FISEVIER

Contents lists available at ScienceDirect

# Travel Behaviour and Society

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



# Voices from the survey margins: Investigating unsolicited comments written in children's activity-travel diaries



Léa Ravensbergen<sup>a,\*</sup>, Aatiqa Javad<sup>a</sup>, Ron Buliung<sup>b</sup>, Guy Faulkner<sup>c</sup>

- a University of Toronto Mississauga, Geography and Programs in Environment, Room 3211 Davis Building, 3359 Mississauga Rd. N., Mississauga, ON L5L 1C6, Canada
- b University of Toronto Mississauga, Geography and Programs in Environment, Room 3264 Davis Building, 3359 Mississauga Rd. N., Mississauga, ON L5L 1C6, Canada
- <sup>c</sup> The University of British Columbia, Kinesiology, Lower Mall Research Station Room 337, 2259 Lower Mall, Vancouver, BC V6T 1Z3, Canada

#### ARTICLE INFO

#### Keywords: Informal comments Methods Survey research Activity-travel diary Data quality Affect

#### ABSTRACT

While digitally recording data from hardcopy activity-travel diaries, a team of transportation and health researchers noticed the presence of unsolicited comments on the survey documents. While an immense body of work has been amassed about survey design and analysis, transport scholars have not written about the presence of unsolicited feedback in activity-travel diaries. This paper reports on a thematic analysis of the unsolicited comments written within activity-travel diaries. Two key themes were identified: data quality and respondent affect. Comments about data quality pointed toward possible measurement error due to difficulties incorporating the study into everyday life, or due to human-error. Respondents also offered some additional context for reported data. Affective responses included apologizing for possible data errors and expressions of frustration with the survey. Most respondents who wrote unsolicited comments self-identified as female, of higher education, and employed full-time. The presence of unsolicited comments offered a unique window into the research experiences of the researched, questions and comments raised by participants point toward possibilities in terms of survey design and future research.

#### 1. Introduction

Travel behaviour research relies heavily on public participation in small and large-scale surveys to provide insight into everything from responses to changes in the pricing of transport to understanding complex decision processes underlying transport outcomes. In general, survey research methods can present a cost-efficient way to collect large amounts of data that can provide insight into social trends, processes, values, attitudes, and interpretations (Bryman et al., 2012; McGuick and O'Neill, 2010; Denscombe, 1998). Surveys also allow for a standardization of the questions asked and the answers given, making responses easy to compare across variables (Bryman et al., 2012; Denscombe, 1998). Moreover, online or mail-in surveys have the added benefit of removing the potential effects of interviewer bias (Bryman et al., 2012), though sample selection bias and problems with the geography of a sample (e.g., over or under sampling in particular locations) may persist.

Diaries are a common type of survey design where respondents are asked to record behaviours at regular intervals over a period of time. Often used to collect data on the full context for travel such as the

activity prompting travel, the scheduling of trips, and the sociability of journeys, diaries have been in use in transportation research for decades (Kenyon, 2006). Activity-travel diaries specifically, probing on the activities driving the demand for travel, truly came into vogue following the work of Jones (1979) about moving toward a human activity approach in travel behaviour research (Buliung and Kanaroglou, 2007). Since then, transport geographers, time geographers and more recently, health geographers, have been key exponents of activity-travel methods to produce knowledge and tools for travel behaviour and health research (Buliung and Kanaroglou, 2006; Buliung and Kanaroglou, 2007; Kwan, 2000; Miller 1991; Miller and Wu, 2000; Ravensbergen et al., 2016a; Wang, 2015; Wang et al., 2018; Widener et al., 2018).

Transport and health researchers interested in school travel behaviour at the University of Toronto launched a child-centred hardcopy (paper) activity-travel diary survey in 2010–2011. The diaries asked respondents to note all the activities their child partook in (activity type, location, duration), as well as how they travelled to each activity over a four-day period. The decision to use paper diaries was informed by a desire to ensure an inclusive study design that could reach underprivileged, disadvantaged, marginalized children and families in the

E-mail addresses: lea.ravensbergen@mail.utoronto.ca (L. Ravensbergen), aatiqa.javad@mail.utoronto.ca (A. Javad), ron.buliung@utoronto.ca (R. Buliung), guy.faulkner@ubc.ca (G. Faulkner).

