Journal of Transport & Health 11 (2018) 56–63

Contents lists available at ScienceDirect

Journal of Transport & Health

journal homepage: www.elsevier.com/locate/jth

A matched pairs approach to assessing parental perceptions and preferences for mode of travel to school

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ARTICLE INFO

Keywords:
School travel
Matched pairs
Walking
Perceptions
Convenience

ABSTRACT

Over the past half-century active school travel has declined while driving children to school has increased. A greater understanding of why some children are driven to school when conditions support active school travel is needed. This study examined the relationship between parental perceptions and preferences with mode of travel to school among grade 5 and 6 students in Toronto, Ontario, Canada. Environmental and distance effects were controlled for by matching children who travelled to school using different travel modes (walking or driving) while living in the same neighborhood and attending the same school. Survey data from the Built Environment and Active Transportation Research Project (BEAT) contained information on parental perceptions and preferences. A conditional logistic regression model tested the relationship between travel mode and the independent variables within the matched pairs (n = 118). Parental preferences were the most important factors related to mode choice within the matched pairs. Children were more likely to walk if the parents agreed that driving to school sets a bad example. Children were more likely to be driven if the parent perceived driving as easier and quicker than walking. Boys had higher odds of walking than girls. These findings confirm a need to address the concept of convenience in future research, practice and policy regarding active school travel.

1. Introduction

Traveling to and from school is an opportunity to increase daily physical activity through active school travel (AST) (Murtagh and Murphy, 2011). Rates of walking and cycling to school, however, have decreased over the last half century in many countries including Canada, the United States and the United Kingdom (McDonald et al., 2011; Buliung et al., 2009; Pooley et al., 2005). Over the same time period, sedentary travel behaviours among children, such as being driven to school, have become normalized in many places (McDonald et al., 2011; Buliung et al., 2009; Pooley et al., 2005), and the prevalence of childhood obesity has increased (Wang, 2011; Shields, 2006). Higher rates of childhood obesity may be partly related to declining physical activity participation and increasing sedentary behaviour (Goran 2008).

There is a growing body of research examining the relationship between the built environment and school travel patterns (Larsen

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https://doi.org/10.1016/j.jth.2018.09.004
Received 11 May 2018; Received in revised form 10 September 2018; Accepted 12 September 2018
Available online 22 October 2018

et al., 2012; Mitra et al., 2010; Larsen et al., 2009; McMillan, 2007; Schlossberg et al., 2006). Certain aspects of the objective and perceived built environment may have a modest association with mode choice for school aged children, but results in general are quite mixed. Street connectivity or street crossings, commonly measured as intersection density, has been related to higher rates of walking in some studies (Helbich et al., 2016; Carlson et al., 2014; Kerr et al., 2007; Frank et al., 2007), while others have reported the opposite effect (Timperio et al., 2004; Ulfarsson and Shankar, 2008). Similarly, results pertaining to land use mix are inconclusive. A few studies have found a positive association between land use mix and active travel (Larsen et al., 2009; Kerr et al., 2006), while another study found no association (Ewing et al., 2004). Factors related to traffic safety may be more consistently associated with children's travel outcomes; where a safer (or perceived) environment is associated with more walking (Yu and Zhu, 2016; Carlson e al., 2014; Page et al., 2010; Larsen et al., 2013). The most consistent factor associated with mode choice is the distance between home and school (Larsen et al., 2016; Babey et al., 2009; Zhu and Lee, 2009; McMillan, 2007; Schlossberg et al., 2006). Methods and concepts used to examine distance and environmental effects are inconsistent across studies, and alongside expected differences in the geography of places or study areas, likely contribute to the publishing of mixed results across school travel studies (Larsen et al., 2016). Additionally, the correlates of active transportation may differ by distance. Aside from distance, which is challenging to modify, parental preferences, cultural differences and socio-economic status may also play a role in school travel decisions (Stone et al., 2014; Panter et al., 2010; McDonald et al., 2010; Rodríguez and Vogt, 2009).

