM (Christian et al, 2014; Christian et al, 2016; Riazi et al, 2022), leading to the suggestion that dogs may be IM's "best friend" (Riazi et al, 2019b). However, our findings provide a more nuanced perspective as other parents noted that effectiveness depends on the dog's behavior, training, and size. For example, some parents said owning a small or untrained dog did not support their child's IM. Similarly, we noted that mobile phones can both promote and inhibit IM. Some parents appreciate the security provided by mobile phone usage, enabling easy contact with their child, in line with previous research indicating that mobile phones can increase children's IM (Larouche et al, 2023; Riazi et al, 2022). However, researchers cautioned

that mobile phones could undermine the essence of IM, as parents can track their child's movements (Larouche et al, 2023; Malone, 2007). Some parents also highlighted issues of children using phones for the "wrong reasons," such as gaming. To mitigate the drawbacks of mobile phone use, some parents prefer using walkie-talkies, which offer a sense of security without tracking capability, allowing the benefits of IM to be preserved while maintaining parental peace of mind.

4.2 Community level

We found that social norms and perceived views of other parents regarding IM can significantly influence whether parents allow their children to engage in IM. Parents noted a considerable variation in attitudes and social norms within their community, with some discussing living in a safe and supportive environment, whereas others expressed concerns related to drug use (in the context of an opioid crisis in Canada; Belzak and Halverson, 2018) and/or that other parents in their neighborhood are generally unsupportive. The perspective of the father of a 10-year-old who focused on the risk of getting into trouble exemplifies how public spaces are often perceived as a place for adults, and when unsupervised youth occupy these spaces just to spend time together, there is an assumption that they must be "bad" kids that may have a bad influence on others (Iveson, 2006; Valentine, 1996). The routine exclusion of youth from urban planning processes can result in a lack of appropriate places for them, hence greater adoption of programs such as Child Friendly Cities could help support IM (Gilbert et al, 2018; Gleeson and Sipe, 2006).

Interestingly, Mitra and colleagues (2014, p.3408) observed that, when parents perceived that "people are out and about, talking and doing things with one another," their children had greater IM, but this association was no longer significant after controlling for parents' attitudes. Parent-perceived social norms could also be influenced by their attitude and upbringings. Multiple recent studies illustrate that the older a parent was when granted IM as a child, the more they restricted their own child's IM (Gilbert et al, 2023; Hecker et al, 2024; Pelletier, Cornish and Sanders, 2024). Thus, additional efforts should promote IM, engage communities to address barriers to IM, and shift social norms toward greater acceptance and encouragement of children's IM.

4.3 Built environment

Parents identified several built environment factors that influence their child's IM. Proximity to parks, playgrounds, schools, and shops along with having well-maintained infrastructure for walking and cycling were often mentioned as supportive factors. Conversely, heavy traffic was identified as a discouraging factor. These factors were so important to one parent that they relocated specifically to provide their children with better infrastructure to increase IM. Interestingly, in their systematic review, Riazi and colleagues (2022) found that destination variables (e.g., walking or cycling infrastructure, greenspace) had no association with IM. However, they identified parental concerns around traffic to be consistently negatively associated with children's IM. The discrepancies in findings warrant further research to explore associations of both perceived and objectively measured built environment features and IM. Alternatively, based on the social-ecological model, parental perceptions could mediate the effect of built environment attributes on IM and AT (Bauman et al, 2012), suggesting a need for greater use of mediation analyses.

4.4 Government policies

Parents identified several policies that could impact different levels of the social-ecological model, particularly the built environment. For instance, several parents believed that the government should enforce traffic rules more strictly, develop additional playgrounds, as well as

cycling and walking infrastructure. Price and Reis (2010) emphasized the importance of these factors by discussing Vancouver's "Living First" strategy, which focused on creating child-friendly neighborhoods that encourage IM and AT. Additionally, Shaw and colleagues (2015) compared IM levels across 16 countries and found that those with the highest levels often had legislation promoting walking and cycling (Shaw et al, 2015). Collectively, these findings underscore the importance of policies that target different levels of influence on IM. Such policies may not only benefit children but also enhance the quality of life for all residents (Riazi and Faulkner, 2018), especially given that policies can have lasting and widespread impacts (Bauman et al, 2012). Policymakers, urban planners, and transportation engineers can work together to address traffic safety issues as has been done in Safe Routes to School programs in Denmark and the United States, which have been successful in supporting AT while reducing road injuries (Appleyard, 2003; DiMaggio, Frangos and Li, 2016; McDonald et al, 2014). While Safe Routes to School programs have overlooked IM as an indicator of impact, one may hypothesize that the systematic adoption of this approach contributes to the higher levels of IM observed among Danish children compared to most other countries (Shaw et al, 2015).