<sup>\*</sup> Corresponding author.

study area. Consider, for example, that the City of Toronto is labelled, the "child poverty capital of Canada" with a poverty rate of 26.3% (Polanyi et al., 2017). While new technologies offer fascinating opportunities, we, as researchers in this study who hold a privileged position, were working in the knowledge that not everyone can access a smartphone and a costly data plan. Nevertheless, the debate about low or high tech survey methods is not the concern of this paper. The goals of the broader project called project BEAT (Built Environment and Active Transport) were to understand (1) the contribution of school travel to daily levels of physical activity, and (2) the social and environmental factors explaining school travel mode choice (www.beat. utoronto.ca). The activity-travel diary instrument was an essential research tool in relation to the second project goal. For example, the activity-travel diaries were used to examine the effects of parental perceptions of the neighbourhood environment on children's independent mobility (Mitra et al., 2014), socioeconomic discrepancies in children's accessibility to health-promoting environmental features (Ravensbergen et al., 2016a,b), and the relationship between physical activity patterns, neighbourhood type and socioeconomic status (Stone et al., 2012).

As the researchers were inputting the data from the activity-travel diaries, it came to their attention that many respondents had written unsolicited and quite fascinating comments within their diaries. Respondents were not asked to provide these annotations: they represent unanticipated, informal, and unsolicited participant data. The researchers began to wonder what these informal notes might tell them about their research design, and respondent reaction to project participation more broadly. This curiosity is the motivation underlying this paper, a paper centred on two research questions: (1) What types of information do these informal comments contain? and (2) What are the social characteristics of the people writing these comments? In answering these questions, our goal is to contribute knowledge about research experience in childhood focused activity-travel and physical activity studies: to discover what these comments are conveying, who is writing them, and how they might contribute to the our understandings of the research process.

# 2. Literature review

When thinking about survey design, the literature points to two broad categories of questions: closed and open questions (Bryman et al., 2012; McGuick and O'Neill, 2010). In closed questions respondents allocate themselves to pre-defined categories (e.g.: multiple choice, Likert scale, ranking answers), producing quantitative data. Open questions allow respondents to provide whichever answer they choose using their own words, producing qualitative data that researchers can analyze to identify themes (Bryman et al., 2012). O'Cathain and Thomas (2004) identify four types of open questions in surveys: extension (e.g.: adding "Other, please specify" at the end of a list of response options), substitution (e.g.: when an open question substitutes a closed question), expansion (e.g.: an open questions asking respondents to elaborate on an answer given in a closed question), and general (e.g.: the "is there anything else you would like to add" style question placed at the end of the survey). With open questions, respondents can leave remarks ranging from a couple of words to a few sentences. These questions provide space and time for respondents to report experiences or opinions in their own words; they can even allow participants space to critique the survey by questioning its structure or by describing an alternative interpretation (McGuick and O'Neill, 2010).

Unsolicited comments, like those found in the project BEAT activity-diaries, are a unique type of data. These comments are different from responses to open or closed questions as they were not written in response to a question put forth by the researcher. Instead, participants shared these comments without prompting. To the best of the authors' knowledge, no articles to date have examined informal comments left in activity-travel surveys. In fact, very little research on informal

comments in surveys seems to have been completed in any academic field. Only two examples could be located about the study of unsolicited participant data. Huppertz and Smith (2014) analyzed the handwritten comments on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, a survey distributed to American hospital patients to summarize their experience. While this survey left no space for people to write comments, almost 20% of the surveys contained handwritten respondent comments. The authors found that these unsolicited comments could be used alongside the quantitative data to help predict a hospital's overall rating. Specifically, they found that quantitative ratings underestimated the feelings of those who wrote negative comments. Patients who wrote negative comments gave significantly lower hospital ratings and "intention to recommend" scores than those who did not write any comments. In Finlay's (2000) study on feminism, sex and the media, the researcher noticed that many respondents who did not complete the questionnaire wrote letters explaining why they chose not to participate. Rather than simply considering these participants part of the nonresponse group and excluding their letters, Finlay (2010) assessed the content of the letters and found that they included interesting material relating to their research topic. For example, one person in the sampled population explained that they did not wish to participate in the study due to a previous experience where their work was misrepresented by the media. This standpoint would have been lost had it been categorized simply as a "nonresponse".