Individual and social characteristics such as parental education, household income, age and gender of the child and parent may also relate to mode of travel to school (McDonald et al., 2010; Murray, 2009; Rodríguez and Vogt, 2009). Household income or parental education (which is a proxy for income) may affect availability of household resources such as a vehicle or a hired household assistant, which may relate to school travel decisions. Higher income households commonly have lower rates of active travel to school (Dalton et al., 2011; McMillan, 2005). When examining vehicle ownership directly, the results are somewhat mixed as some studies have found that vehicle ownership was associated with lower odds of AST while others have not (Larsen et al., 2013; Mitra et al., 2010; Schlossberg et al., 2006; Vovsha and Petersen, 2005). Many studies report a connection between a child's gender and rates of active travel, with AST being more common among boys than girls (Larsen et al., 2012; Yarlagadda and Srinivasan, 2008; Fulton et al., 2005; Evenson et al., 2003). While some studies have found that as the age of the child increases, so does the likelihood of walking to school (Mitra et al., 2010; McDonald, 2008), others have reported the opposite relationship (Evenson et al., 2003; Spallek et al., 2006), underscoring a need for further research (Vovsha and Petersen, 2005).

One way to explore these issues is to compare households living in close proximity who use different travel modes for the same activities – walking versus driving to school for example. Lee and colleagues examined matched pairs living in a similar (or identical) home location and attending the same school, but using a different mode of travel (Lee et al., 2013). They found that parental attitudes, children's preferences and safety concerns all related to rates of walking for students located within 2 miles of the school (Lee et al., 2013). Parents of walkers had more positive perceptions of walkability, while parents who drove their child had more safety concerns related to traffic (Lee et al., 2013). Lee and colleagues suggested that while changes to the environment may be promising; efforts also need to be made to affect parental perceptions. This study builds on the work of Lee and colleagues, using a matched pairs approach to examine how perceptions and preferences relate to mode of travel in a large Canadian city. By controlling for the environment and distances travelled, the matched pairs method was valuable and contributes to a very limited approach to examining the trip to school. While the literature indicates that distance between home and school is indeed important, it is challenging to modify in practice. By controlling for this variable we were able to get a better understanding of how perceptions and preferences relate to mode choice. Accordingly, this study controls for both the environment and distance in a matched pairs analysis examining how parental perceptions and preferences relate to mode of travel to school among grade 5 and 6 students in Toronto, Ontario.

2. Methods

2.1. Survey data

Data are from the Built Environment and Active Transportation Research Project (BEAT); which was a large-scale multidisciplinary study examining the built environment, physical activity and school travel patterns. The University of Toronto research ethics board and the Toronto District School Board ethics review board granted ethical approvals for this work. All elementary school principals in the Toronto District School board with grades 5 and 6 received a study invitation (n = 469). From the pool of interested schools (n = 40; response rate of 11.5%), selective sampling took place to target schools (n = 16) in neighborhoods of contrasting built environment and income levels. In order to ensure we had enough respondents in certain neighbourhoods, we oversampled the lower income areas.

Classroom teachers recruited students and obtained consent forms from the parents. Both parents and children independently completed paper based travel behaviour surveys, which included questions related to travel behaviour, mode of travel to and from school, perceptions of the environment, perceptions of safety and personal preferences. Children completed the surveys in the classroom with supervision from research assistants, while parental surveys were sent home and returned to the school. The surveys took about 10 minutes to complete; individual (gender, age) and household characteristics (income, education, vehicle ownership) and home address were obtained.

Table 1
Results from univariate testing of independent variables with walking as dependent variable.