4.5 Strengths and limitations

One limitation of the study is that, because interviews were conducted at a single time point, we were unable to assess changes over time. The use of a small convenience sample of parents in Southern Alberta limits the generalizability of the results. While qualitative research does not emphasize generalizability, it can provide rich contextual information for stakeholders (e.g., policymakers, practitioners). It is worth noting that 88% of our participants reported having university education and this proportion is much higher compared to the 2021 census, in which 31.1% of 25- to 64-year-olds reported holding at least a bachelor's degree (Statistics Canada, 2022). Given that the systematic review by Riazi et al (2022) identified no association between parental education and IM, it is unclear how the overrepresentation of highly educated parents affected our findings. Additionally, the applicability of some IM licenses was constrained by contextual factors, such as the lack of transit options in rural areas. We cannot tell how many participants lived in urban and rural areas, as this information was not collected. The underrepresentation of fathers in the sample is typical of parenting studies (Davison et al, 2016); however, the results may be biased toward maternal perspectives on children's IM. Finally, subjective methods such as interviews and photovoice are vulnerable to social desirability bias.

Despite these limitations, the study has several strengths. The combination of interviews and photovoice provided complementary insights into the factors associated with children's IM. Additionally, triangulation of methods, researchers, and theories enhances analytic rigor. Moreover, the study's pragmatic focus on the strategies used by parents to manage their children's IM offers practical insights that can inform the development of future interventions.

5.0 Conclusion

Our study found that parents' willingness to grant IM widely varies, even among those with children of similar ages living in the same region, reflecting the complex balance between allowing IM and ensuring child safety from parents' perspectives. The findings provided rich insights into the strategies used by Southern Alberta parents to support and/or delineate IM, providing a nuanced understanding of the potential roles of dogs and communication tools. The findings suggest that parental confidence plays a key role in enabling IM, while factors at all levels of influence can encourage or discourage IM, suggesting that future interventions should consider using both the social cognitive theory and the social-ecological model. Moreover, many participants discussed that their child's lack of safety awareness and

unfavorable social norms were key barriers to granting IM, and tackling these issues may require challenging the concept of motonormativity. Future studies should aim to include a larger and more diverse sample, with a greater representation of fathers, to provide a broader perspective on IM practices. Given that almost all previous studies on the factors associated with IM have used a cross-sectional design (Riazi et al, 2022), there is a clear need to conduct longitudinal and intervention studies.

Data Accessibility Statement

The data for the current study are not publicly available because participants have not consented to this, but they may be available from the corresponding author pending research ethics board approval and completion of a data sharing agreement.

Additional File

The additional file for this article can be found as follows:

- **Supplementary File 1.** Interview guide. DOI: <https://doi.org/10.16997/ats.2003.s1>

Acknowledgements

This study was funded by the University of Lethbridge. The funder had no role in the study. Two authors held summer studentship awards from Alberta Innovates.

Competing Interests

The senior author receives book royalties from Elsevier. Other authors have no competing interests to declare.

Author Contributions

The first author contributed to data synthesis, drafted the manuscript, and integrated feedback from co-authors. The second author assisted with manuscript writing and integration of feedback from co-authors, and designed the figure. The third author assisted with the development of the methods, conducted the interviews, assisted with data analyses, and reviewed the manuscript. The fourth and fifth authors assisted with interview transcriptions and data analyses, and reviewed the manuscript. The sixth author obtained funding for the study, was responsible for supervision, developed the methods, contributed to the analyses, and reviewed the manuscript.

