Exploring the Barriers and Facilitators to Children’s Active Transportation to and From School From the Perspectives of Practitioners

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Background: Despite the health benefits associated with physical activity participation, activity levels of North American children are declining. In response, practitioners are placing emphasis on active forms of transportation to and from school. The purpose of this study was to explore the barriers and facilitators to active transportation to school (ATS) from the perspectives of practitioners. Methods: The perspectives of 19 practitioners (e.g., health promoters, traffic engineers, police, etc.) from 3 communities in Alberta, Canada were captured using focus group interviews followed by content analysis. Results: Subthemes tied to barriers included logistics, lifestyle, safety, and lack of resources; while facilitators were comprised of collaboration, education, and leadership. The results were interpreted using an ecological model of health behavior. Conclusion: The most common ATS barriers: attitudes and safety concerns, lack of resources and time, and the nature of the natural and built environments were associated with the intrapersonal, organizational, and physical environmental factors, respectively. The most significant organizational facilitators concerned collaboration among parents, schools, businesses, community organizations, and government agencies. While the multifaceted nature of barriers and facilitators add complexity to the issue, it also challenges practitioners to think and act creatively in finding solutions.

Keywords: qualitative, physical activity, ecological model, walking
on ATS from the perspectives of practitioners. The levels of influence captured by the model in this study were a) intrapersonal, b) interpersonal/cultural, c) organizational, d) physical environment, and e) policy. Intrapersonal influences may include characteristics of the individual, such as biological factors, sociodemographic factors, and psychological factors.\(^{17}\) Interpersonal/cultural influences refer to formal and informal social networks, such as families, school groups and friends.\(^{16}\) Social institutions with organizational characteristics, such as schools, community leagues, etc. constitute organizational factors.\(^{16}\) The physical environment considers factors such as weather, daylight, traffic, and neighborhoods.\(^{14}\) Finally, policy factors may include district, local, state (provincial) and national laws and policies.\(^{16}\)

This study proposes to identify barriers and facilitators to ATS for children and youth from the perspectives of practitioners who promote ATS in their professions using an ecological model to discuss the findings.

**Methods**

**Participants and Focus Group Procedures**

This qualitative study employed focus group interviews with practitioners, who supported or promoted ATS in their professions. A total of 19 people, (women n = 9; men n = 10) participated in 1 of 3 focus groups. These focus groups took place in 3 different communities based on the areas from which participants were recruited. Practitioners were recruited by local health promoters who worked in the area of ATS in the 3 different communities (see Table 1 for participant and community characteristics). The study was approved by a university research ethics board and only participants who provided informed consent took part. A series of questions was developed in advance of the interviews to explore the barriers and facilitators to ATS (see Table 2 for a list of focus group questions). The focus groups were facilitated by one of the researchers, were digitally recorded and lasted approximately 1 hour.

**Analysis**

This study employed a qualitative description approach, which allows researchers to “stay close to their data” with the goal of presenting a “comprehensive summary of events in the everyday terms of those events.”\(^{18}\) This approach supported an exploratory study using an ecological framework. The focus group data were transcribed verbatim and analyzed using content analysis consistent with the methodological approach of qualitative description.\(^{18}\) Content analysis involves examining transcripts line by line to identify, code, and label core consistencies and patterns in the data.\(^{19}\) This process was achieved through 4 independent and successive readings of the transcripts by 2 researchers. In the first

### Table 1 Characteristics of the Focus Group Participants and Communities

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Focus group 1</th>
<th>Focus group 2</th>
<th>Focus group 3</th>
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<tr>
<td>Sex of participants</td>
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<tr>
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<td></td>
<td>3</td>
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<tr>
<td>Transportation services manager</td>
<td></td>
<td></td>
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<td>3</td>
</tr>
<tr>
<td>Traffic engineer/urban planner</td>
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<td>2</td>
<td></td>
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<tr>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Peace/police officer</td>
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<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Municipal politician’s assistant</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Recreation college instructor</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
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<td>Population of community</td>
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<td>61,097</td>
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<td>Population density</td>
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<td>1067.2/km² (2764/sq mi)</td>
<td>508.9/km² (1318/sq mi)</td>
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<tr>
<td>Location in the province</td>
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<td>Central</td>
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</tbody>
</table>

### Table 2 Focus Group Questions

- Are you involved or aware of active transportation to school initiates or programs in your community?
  - If so, could you describe them?
- What supports or facilitates these active transportation to school initiates or programs in your community?
- What are some barriers to active transportation to school initiates or programs in your community?
- What resources would assist you in promoting active transportation to school initiates or programs in your community?
- Is there anything else that you would like to share about active transportation to schools?
Barriers

Logistics. A major theme that emerged from the focus group interview data were barriers tied to the logistics of being able to actively transport to school. Participants indicated that ATS was not possible in many cases because travel distance was too great. This distance was primarily attributed to parental choice to have children attend specialized schools outside of their immediate communities, as well as, infrastructure changes associated with city growth. Practitioners suggested that travel distance to school was seen as a particular challenge to active transport for families living in new, suburban, and rural neighborhoods. Although travel distance was a concern, individuals held different perceptions of “how far is too far” to use ATS.