In both of these examples, the respondents' non-traditional, unsolicited comments contributed to the research process. We can envisage other types of contributions these informal data sources could provide as well. For example, survey annotations could potentially be used to provide insight into how respondents are engaging with the research process and instruments, leading to changes in future study design(s). Perhaps informal comments written within surveys can also provide preliminary perspectives on social processes or context to explain patterns identified in the overall survey data. We use qualitative methods in an exploratory study about people who participated in the BEAT project who were compelled, for whatever reason, to include informal notes and feedback. In doing so, this paper contributes knowledge about the experiences of the researched, particularly in regard to work focused on the childhood transport, activity participation and physical activity.

# 3. Methods

This study examined the informal comments written in activity-travel diaries that were part of the BEAT project, a large-scale, multi-disciplinary, and mixed methods study that examined the relationship between children's school travel, activity participation, and the built environment in the City of Toronto, Canada. Data collection took place in the spring of 2010 and fall of 2011 and included the completion of a parent survey, a child survey, an activity-travel diary, and the wearing of an accelerometer (a physical activity-monitoring device). Project BEAT received ethics approvals from the Toronto District School Board and the University of Toronto's Research Ethics Board. Due to ethical considerations outlined by these two boards, the publication of school and student names were anonymized in the reporting of this paper's results. This section focuses on the methods used to study unsolicited comments left by respondents, details regarding the BEAT study design can be found in other papers (Buliung et al., 2013).

The activity-travel diary used in the BEAT study contained two sections: a survey of household demographic characteristics and an activity-travel log. Children's parents or other caregivers were asked to document every activity in which their child participated over the course of four consecutive days in the activity-travel log (specifically, the type, travel mode to and from, duration, and location). The final activity-travel diary was developed in response to best practices at the time, and incorporated results from a pilot study. During the four-day

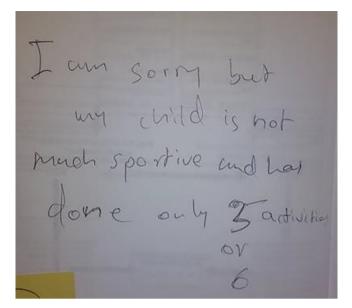


Fig. 1. Example of an Informal Comment Written in an Activity-Travel Diary.

sampling period, the children also wore an accelerometer.

A total of 1029 activity-travel diaries were inspected, seventy (6.8%) contained unsolicited annotations (Fig. 1). All comments that were not written in response to a formal activity-travel survey question, most of which were inscribed in the margins of the survey, were considered unsolicited comments and included in this analysis. These comments ranged in length from a few words to a paragraph. A total of 114 comments were written in these diaries. Some respondents wrote more than one comment.

Thematic analysis was used to address the first research question: what kind of information do these informal comments contain? Thematic analysis is a qualitative research method for reporting themes within a dataset, through a process of identifying, analysing and finalizing (Braun and Clark, 2006). The authors followed the 6-step guide provided by Braun and Clark (2006) to complete the analysis (Fig. 2). First, the authors became familiar with the data as they identified and transcribed all informal comments. Then, two of the study's authors independently and manually generated initial codes. Examples of initial codes included "scheduling", "mode choice", and "mistake". Inter-rater reliability was then assessed using a percent agreement score. There was 86% agreement between raters, differences were resolved through discussion and were allocated to themes (Step 3). These themes were then reviewed (Step 4) before final themes and sub-themes were defined from the codes (Step 5). Major themes included data quality and respondent affect. Sub-themes under data quality included: accelerometry measurement, human produced error, and data context. Affect sub-themes included making an apology and frustration.

To address the second research question, what are the social characteristics of the people writing these comments?, an exploratory

analysis of the social characteristics of the participants who left unsolicited comments was performed using graphical and visual analysis of the data to explore and empirically detect patterns. First, the social characteristics of those who wrote informal comments were assessed and then compared with those who completed the activity-travel diaries without leaving comments. Then, an analysis of those who wrote comments by type of comment was completed (i.e. data quality and respondent affect). The social characteristics of the participants were extracted from the BEAT activity-travel diaries. Caregiver gender (male, female), work status (employed full-time, employed part-time, student full time, student part time, at home with children, without paid employment, not applicable), and educational attainment (graduate school, undergraduate degree, college degree (i.e. a post-secondary technical, applied arts, or applied science institution granting certificates, diplomas, or associate's degrees), high school, elementary school) were self-reported in the survey section of the activity-travel diaries. A socioeconomic status indicator at the scale of the children's school, named the composite Learning Opportunities Index (LOI), was also used. This indicator is used by the Toronto District School Board to rank schools in terms of external challenges that could affect student success (Toronto District School Board, 2017). The LOI score is calculated using median income (measured at student's neighbourhood level), percentage of families receiving social assistance, percentage of low-income families, adults with a university degree, adults with a high school degree and single parent families (Toronto District School Board, 2017). The LOI score ranges between 0 and 1. Schools labelled by the school board as having more external challenges have LOI scores closer to 1.