References

- Appleyard, B. S.** (2003) 'Planning safe routes to school', *Planning*, 69(5), pp. 34–37. Available at: <https://login.uleth.idm.oclc.org/login?url=https://www.proquest.com/trade-journals/planning-safe-routes-school/docview/206720210/se-2?accountid=12063>.
- Baldwin, S.** and **Bick, D.** (2021) 'Using framework analysis in health visiting research: exploring first-time fathers' mental health and wellbeing', *Journal of Health Visiting*, 9(5), pp. 206–213. Available at: <https://doi.org/10.12968/johv.2021.9.5.206>.
- Bandura, A.** (1986) *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc. Available at: <https://doi.org/10.1017/S0813483900008238>.
- Bandura, A.** (1998) 'Health promotion from the perspective of social cognitive theory', *Psychology and Health*, 13(4), pp. 623–649. Available at: <https://doi.org/10.1080/08870449808407422>.
- Baranowski, T.** and **Jago, R.** (2005) 'Understanding the mechanisms of change in children's physical activity programs', *Exercise and Sport Sciences Reviews*, 33(4), pp. 163–168. Available at: <https://doi.org/10.1097/00003677-200510000-00003>.

- Bassett, D. R., et al** (2015) 'Trends in physical activity and sedentary behaviors of United States youth', *Journal of Physical Activity and Health*, 12(8), pp. 1102–1111. Available at: <https://doi.org/10.1123/jpah.2014-0050>.
- Bauman, A. E., et al** (2002) 'Toward a better understanding of the influences on physical activity: the role of determinants, correlates, causal variables, mediators, moderators, and confounders', *American Journal of Preventive Medicine*, 23(2), pp. 5–14. Available at: [https://doi.org/10.1016/s0749-3797\(02\)00469-5](https://doi.org/10.1016/s0749-3797(02)00469-5).
- Bauman, A. E., et al** (2012) 'Correlates of physical activity: why are some people physically active and others not?', *The Lancet*, 380(9838), pp. 258–271. Available at: [https://doi.org/10.1016/S0140-6736\(12\)60735-1](https://doi.org/10.1016/S0140-6736(12)60735-1).
- Beaulieu, E. and Beno, S.** (2024) 'Healthy childhood development through outdoor risky play: navigating the balance with injury prevention', *Paediatrics & Child Health*, 29(4), pp. 255–261. Available at: <https://doi.org/10.1093/pch/pxae016>.
- Belzak, L. and Halverson, J.** (2018) 'Evidence synthesis- the opioid crisis in Canada: a national perspective', *Health Promotion and Chronic Disease Prevention in Canada*, 38(6), pp. 224–233. Available at: <https://doi.org/10.24095%2Fhpcdp.38.6.02>.
- Bekhet, A. K. and Zauszniewski, J. A.** (2012) 'Methodological triangulation: an approach to understanding data', *Nurse Researcher*, 20(2), pp. 40–43. Available at: <https://doi.org/10.7748/nr2012.11.20.2.40.c9442>.
- Bhandal, J. and Noonan, R. J.** (2022) 'Motivations, perceptions and experiences of cycling for transport: a photovoice study', *Journal of Transport & Health*, 25, p. 101341. Available at: <https://doi.org/10.1016/j.jth.2022.101341>.
- Bronfenbrenner, U.** (1977) 'Toward an experimental ecology of human development', *American Psychologist*, 32(7), pp. 513–531. Available at: <https://psycnet.apa.org/doi/10.1037/0003-066X.32.7.513>.
- Brussoni, M., et al** (2021) 'A web-based and in-person risk reframing intervention to influence mothers' tolerance for, and parenting practices associated with, children's outdoor risky play: randomized controlled trial', *Journal of Medical Internet Research*, 23(4), p. e24861. Available at: <https://doi.org/10.2196/24861>.
- Bugos, E., et al** (2014) 'Practical guidance and ethical considerations for studies using photo-elicitation interviews', *Preventing Chronic Disease*, 11, p. 140216. Available at: <https://doi.org/10.5888/pcd11.140216>.
- Campos-Garzón, P., et al** (2023) 'Contribution of active commuting to and from school to device-measured physical activity levels in young people: a systematic review and meta-analysis', *Scandinavian Journal of Medicine & Science in Sports*, 33(11), pp. 2110–2124. Available at: <https://doi.org/10.1111/sms.14450>.
- Christian, H., et al** (2014) 'Dog walking is associated with more outdoor play and independent mobility for children', *Preventive Medicine*, 67, pp. 259–263. Available at: <https://doi.org/10.1016/j.ypmed.2014.08.002>.
- Christian, H. E., et al** (2016) 'The effect of siblings and family dog ownership on children's independent mobility to neighborhood destinations', *Australian and New Zealand Journal of Public Health*, 40(4), pp. 316–318. Available at: <https://doi.org/10.1111/1753-6405.12528>.
- Davison, K. K., et al** (2016) 'Fathers' representation in observational studies on parenting and childhood obesity: a systematic review and content analysis', *American Journal of Public Health*, 106(11), pp. 14–21. Available at: <https://doi.org/10.2105/ajph.2016.303391>.
- DiMaggio, C. Frangos, S. and Li, G.** (2016) 'National Safe Routes to School program and risk of school-age pedestrian and bicyclist injury', *Annals of Epidemiology*, 26(6), pp. 412–417. Available at: <https://doi.org/10.1016/j.annepidem.2016.04.002>.