Individual and socio-demographic	*p-value*	Direction	*p-value*	Direction
Child's gender (Male)	0.093	+		
Child's age (Years)	0.442	–		
Vehicles per licensed driver	0.008	–		
Educational attainment[a]				
College	0.946	–		
University or greater	0.263	+		
Preferences				
Parent allows child to go out by themselves[b]				
Never	0.855	–		
Sometimes	0.853	–		
Often	0.856	–		
	Agree		Neither	
Most of my close friends drive their children to school[c]	0.400	–	0.338	–
Using a car contributes very little to air pollution[c]	0.898	–	0.574	+
Perceived safety				
There are not enough sidewalks[c]	0.058	–	1.000	+
There are not enough crosswalks or traffic lights to help cross busy streets[c]	0.906	–	0.751	+
We are worried about our child interacting with strangers[c]	0.011	–	0.104	–
There is heavy traffic around my child's school in the morning[c]	0.493	–	0.566	+
Our child has too many busy streets walking to school[c]	0.452	–	0.401	+
Most drivers go too fast when driving in my neighbourhood[c]	0.521	–	0.577	+
There are not enough crossing guards around the school to help children cross the street[c]	0.017	–	0.113	–
Travelling by car is safer than traveling on foot[c]	0.007	–	0.051	–
I think I live in a safe neighbourhood[c]	0.301	+	0.536	+
Neighbourhood perceptions and preferences				
There are major barriers to walking in my local neighbourhood that make it hard to get from place to place[c]	0.146	–	0.896	+
The distance between intersections in my neighbourhood is usually short[c]	0.415	–	0.542	–
There are lots of shops and restaurants I can walk to in my neighbourhood[c]	0.453	+	0.934	–
We prefer to drive whenever possible[c]	0.030	–	0.034	–
The trip to/from school is an important opportunity for physical activity[c]	0.398	+	0.816	–
Driving to/from school sets a bad example for children[c]	0.003	+	0.320	+
Driving to school is easier than walking[c]	0.001	–	0.568	–
Driving is the quickest way to get to school[c]	0.001	–	0.084	–
We have chosen to live in this neighbourhood because it is easy for our child(ren) to walk or cycle to school[c]	0.101	+	0.758	+

[a] High school or less as referent
[b] Always as referent
[c] Disagree as referent

2.2. Matching pairs

Like Lee et al. (2013), and in an effort to control for distance and the built environment, a matched pairs analysis was used. Each respondent was classified as a walker or vehicle passenger for the trip to school and any respondent living farther than 1.6 km from school was excluded. Previous research suggests that few students will walk more than 1.6 km (Larsen et al., 2013; Larsen et al., 2009; McMillan 2007; Timperio et al., 2004), furthermore although there can be a few exceptions, the Toronto District School Board typically provides school bus service when a child lives greater than 1.6 km from school. All home addresses were geocoded within Geographic Information Systems (GIS) to the exact home address given by the parent. The closest walker-vehicle passenger pairs were identified using GIS. Matched pairs needed to: 1) attend the same school; 2) live in the same apartment/condo complex or a very similar nearby location (i.e., within 200 m of each other); 3) one must walk while the other was driven. These matching criteria produced 118 pairs (n = 236 students). While it would be useful to also match cyclists, school bus and transit users, the number of respondents using these modes was too low (n = 58).

2.3. Statistical analysis

2.3.1. Independent variables

Independent variables included parental perceptions of safety and preferences related to school travel and transportation. Parental survey questions pertaining to perceptions and preferences were originally reported using a 5-point Likert scale. To increase the number of responses in each category, data were collapsed to a 3-point scale (agree/neither/disagree). Questions themselves are found in Table 1. Individual socio-demographic questions that, based on the literature, have conceptual value for this work included: gender (male and female); age (years), highest level of education in the household for either mother or father (high-school or less, college, university or greater); and the ratio of household vehicles per licenced drivers. While survey questions asked about household income, response rates were too low; highest level of education of either parent within the household was used as a proxy for income. The school travel literature has highlighted the importance of gender (Larsen et al., 2013; McDonald et al., 2010). How parents

Table 2
Descriptive statistics for the sample of grade 5 and 6 students.