#### 4. Results

From the 114 unsolicited comments, two broad themes were identified in the thematic analysis: Data Quality and Respondent Affect.

# 4.1. Data quality

The most predominant theme was data quality. Specifically, 96 of the 114 written annotations (84.2%) related to respondent's concerns about data quality. Most of these comments indicated potential measurement error in the data (n = 75). For example, respondents often indicated that activities could be missing from their activity-travel diaries. This type of error results in an inaccurate activity record, which can cause other issues such as under-reporting of physical activity, transport episodes, or sedentary activities. Specifically, respondents wrote comments to call attention to three types of potential data inaccuracies: errors related to the accelerometer (n = 38), mistakes due to human error (n = 36), or comments providing contextual information (n = 36). Some respondent comments pointed to multiple types of data inaccuracy.

Thirty-eight of the comments (33.3% of total) informed the researchers of potential inaccuracies in accelerometry data. Participants frequently warned the researcher that their child took the accelerometer off during a certain time period because it was incompatible

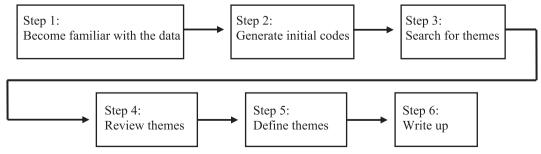


Fig. 2. Steps of the Thematic Analysis.

with their everyday lives. Some children had to take the accelerometer off due to the activity they were participating in. For example, one participant stated,

"[my child] had 3 dances on stage throughout the day. The belt was taken off for the actual performance and put right back on after being on stage".

Another participant clarified: "child took accelerometer off for swimming and hockey".

The accelerometers were not just removed to participate in organized physical activity. For example, one participant noted that they removed their accelerometer due to illness:

"[...] he had to undergo ear surgery on Thursday [date] and has been resting since and finds the accelerometer uncomfortable right now".

At other times, accelerometers were removed due to human-error, and not because of an activity incompatibility. For example, one respondent commented: "Please note child forgot to put on Accelerometer before leaving".

A further thirty-six of the comments (31.6% of total) explained a mistake the respondent thought they made in the survey. Some clarified that they failed to report activities correctly, "Sorry, I didn't complete in chronological order". Another respondent wrote:

"Sorry, I did a mistake actually the activity on Saturday ends on activity 3 so that mean going to china town playing wii, and playing computer is on Sunday".

Others outlined potential inconsistency in the data, or, as a matter of context, shed light on a range of family circumstances. For example, one participant noted:

"TIMES ARE NOT EXACT AS [my child] WAS WITH HER FATHER AND FRIENDS THIS WEEKEND AS IT HAPPENED!! Sorry" (emphasis original).

Beyond reporting errors, respondents also offered contextual information. Some comments were written to explain their children's travel mode choices. For example, one respondent stated:

"car is "available", except no one is going to drive him 3 blocks to school when no one is leaving the house with the car + it's good weather. We would drive him if it was raining excessively or I was leaving to go to work at same time since I drive past the school. This happens about once every 2 weeks".

Others left informal comments to help the researcher understand the data provided. For example, one participant pointed to, in a similar way to an earlier comment, a complex family situation, writing that:

"[my child's]'s dad filled in the survey, however [my child] was @ my house (we are seperated) and I filled out the activity info, so just in case you need my responses to the survey. I filled them in beside in blue pen".

Many noted that the four-day survey period did not represent regular activity scheduling (n=26 comments). For example, one participant noted the following to give the researcher a more complete picture of their child's weekly travel behaviours:

"By the way: Child walks home Wednesday, Thursday & Friday. But does not Mon + Tues".

Another noted how the diary included an anomaly by stating "First Day of Running Club" in the margin of the activity diary. Some caregivers specifically noted that their children are usually more active than what was presented in the activity-travel diary. For example, one participant explained that their child was sick during the study period and specified the following:

Please note was sick all day Tuesday. [...] She is generally a very active girl, involved in sports etc... we walk to most places in Toronto". These

comments suggest that the four-day period documented in the activity-travel diaries did not always represent participants' day-to-day lives.