- Dowling, R.** (2000) 'Cultures of mothering and car use in suburban Sydney: a preliminary investigation'. *Geoforum*, 31(3), pp. 345–353. Available at: [https://doi.org/10.1016/S0016-7185\(99\)00048-2](https://doi.org/10.1016/S0016-7185(99)00048-2).
- Duperrex, O. Bunn, F. and Roberts, I.** (2002) 'Safety education of pedestrians for injury prevention: a systematic review of randomised controlled trials', *BMJ*, 324(7346), p. 1129. Available at: <https://doi.org/10.1136/bmj.324.7346.1129>.
- Faulkner, G., et al** (2025) 'Stranger danger or good Samaritan? A cross-sectional study examining correlates of tolerance of risk in outdoor play among Canadian parents', *BMC Public Health*, 25, p. 627. Available at: <https://doi.org/10.1186/s12889-025-21848-8>.
- Fusco, C., et al** (2012) 'Toward an understanding of children's perceptions of their transport geographies: (non)active school travel and visual representations of the built environment', *Journal of Transport Geography*, 20, pp. 62–70. Available at: <https://doi.org/10.1016/j.jtrangeo.2011.07.001>.
- Fyhri, A., et al** (2011) 'Children's active travel and independent mobility in four countries: Development, social contributing trends and measures', *Transport Policy*, 18(5), pp. 703–710. Available at: <https://doi.org/10.1016/j.tranpol.2011.01.005>.
- Gaster, S.,** (1991) 'Urban children's access to their neighborhood: changes over three generations', *Environment & Behavior*, 23, pp. 70–85. Available at: <https://psycnet.apa.org/doi/10.1177/0013916591231004>.
- Gauvin, L. and Bélanger-Gravel, A.** (2017) 'Behavioural theories and building health promotion interventions: persistent challenges and emerging perspectives', in I. Rootman, A. Pederson, K. L. Frohlich, and S. Dupéré (eds.), *Health Promotion in Canada*. Canadian Scholars, pp. 67–83.
- Gilbert, H., et al** (2018) 'Children's everyday freedoms: local government policies on children and sustainable mobility in two Australian states', *Journal of Transport Geography*, 71, pp. 116–129. Available at: <https://doi.org/10.1016/j.jtrangeo.2018.07.007>.
- Gilbert, H., et al** (2023) 'Understanding the complexity of children's everyday mobilities: non-instrumental aspects in sustainable transport and planning policy making in Australia', *Applied Mobilities*, 8(4), 341–360. Available at: <https://doi.org/10.1080/23800127.2022.2071060>.
- Giles-Corti, B., et al** (2016) 'City planning and population health: a global challenge', *The Lancet*, 388(10062), pp. 2912–2924. Available at: [https://doi.org/10.1016/S0140-6736\(16\)30066-6](https://doi.org/10.1016/S0140-6736(16)30066-6).
- Gleeson, B. and Sipe, N.** (2006) *Creating child friendly cities*. Routledge.
- Guell, C. and Ogilvie, D.** (2015) 'Picturing commuting: photovoice and seeking well-being in everyday travel', *Qualitative Research*, 15(2), pp. 201–218. Available at: <https://doi.org/10.1177%2F1468794112468472>.
- Guthold, R., et al** (2020) 'Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants', *The Lancet Child & Adolescent Health*, 4, pp. 23–35. Available at: [https://doi.org/10.1016/S2352-4642\(19\)30323-2](https://doi.org/10.1016/S2352-4642(19)30323-2).
- Hecker, V., et al** (2024) 'Parental travel behaviors and children's independent mobility: a multisite study', *Pediatric Exercise Science*, 37(2), pp. 112–117. Available at: <https://doi.org/10.1123/pes.2023-0064>.
- Hillman, M., Adams, J. and Whitelegg, J.** (1990) *One false move: a study of children's independent mobility*. Policy Studies Institute.
- Iveson, K.** (2006) 'Cities for angry young people? From exclusion and inclusion to engagement in urban policy', in B. Gleeson and N. Sipe (eds.) *Creating child friendly cities: Reinstating kids in the city*. Routledge, pp. 49–65.