	Walkers	Vehicle passengers	Full sample	SD
Child's gender				
Girls	62 (45.9%)	73 (54.1%)	135 (57.2%)	–
Boys	56 (55.4%)	45 (44.6%)	101 (42.8%)	–
Child's age (mean)	10.61 years	10.68 years	10.65 years	0.64
Vehicles per licenced drivers (mean)	0.82	0.94	0.87	0.34
Educational attainment (parents)				
High school or less	13 (11.0%)	17 (14.4%)	30 (12.7%)	–
College	23 (19.5%)	30 (25.4%)	53 (22.5%)	–
University or higher	75 (63.6%)	68 (57.6%)	143 (60.6%)	–

For categorical variables n (%), for continuous variables mean values reported

perceive safety may also be different for boys and girls (Valentine, 1997), and perceptions may also differ depending on the gender of the responding parent or caregiver (Valentine, 1997; Murray, 2009). While the sample was not large enough for modelling the interaction between safety and gender, a descriptive analysis is reported.

2.3.2. Dependent variable

Following Lee et al. (2013), a conditional binomial logistic regression modeling approach was applied to test the association between perceptions and preferences and travel mode. The conditional model controls for the matched pairs design by accounting for the number of pairs in each strata. A binary outcome variable was constructed for mode of travel from the parental survey data for those who typically walked (1) or drove (0) their children for the home to school trip.

2.3.3. Model specification

Prior to estimating the full model, univariate conditional logistic regression models were used to examine differences in continuous and categorical variable values for walkers and vehicle passengers respectively. Table 1 displays the results from the univariate models. Only variables that were significant with a p-value of < 0.05, approaching significance (0.05–0.1) or those that have theoretical importance based on the literature were included in the full model.

3. Results

Within the sample of matched pairs there were 101 boys and 135 girls; boys were more likely to walk (55%) than girls (46%) (Table 2). The ratio of vehicles per licenced drivers was similar, but vehicle passengers had slightly higher access to vehicles per driver (0.94 versus 0.82 for walkers). Since this study targeted grade 5 and 6 students, child age was nearly the same for both walkers (10.61 and vehicle passengers 10.68).

3.1. Modelled analysis

3.1.1. Individual and socio-demographic variables

Preliminary testing revealed that individual and socio-demographic variables such as age and parental educational attainment were not related to mode choice within the matched pairs. Due to their theoretical importance within the literature, these variables were entered into the modelled analysis, where results again show that age, vehicle availability and parental education were not significant factors. The only individual variable that was statistically significant was gender; boys were over 3 times more likely than girls to walk (OR:3.642) (Table 3). The adjusted R^2 value for the model was 0.32.

3.1.2. Safety perceptions

While perceptions regarding the presence of sidewalks, crossing guards, strangers and safety about travelling in a vehicle were important in the preliminary testing, they were not statistically significant in the conditional logistic model. Table 4 reports descriptive relationships between combinations of child and parent gender and safety concerns. Parental perceptions related to sidewalks, crossing guards and travelling in a car were very similar for both boys and girls. These variables also produced comparable results regardless of the parent's gender. Parents of girls were more likely to agree about stranger concerns (73%) than parents of boys (58%), and fathers (80%) were more likely to indicate concern about strangers than mothers (70%).

3.1.3. Preferences

Parental preferences were the strongest correlates of mode choice within the matched pairs. Children whose parents agreed that driving to school sets a bad example for children were about 5 times more likely to walk (OR:5.238). If parents reported driving as easier than walking, their child was significantly less likely to walk to school (OR:0.136). Finally, if parents perceived driving as the quickest way to get their children to school, children were again less likely to walk (OR:0.124).