Weather was also recognized as a key logistical barrier. Despite some early school year initiatives, poor weather, “especially during the inclement months like winter,” was a significant deterrent to ATS according to practitioners working with families. A final logistical barrier was the ability of schools to devote time to the implementation and promotion to ATS. Related to this issue of time were administrative priorities and pressures.

Lifestyle. A second prominent barrier to ATS was related to lifestyle. Stakeholders used terms such as a “culture of convenience,” having a “car centered mentality,” wanting “easy access,” and driving as “a habit” to describe peoples’ way of thinking about sedentary travel to school. Although the emphasis on a driving culture was most often associated with parents’ attitudes, stakeholders also agreed that children played an important role in furthering this mindset.

Safety. A third barrier to ATS involved 2 different types of safety concerns. The first concern was children’s personal safety with regard to fear of abduction or “stranger danger.” Stakeholders were mixed in their responses about the rationality of personal safety fears. Some participants acknowledged and understood parents’ fears, while others pointed out the incongruence between actual and perceived safety, suggesting personal safety was “not really an issue.” Interestingly, as some parents attempted to manage personal safety fears, they inadvertently contributed to traffic safety risks, the second safety concern identified in the practitioner focus groups.

Practitioners suggested a lack of ATS was associated with traffic safety concerns around schools related to crossings, parking, idling, and emissions. For example, a lack of streetlights and appropriate crosswalk markings led to the perception that it was unsafe for children to walk to and from school. When crosswalks were appropriately marked, a perceived lack of traffic safety knowledge on the part of children emerged as a difficulty. Slight issues, high traffic volumes and highway crossing also posed additional challenges to ATS. Finally, traffic safety risks associated with parent behavior were also identified as an issue. Parents’ acted as negative role models by participating in poor safety behaviors, such as double parking, jaywalking, ignoring patrollers, walking between buses, and excessive idling in school zones.

Lack of Resource Support. The final barrier identified in the focus groups highlighted the need for financial and personnel support. Participants referred to a “lack of sustainable base funding” when discussing challenges to promoting and sustaining ATS programming. The issue of base funding was a common discussion as programs were described as moving from “pilot project to grant,” with little organizational support, depth, funding or staffing. Given the lack of support for ATS programs, stakeholders indicated that organizations had to rely on each other or individual champions, which became problematic, when programs were eliminated or individuals moved on. See Table 3 for exemplar barrier subtheme quotes.

Facilitators

Collaboration. Developing partnerships with schools, communities and other organizations was viewed as an important way of encouraging and mobilizing ATS initiatives according to practitioners. Working with schools led to the development of reward programs, events, and activities designed to encourage ATS. Concerns tied to safety and ATS, in particular, appeared to facilitate collaboration among schools and organizations.
In other cases, organizations formed stakeholder groups consisting of representatives from safety based organizations. Other partnerships outside of school and safety stakeholders, such as private business and health organizations, were also seen as viable support options.

**Education.** Educating schools about the benefits of ATS was viewed as a principal mechanism to educate children and parents. Practitioners suggested a “health curriculum” approach could encourage schools to “see the connection” of ATS to student education. Providing schools with an opportunity to educate each other through the sharing of ideas was also seen as a viable option. Using a “big picture” proactive approach to include children and encourage them to be responsible, contributing citizens was viewed as a method of engaging students.

Stakeholders spoke about the need for children to value being physically active and to learn about traffic safety, through relevant and interactive curriculum.

**Leadership.** Strong leaders and program champions “with the amount of passion to drive that particular project” were identified as key ATS facilitators. Practitioners recognized parents as most likely to drive ATS initiatives and take ownership of programs given their roles of primary “decision makers” in the lives of their children. Teachers and administrators were acknowledged as potential champions, although they were more often viewed as program supporters than program leaders. To sustain initiatives, stakeholders discussed the need to nurture and provide support for current and future leaders.
Discussion

The results of this study are discussed and interpreted using the following ecological levels: intrapersonal, interpersonal/cultural, organizational, physical environment, and policy. The most common ATS barriers to school were interpersonal/cultural, organizational, and physical environment. The most prominent facilitators were organizational. While these were the most relevant for interpreting and discussing the results of this study, barriers and facilitators discussed within different levels of the ecological model are not intended to suggest mutual exclusivity.