- Johansson, M.** (2006) Environment and parental factors as determinants of mode for children's leisure travel, *Journal of Environmental Psychology*, 26(2), 156–169. Available at: <https://doi.org/10.1016/j.jenvp.2006.05.005>
- Kyttä, M., et al** (2015) 'The last free-range children? Children's independent mobility in Finland in the 1990s and 2010s', *Journal of Transport Geography*, 47, pp. 1–12. Available at: <https://doi.org/10.1016/j.jtrangeo.2015.07.004>.
- Larouche, R., et al** (2012) 'Life transitions in the waning of physical activity from childhood to adult life in the Trois-Rivières study', *Journal of Physical Activity and Health*, 9(4), pp. 516–524. Available at: <https://doi.org/10.1123/jpah.9.4.516>.
- Larouche, R., et al** (2017) 'Test-retest reliability and convergent validity of measures of children's travel behaviours and independent mobility', *Journal of Transport & Health*, 6, pp. 105–118. Available at: <https://doi.org/10.1016/j.jth.2017.05.360>.
- Larouche, R.** (2018) *Children's Active Transportation*. Cambridge, MA: Elsevier. Available at: <https://doi.org/10.1016/C2016-0-01988-5>.
- Larouche, R., et al** (2023) 'Canadian children's independent mobility during the COVID-19 pandemic: a national survey', *Health & Place*, 81, 103019. Available at: <https://doi.org/10.1016/j.healthplace.2023.103019>.
- Larouche, R., et al** (2024) 'Correlates of active school transportation during the COVID-19 pandemic among Canadian 7-to 12-year-olds: a national study', *Journal of Physical Activity and Health*, 21(3), pp. 294–306. Available at: <https://doi.org/10.1123/jpah.2023-0243>
- Laverty, A. A., Aldred, R. and Goodman, A.** (2021) 'The impact of introducing low traffic neighbourhoods on road traffic injuries', *Transport Findings*. Available at: <https://doi.org/10.32866/001c.18330>.
- Lorenc, T., et al** (2008) 'Attitudes to walking and cycling among children, young people and parents: a systematic review', *Journal of Epidemiology & Community Health*, 62(10), 852–857. Available at: <https://doi.org/10.1136/jech.2007.070250>.
- Malone, K.** (2007) 'The bubble-wrap generation: children growing up in walled gardens', *Environmental Education Research*, 13(4), pp. 513–527. Available at: <https://doi.org/10.1080/13504620701581612>.
- Marzi, I. and Reimers, A. K.** (2018) 'Children's independent mobility: current knowledge, future directions, and public health implications', *International Journal of Environmental Research and Public Health*, 15(11), p. 2441. Available at: <https://doi.org/10.3390%2Fijerph15112441>.
- McDonald, N. C., et al** (2014) 'Impact of the safe routes to school program on walking and bicycling', *Journal of the American Planning Association*, 80(2), pp. 153–167. Available at: <https://doi.org/10.1080/01944363.2014.956654>.
- McLaren, A. T.** (2016) 'Families and transportation: moving towards multimodality and alter mobility?', *Journal of Transport Geography*, 51, pp. 218–225. Available at: <https://doi.org/10.1016/j.jtrangeo.2016.01.006>.
- Mitra, R.** (2013) 'Independent mobility and mode choice for school transportation: a review and framework for future research', *Transport Reviews*, 33, pp. 21–43. Available at: <https://doi.org/10.1080/01441647.2012.743490>.
- Mitra, R. et al** (2014) 'Do parental perceptions of the neighbourhood environment influence children's independent mobility? Evidence from Toronto, Canada', *Urban Studies*, 51(16), pp. 3401–3419. Available at: <https://doi.org/10.1177/0042098013519140>.
- Pacilli, M. G., et al** (2013) 'Children and the public realm: antecedents and consequences of independent mobility in a group of 11–13-year-old Italian children', *Children's Geographies*, 11(4), pp. 377–393. Available at: <https://doi.org/10.1080/14733285.2013.812277>.
- Page, A. S., et al** (2010) 'Independent mobility, perceptions of the built environment and children's participation in play, active travel and structured exercise and sport: The PEACH