Table 3
Conditional logistic regression for the matched pairs with walking vs driving as the dependent variable (n = 236).

	p-value	Exp(B)	95% CI	
Individual and socio-demographic			Lower	Upper
Child's gender (Male)	**0.024**	**3.642**	**1.19**	**11.147**
Child's age (Years)	0.189	0.621	0.305	1.264
Vehicles per licenced driver	0.19	0.295	0.048	1.827
Educational attainment (parents)				
College	0.299	0.444	0.096	2.058
University	0.558	1.532	0.367	6.392
Perceived safety				
There are not enough sidewalks				
Agree	0.236	0.346	0.06	2.001
Neither	0.345	0.399	0.059	2.689
We are worried about strangers				
Agree	0.826	0.854	0.209	3.483
Neither	0.311	0.387	0.062	2.426
There are not enough crossing guards				
Agree	0.06	0.302	0.087	1.051
Neither	0.088	0.243	0.048	1.232
Travelling by car is safer than by foot				
Agree	0.495	1.628	0.402	6.596
Neither	0.795	0.849	0.248	2.911
Preferences				
We prefer to drive whenever possible				
Agree	0.595	1.567	0.298	8.231
Neither	0.765	0.793	0.174	3.612
Driving to school set a bad example for children				
Agree	**0.019**	**5.238**	**1.317**	**20.824**
Neither	0.777	1.222	0.305	4.897
Driving to school is easier than walking				
Agree	**0.002**	**0.136**	**0.037**	**0.494**
Neither	0.21	2.216	0.639	7.685
Driving is the quickest way to get to school				
Agree	**0.015**	**0.124**	**0.023**	**0.666**
Neither	0.135	0.275	0.051	1.496

Female as referent.
High school or less as referent.
Disagree as the referent.
R^2: 0.32.

Table 4
Descriptive analysis related to gender and parental perceived safety concerns.

			Parent female		**Parent male**	
Parental perceptions	**Girls % (n)**	**Boys % (n)**	**Girls % (n)**	**Boys % (n)**	**Girls % (n)**	**Boys % (n)**
There are not enough sidewalks						
Agree	11% (14)	11% (11)	11% (11)	12% (8)	11% (3)	11% (3)
Neither	8% (11)	8% (8)	9% (9)	9% (6)	7% (2)	4% (1)
Disagree	81% (105)	81% (80)	80% (80)	80% (55)	82% (23)	86% (24)
We are worried about strangers						
Agree	73% (95)	58% (58)	70% (71)	57% (40)	81% (22)	57% (16)
Neither	10% (13)	15% (15)	11% (11)	16% (11)	7% (2)	14% (4)
Disagree	17% (22)	27% (27)	19% (19)	27% (19)	11% (3)	29% (8)
There are not enough crossing guards						
Agree	35% (46)	29% (29)	35% (35)	26% (18)	36% (10)	36% (10)
Neither	15% (19)	26% (26)	16% (16)	32% (22)	11% (3)	14% (4)
Disagree	50% (65)	44% (44)	49% (49)	42% (29)	54% (15)	50% (14)
Travelling by car is safer than by foot						
Agree	28% (37)	27% (26)	25% (25)	25% (17)	43% (12)	25% (7)
Neither	30% (39)	29% (28)	32% (32)	28% (19)	21% (6)	32% (9)
Disagree	42% (55)	45% (44)	44% (44)	47% (32)	36% (10)	43% (12)

4. Discussion

Using a matched pairs approach, this study aimed to identify what differentiates children who walk from those who are driven to school, while controlling for home to school distance and their neighborhood environment. The results suggest that parental preferences play a dominant role in this differentiation. In particular, perceptions of convenience were salient. Parental safety concerns and other socio-demographic variables were not associated with travel mode outcomes in the multivariate analyses.