Interpersonal/Cultural Barriers

According to the practitioners, interpersonal/cultural barriers such as social support, social networks, and social norms were common. Participants spoke about students and parents having a “car centered mentality” due to convenience. In fact, parents were characterized as more invested in how to make it easier to drive their children to and from school, than supporting ATS initiatives. Travel destinations for young children relies heavily on vehicle use, with almost half of trips being made as a vehicle passenger and 31% of the daily vehicle trips being less than 0.6 miles. This finding is consistent with reports from our study, where participants shared instances of parents driving mere blocks to bring their children to school. This use of vehicles to drive short distances represents a “culture of convenience” and social norms tied to perceptions of “how far is too far” to use ATS.

A second interpersonal/cultural barrier was parent concerns for the safety of their children. According to participants working with families, the current generation of parents is particularly fearful about strangers and abduction. The legitimacy of ‘stranger danger’ fears was questioned by some participants as published reports do not identify any increase in incidences of abduction; however, the anxiety associated with these perceptions is a barrier to ATS. Another study reported that parents of children who used ATS had similar abduction fears. However, these parents acknowledged it was “impossible to guard a child every second” and were able to cope with their worrying.

Organizational Barriers and Facilitators

Lack of resources was the most commonly cited organizational barrier. It included limited financial support, staffing, direction and time. Lack of sustainable base funding and financial cutbacks were discussed by participants. A lack of financial resources limited the funds available for ATS promotion, resulted in few staff to sustain programs and little opportunity to develop partnerships because of low staff numbers. Consequently, programs were initiated, but had little direction or support for maintenance.

Schools were also viewed as hubs for promoting knowledge about the benefits of ATS. Practitioners spoke about the opportunity to educate school administration and staff as a way to then access and teach parents and children. The responsibility of organizations to educate people was articulated as necessary to change attitudes and behaviors. Stand alone classroom based health programs need to be supplemented by parent outreach efforts. Successful school health initiatives require parental involvement to support the student in making healthy choices.

Finally, the importance of leadership from within organizations was communicated as a facilitator of ATS. To have successful school partnerships and opportunities to educate, participants spoke of the need for each school to have a champion to lead ATS initiatives within the school, as well as access the supportive resources provided by other organizations. Potential school leaders included: parents, teachers, principals, and other school staff or student groups. Traditionally, principals are viewed as the leaders in schools and have great influence on the success of school health programs or initiatives. For ATS initiatives to be successful, it appears that a team of champions are required to work both within the school and with external organizations.
**Physical Environment Barriers**

The physical environment was highly relevant to the ATS barriers. The built and natural environment, along with weather, have previously been associated with physical activity participation. Consistent with the literature, travel distance to and from school was articulated by those working with families and schools as a primary reason why children do not use ATS. In part, practitioners attributed travel distance barriers to the trend toward specialty school programming, resulting in many children traveling outside of their immediate neighborhoods, making ATS an impractical option. City growth was also recognized as a contributor to declines in ATS. The impact of infrastructure can be explained, in part, by neighborhood design in suburban areas with poor street connectivity (neighborhoods with cul-de-sacs and long distances between intersections), which increases travel distances. Furthermore, school sprawl associated with suburbanization of cities have veered away from having a small neighborhood school serving as the “anchor” of the community. Population density surrounding schools has decreased with people living farther away from their neighborhood school. It is not surprising that the low population density found in suburban areas has been associated with less walking and more vehicle trips per capita than more compact urban neighborhoods.

Safety concerns were also associated with infrastructure and city growth. Lack of proper crossing lights and crosswalks were seen as a deterrent to ATS. Children are more likely to use ATS in urban neighborhoods with controlled intersections, direct routes to school and few hills. Reduced speed limits, speed humps, and single lane roads are “traffic calming” techniques which promote safety in school traffic zones.

The final physical environment barrier discussed by stakeholders was the impact of weather. Although weather was referred to as a supporter of ATS, in the case of warm days, rain and wind were identified as barriers in the fall and spring. Participants often spoke about dark mornings, ice and snow-covered sidewalks, and cold temperatures as significant barriers to ATS in the winter months.

**Implications/Recommendations**

Based on the findings of this study, we support 3 key areas of focus for practitioners to facilitate ATS: 1) improving perceptions of child safety; 2) developing collaborative relationships across organizations, communities, businesses, and families; and 3) developing curriculum that supports active transportation.