- project', *International Journal of Behavioral Nutrition and Physical Activity*, 7, 17. Available at: <https://doi.org/10.1186/1479-5868-7-17>.
- Pelletier, C., Cornish, K. and Sanders, C.** (2024) "There's not a lot of places for them to go': rural and remote family perspectives on children's independent mobility', *Children's Geographies*, 3, pp. 447–464. Available at: <https://doi.org/10.1080/14733285.2024.2302108>.
- Prezza, M., et al** (2001) 'The influence of psychosocial and environmental factors on children's independent mobility and relationship to peer frequentation', *Journal of Community & Applied Social Psychology*, 11(6), pp. 435–450. Available at: <https://doi.org/10.1002/casp.643>.
- Price, G. and Reis, R.** (2010) 'Making kid-friendly cities: lessons from two cities', *Preventive Medicine*, 50, pp. 95–96. Available at: <https://doi.org/10.1016/j.ypmed.2009.10.013>.
- Riazi, N. A. and Faulkner, G.** (2018) 'Children's independent mobility', in R. Larouche (ed.), *Children's Active Transportation*. Elsevier, pp. 77–91. Available at: <https://doi.org/10.1016/B978-0-12-811931-0.00005-3>.
- Riazi, N. A., et al** (2019a) 'Correlates of children's independent mobility in Canada: a multi-site study', *International Journal of Environmental Research and Public Health*, 16(16), p. 2862. Available at: <https://doi.org/10.3390/ijerph16162862>.
- Riazi, N. A., et al** (2019b) 'Walking the dog: independent mobility's best friend?', *Journal of Exercise, Movement, and Sport*, 51, p. 247. Available at: https://www.scapps.org/jems/index.php/1/fr_CA/article/view/2462.
- Riazi, N. A., et al** (2022) 'Social-ecological correlates of children's independent mobility: a systematic review', *International Journal of Environmental Research and Public Health*, 19(3), p. 1604. Available at: <https://doi.org/10.3390/ijerph19031604>.
- Rissotto, A. and Tonucci, F.** (2002) 'Freedom of movement and environmental knowledge in elementary school children', *Journal of Environmental Psychology*, 22(1–2), pp. 65–77. Available at: <https://doi.org/10.1006/jevpe.2002.0243>.
- Ritchie, J. and Spencer, L.** (1994) 'Qualitative data analysis for applied policy research', in A. Bryman and R. G. Burgess (eds.), *Analyzing qualitative data*. Taylor & Francis, pp. 173–194. Available at: <https://doi.org/10.4324/9780203413081>.
- Ritchie, J., Spencer, L. and O'Connor, W.** (2003) 'Carrying out qualitative analysis', in J. Ritchie and J. Lewis (ed.), *Qualitative research practice: a guide for social science students and researchers*. SAGE Publications, pp. 219–262.
- Roberts, I. and Edwards, P.** (2010) *The energy glut: the politics of fatness in an overheating world*. Bloomsbury Publishing.
- Sallis, J. F., et al** (2006) 'An ecological approach to creating active living communities', *Annual Reviews of Public Health*, 27, pp. 297–322. Available at: <https://doi.org/10.1146/annurev.publhealth.27.021405.102100>.
- Schoeppe, S., et al** (2013) 'Associations of children's independent mobility and active travel with physical activity, sedentary behaviour and weight status: a systematic review', *Journal of Science and Medicine in Sport*, 16(4), pp. 312–319. Available at: <https://doi.org/10.1016/j.jsams.2012.11.001>.
- Schoeppe, S., et al** (2015) 'Socio-demographic factors and neighbourhood social cohesion influence adults' willingness to grant children greater independent mobility: a cross-sectional study', *BMC Public Health*, 15, 690. Available at: <https://doi.org/10.1186/s12889-015-2053-2>.
- Schoeppe, S., et al** (2016) 'Australian children's independent mobility levels: secondary analyses of cross-sectional data between 1991 and 2012', *Children's Geographies*, 14(4), pp. 408–421. Available at: <https://doi.org/10.1080/14733285.2015.1082083>.
- Shaw, B., et al** (2013) *Children's independent mobility: A comparative study in England and Germany (1971-2010)*. Policy Studies Institute.
- Shaw, B., et al** (2015) *Children's Independent Mobility: an international comparison and recommendations for action*. Policy Studies Institute.