While previous work on school travel has stated the importance of safety concerns (Larsen et al., 2013; Page et al., 2010), results from this matched pairs analysis did not identify any statistically significant relationship between safety and mode of travel. However, other work completed in Toronto using the full BEAT dataset, found a significant association between perceived fear of strangers, busy street crossings and objective measures of traffic and sidewalk presence, with walking to school (Larsen et al., 2013). Descriptive analysis in the current study indicated that parents perceived concerns about strangers differently depending on their child's gender, and the parent's gender. While environmental safety concerns seemed to differentiate little among parents of “boys” and/or “girls”, parents of girls reported greater concerns about stranger danger. Looking at the intersectionality between child and parent gender(s), fathers appeared to have greater concerns about strangers than mothers. This finding connects with a literature that attempts to unpack gendered, generational, and cultural practices of parenting that produce differential perceptions, among both children and adults, regarding the capabilities and risks posed to “girls” and “boys” (Valentine, 1997; Murray, 2009). Exploring the intersectionality between gender, childhood and parenting requires more attention in school travel research. In one recent study in Spain, parents were found to perceive different barriers to active travel, such as extra-curricular activities and lack of interest, being particularly important for mothers but not fathers (Aibar et al. 2018).

In regard to findings on safety and study design, previous work in Toronto did not use the matched pairs approach, and within the sample of matched pairs, there were a larger proportion of respondents living in higher income neighbourhoods. Parental fear of strangers and perceived risk of strangers may be lower in higher income neighbourhoods (Foster et al., 2015). Statistically insignificant findings about safety concerns within the matched pairs likely relates to the sample itself and we do not want to under emphasize the importance of safety on school travel decisions. In their study using a matched pairs approach in Austin, Texas, Lee et al. (2013) found no difference between walkers and vehicle passengers in parental concerns about strangers and pedestrian traffic collisions, but parents of vehicle passengers were more concerned about sidewalk and traffic conditions. In Toronto, sidewalk coverage is fairly complete in most neighbourhoods and parental concerns regarding sidewalks were very low for both the vehicle passengers and walkers. Both the work by Lee et al. and this study indicate that concerns about strangers were not statistically significant when using a matched pairs approach. Overall it was quite surprising that there were not significant differences in any of the perceived safety variables, but this highlights the importance of gender and parental preferences.

The importance of gender has been reported as a fairly consistent finding in the school travel literature, at least in the North American context (Larsen et al., 2012; Yarlagadda and Srinivasan, 2008; Fulton et al., 2005; Evenson et al., 2003). In this study, boys were over 3 times more likely to walk than girls. This was an important finding as distance and other environmental variables are controlled for within the matched pairs design, suggesting that gender was indeed an important factor in determining mode of travel to school. While the prevalence of AST in Canada is low, it is interesting to note that in Toronto, walking to and from school is actually quite common, with rates ranging between 48% and 55% for 11–13 year olds in 2006 (Buliung et al., 2009), yet a gender gap remains. Further studies should examine whether AST interventions can be tailored to effectively address the gendered nature of school travel and how perceptions regarding safety may vary at the intersection of gender, parenting and childhood.

Neither parental education nor vehicle ownership were statistically significant. This sample was also biased towards highly educated parents, thus there was little variability on that dimension. While not conclusive, previous literature on the topic has reported that household income, parental education or vehicle ownership commonly do play a role on rates of walking to school (Wen et al., 2008). However, only households located within 1.6 km of their school are included in this analysis, and it is within this distance that more walking is likely to occur. In this study, vehicle ownership per licenced driver was quite similar for those who drive (0.94) and walk (0.82) which may partly explain the non-significant result. Since the pairs also live within 200 m of each other, they are living in the same (or very similar) neighbourhoods, which also reduces variability in household incomes. Both vehicle ownership and educational attainment were significant factors in the work by Lee et al. (2013), but it is important to note that their study limited the sample to those living within 2 miles of school which is a greater distance.