**Child Safety.** Practitioners can encourage a variety of strategies to positively impact safety perceptions of ATS by engaging with families and community. For example, helping neighboring families to develop a neighborhood ATS plan where children walk or ride to school together, with or without parent supervision, may increase perceptions of safety. Instructing children how to safely participate in active transportation by teaching them about the ‘rules of the road’ at home and at school would not only increase road safety but could also increase parents’ comfort level with regard to their children using ATS. Finally, providing children with experiential learning experiences of active transportation, such as families using active transportation to run errands may translate into greater confidence and competence in safe ATS. Increasing the community’s awareness that children are walking to school, having groups of children walk or ride together and teaching children about walking and riding safety can increase the child and parents’ confidence in the child getting to and from school safely using ATS.

**Collaboration.** Practitioners can also play a pivotal role in helping to develop collaborative relationships among parents, schools, local businesses, government agencies and community organizations to support ATS. Once brought together, these ATS interest groups can work collectively to create a supportive ATS environment. With guidance and support from practitioners these groups can develop and implement group-relevant ATS initiatives. This may involve, for example, lobbying for lower speed limits, crosswalks, and speed bumps in the school neighborhood or creating a safe drop-off and pick-up zone for children approximately 1 km (0.6 miles) away from the school to allow children who are driven to school to walk before and after school. Collaboration is necessary for change to occur. Practitioners can play an important role in bringing together groups with common ATS concerns and in providing direction for how to address them.

**Active Transportation Curriculum.** A third recommendation for practitioners is to support incorporating active transportation activities in the classroom. Practitioners could assist in the development of a curriculum that includes 1) walking around the school neighborhood, possibly assessing the distance with a pedometer or time with a stop watch; 2) active transportation activities as homework assignments that require the parent and student to use active transportation in their community; 3) classroom activities (art projects or writing assignments) that identify and discuss the benefits of ATS; and 4) classroom initiatives that support ATS efforts for all students (those living near and far).

**Conclusion**

National surveillance data has consistently reported that the majority of North American children and youth are not engaging in an adequate amount of physical activity. Practitioners have become aware of this trend and are exploring the use of ATS as an opportunity to be physically active on a daily basis. Previous studies have examined ATS from the perspectives of school principals,
school districts, and parents. This study is innovative, as it samples a variety of practitioners who work with schools or school districts to support ATS but are not necessarily members of the school system (ie, health promoters, city planners, police officers, transportation services, traffic safety coordinators, community developers, municipal politician’s assistant, etc). Given that issues related to the health of children are not the sole responsibility of schools and parents, broadening the perspectives from which solutions to children’s inactivity might emerge is critical.

In this study, the participants’ diverse backgrounds led to the identification of creative solutions to barriers associated with ATS; including ideas that would use a variety of resources in the community and municipality. While much of the potential success of ATS initiatives appear to be organizational within schools, the solution is likely multifaceted and must take into consideration the other issues revealed in this study. Significant barriers included interpersonal and physical environment factors and involved aspects of intrapersonal factors and policy.

These results support previous research that has identified 1) intrapersonal factors, such as feeling connected with your neighbors, 2) organizational factors, such as the collaboration between parents, schools, local businesses, government agencies, and community organizations; 3) physical environments, such as safety, infrastructure and travel distance; and 4) policies associated with school zone speed limits, drop-off zones, school sites, and school start and dismissal time can influence ATS.

Study Limitations/Future Research

There are limitations to the current study that warrant discussion. This study included ATS stakeholders speaking from the perspective of their occupations (ie, police officer, city planner, health promoter, etc). Future studies triangulating data from different sample groups such as ATS stakeholders, school representatives, parents, youth, and/or children would also make a valuable contribution to the ATS literature. This study took place in Canada; therefore the generalizability of these results is limited to this and other like contexts. There is a growing interest in developing creative and innovative ways to increase physical activity levels among children and youth. Although ATS can contribute to reducing sedentary time, it is unlikely to make a significant contribution to increasing the likelihood that children will meet national physical activity guidelines as ATS may consist of less than a 10-minute bout of physical activity. Researchers and practitioners need to continue to seek alternate ways to improve the quality of physical activity engagement of children and youth.

To conclude, the multifaceted nature of barriers and facilitators add complexity to the issue, and challenge practitioners to think and act creatively in finding solutions. Developing and implementing strategies from multiple levels of the social ecological model may facilitate the development of innovative solutions to increase physical activity and reduce sedentary time in our children and youth using ATS.

Acknowledgments

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