- Stone, M. R., et al** (2014) 'The freedom to explore: examining the influence of independent mobility on weekday, weekend and after-school physical activity behaviour in children living in urban and inner-suburban neighbourhoods of varying socioeconomic status', *International Journal of Behavioral Nutrition and Physical Activity*, 11, p. 5. Available at: <https://doi.org/10.1186/1479-5868-11-5>.
- Swallow, V., Newton, J. and Van Lottum, C.** (2003) 'How to manage and display qualitative data using 'Framework' and Microsoft® Excel', *Journal of Clinical Nursing*, 12(4), pp. 610–612. Available at: <https://doi.org/10.1046/j.1365-2702.2003.00728.x>
- te Brömmelstroet, M.** (2024) 'Increase road safety or reduce road danger: challenging the mainstream road safety discourse', *Traffic Safety Research*, 5. Available at: <https://doi.org/10.55329/vfer7646>
- Tranter, P.** (2006) 'Overcoming social traps: a key to child-friendly cities', in B. Gleeson and N. Sipe (eds.), *Creating child friendly cities: reinstating kids in the city*. New York, pp. 121–135.
- Tranter, P.** (2018) 'Taming traffic to encourage children's active transportation', in R. Larouche (ed.), *Children's active transportation*. Elsevier, pp. 229–242.
- Valentine, G.** (1996) 'Angels and devils: moral landscapes of childhood', *Environment and Planning D: Society and Space*, 14(5), pp. 581–599. Available at: <https://doi.org/10.1068/d140581>.
- Van der Ploeg, H. P., et al** (2008) 'Trends in Australian children traveling to school 1971–2003: burning petrol or carbohydrates?', *Preventive Medicine*, 46, pp. 60–62. Available at: <https://doi.org/10.1016/j.ypmed.2007.06.002>.
- Walker, I., Tapp, A. and Davis, A.** (2023) 'Motonormativity: how social norms hide a major public health hazard', *International Journal of Environment and Health*, 11, pp. 21–33. Available at: <https://doi.org/10.1504/IJENVH.2023.135446>.
- Walker, I. and te Brömmelstroet, M.** (2025) 'Why do cars get a free ride? The social-ecological roots of motonormativity', *Global Environmental Change*, 91, p. 102980. Available at: <https://doi.org/10.1016/j.gloenvcha.2025.102980>.
- Wang, C. and Burris, M. A.** (1997) 'Photovoice: concept, methodology, and use for participatory needs assessment', *Health Education & Behavior*, 24(3), pp. 369–387. Available at: <https://doi.org/10.1177/109019819702400309>.
- Yang, Y., et al** (2017) 'Active travel to and from school among school-age children during 1997–2011 and associated factors in China', *Journal of Physical Activity and Health*, 14(9), pp. 684–691. Available at: <https://doi.org/10.1123/jpah.2016-0590>.

How to cite this article: Pierson, A., Doctor, J., Charles-Rodriguez, U., Kwaghbo, N., Brown, L. M. and Larouche, R. 2026. "We Take a Risk When We Allow Independent Mobility, but We Take a Risk When We Don't": Social-Ecological Factors Associated with Children's Independent Mobility in Southern Alberta, Canada. *Active Travel Studies: An Interdisciplinary Journal*, 6(1): 1–26. DOI: <https://doi.org/10.16997/ats.2003>

Submitted: 16 August 2025 **Accepted:** 09 February 2026 **Published:** 13 March 2026

Copyright: © 2026 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See <http://creativecommons.org/licenses/by/4.0/>.



Active Travel Studies: An Interdisciplinary Journal is a peer-reviewed open access journal published by University of Westminster Press.