The significance of parental perceptions of what is quickest and easiest reinforces earlier qualitative findings within the BEAT study (Faulkner et al., 2010). Previous qualitative work in Toronto indicated that after decisions related to escorting such as safety considerations, parents then decide the mode of travel based on what they consider easiest and quickest (Faulkner et al., 2010). Previous matched pairs work also reported that convenience was significant (Lee et al., 2013). The importance of convenience makes sense in relation to school travel decisions. Mornings in households with young children and working parents may be hectic. Getting children to school in the easiest and fastest way seems rational as many parents likely have to continue on to work or other activities. The question here is why do some parents see walking and others driving as quicker and easier, when they live in a similar environment? The rationale could be that if parents perceive walking or driving to be easier and quicker, it may reduce the stress associated with school trips, making mornings feel less chaotic. But why is walking not always perceived as easy even when distances are short? Perhaps these decisions do not relate to the built environment, but other household responsibilities or employment needs. If a parent drives to work after dropping off their children at school, then driving may be perceived as quicker and easier.

A critical question these findings raise is to what extent do active school travel interventions attempt to modify such parental perceptions? In the Canadian context, school travel planning is one common approach, which includes educational strategies, activities and events, capital improvement projects and enforcement initiatives. Strategies to address convenience are not explicitly

identified (Mammen et al., 2014). Similarly, the consideration of perceptions of convenience is absent in a recent systematic review of AST interventions (Pang et al., 2017). How we can make walking the most convenient (perceived or otherwise) option for more households deserves further exploration.

One very interesting finding relates to the parental perceptions of setting a bad example for their children. Children whose parents agreed that driving sets a bad example for children were over 5 times more likely to walk to school, suggesting that parental perceptions of driving are very important for some families. Driving in an automobile contributes to a sedentary lifestyle and air pollution (Patz et al., 2014). Perhaps some parents see some of the negative effects of automobile travel and see walking to school as one strategy to promote a healthier lifestyle and environment for their children. Overall, this is a very thought-provoking result which reinforces the need to look beyond the physical activity benefits of AST, and situate AST advocacy and initiatives within broader environmental discourse.

This study contributes to the school travel literature by controlling for the most important factor (distance) and also the objective environment, and by examining how parental perceptions relate to mode of travel to school. This was a significant methodological contribution as few studies have adopted the matched pairs approach. Findings shed some light on the role of parental perceptions, but this work does have some limitations. The cross sectional design is a limitation and no causal inferences can be made from the findings. Parental response rates on household income were too low to include and we had to instead use education as a proxy for income; though these variables are likely to be strongly correlated. Within the survey, there was limited variability in age, and respondents were not asked whether there were any reasons why someone could not walk to school. Finally, due to the limited pool of possible matches, we were unable to match pairs based on gender, household education or vehicle access.

5. Conclusion

Parental preferences and the child's gender were the most statistically significant factors that distinguished children who walked from children who were driven to school, whereas perceptions of safety, parental education and household vehicle ownership were not statistically significant. Children were more likely to walk if their parent(s) agreed that driving to school sets a bad example. Children were more likely to be driven if their parent(s) reported driving as easier and quicker than walking. Future practice and research should examine how parents develop their understandings about what constitutes a convenient transport choice, with a view to shaping those choices toward sustainable practices.

Acknowledgements

This research was supported by funding from the Heart and Stroke Foundation and the Canadian Institutes of Health Research (principal investigators, Faulkner and Buliung). Kristian Larsen received a Postdoctoral Fellowship, in part, through the Hospital for Sick Children Research Training Centre and the Canadian Respiratory Research Network (CRRN), supported by grants from the Canadian Institutes of Health Research (CIHR) - Institute of Circulatory and Respiratory Health; Canadian Lung Association (CLA)/ Canadian Thoracic Society (CTS); British Columbia Lung Association; and Industry Partners Boehringer-Ingelheim Canada Ltd, AstraZeneca Canada Inc., and Novartis Canada Ltd. Guy Faulkner is supported by a Canadian Institutes of Health Research-Public Health Agency of Canada (CIHR-PHAC) Chair in Applied Public Health.**Conflict of interest**

The authors report that they have no conflicts of interest.

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