Taken together, most of the informal comments written by participants (n = 96) were about data quality. Participants wrote these comments to note when data was incorrect, either due to the accelerometer or due to human error, or to provide context to the data written in the formal sections of the diaries. These respondents put in additional effort to accurately generate data for this study: this may demonstrate that some participants were quite committed to the study, and perhaps placed value on academic research more broadly.

# 4.2. Respondent affect

Many annotations written in the diaries indicated that respondents occasionally had emotional responses toward the measurement equipment, diary design, or the burden of participation in general (n = 29, or 25.4% of total). Here, respondents most frequently used an apologetic tone in the writing of comments or reported frustration with the diary design or study more broadly. Twenty-two of the 114 comments (19.3%) mentioned the word 'sorry'. Here, respondents most frequently apologized for data quality errors, such as making a mistake when filling in the diary or for measurement error caused by accelerometer use. For example, one participant stated: "Sorry, I skipped the pages!". Another reported a potential source of accelerometer measurement error by stating: "on Saturday I took it off at 4:20 pm and put it back on at 5:31 pm. Sorry I got mess up!". Thinking semantically, still others, such as the respondent discussed above who wrote, "TIMES ARE NOT EXACT AS [my child] WAS WITH HER FATHER AND FRIENDS THIS WEEKEND AS IT HAPPENED!! Sorry" (emphasis original), used all caps and punctuation and messaging to perhaps indicate frustration produced through the intersection of a complex family situation and the presence of the study tasks.

Some of these apologetic comments shed light on a potential weakness in the survey design. For example, one respondent noted "Im sorry I couldn't complete the hole thing. I didn't have enough time", indicating the large time commitment the survey incurred. Another noted: "Sorry these writing hurts my eyes", demonstrating that the researchers could have designed the layout of the survey to make it easier to complete through improved legibility (e.g.: larger font, more space between words). In four comments, parents/guardians apologized for their child's behaviour, and specifically their participation in activities. For example, one respondent noted: "I am sorry but my child has done only 6 activities on Tuesday.". Another comment stated: "I am sorry but my child is not much sportive and has done only 5 or 6 activities" (Fig. 1).

Furthermore, ten comments expressed frustration and hinted at the burden of participating in the study. For example, one respondent noted:

"I find it difficult to accurately write everything. Hopefully the info written is enough. Thank you".

Others openly expressed their frustration with the survey design. One respondent noted "This is a lot of boring work-You Owe Me Huge!". In a similar vein, another left the following comment in their activity-travel survey:

"F.Y.I. You have made it more complicated than it needs to be. It is not user friendly at all. It caused frustration between my son and I. I believe it could have been made better. We did our <u>best</u>" (emphasis original).

Finally, four comments directly thanked the research team for being included in the study. Of these four comments, two expressed both frustration with the research process and gratefulness for being involved. For example, a participant noted: "wow!! [my child] enjoyed this but the diary was a bit of work!! Thanks". Taken together, these comments highlight respondent's emotional response towards the research

 Table 1

 Social Characteristics of Informal Comment Respondents.

		Project BEAT Respondents		Informal Commen Respondents	
		(n)	(%)	(n)	(%)
Gender	Female	784	76.2	61	87.1
	Male	221	21.5	8	11.4
	NA	24	2.3	1	1.4
Employment status	Employed Full Time	559	54.3	43	61.4
	Employed Part Time	188	18.3	9	12.9
	Student Full Time	17	1.7	0	0
	Student Part Time	3	0.3	0	0
	At Home With Children	164	15.9	8	11.4
	Without Paid Employment	14	1.4	1	1.4
	No Data	84	8.2	9	12.9
Educational	Graduate School	162	15.7	18	25.7
attainment	Undergraduate Degree	352	34.2	22	31.4
	College Degree	252	24.5	17	24.3
	High School	169	16.4	8	11.4
	Elementary School	22	2.1	2	2.9
	No Data	72	7.0	3	4.3
LOI Score	0.00-0.20	445	43.2	49	70.0
	0.21-0.40	188	18.3	2	2.9
	0.41-0.60	88	8.6	10	14.3
	0.61-0.80	145	14.1	2	2.9
	0.81-1.00	163	15.8	7	10.0

process and provide insight into how participants engaged with the study.

# 4.3. Social characteristics

To answer the second research question, who are the people writing these comments?, we explored the social characteristics of those respondents who left comments considering gender, education, work status, and the child's school's socioeconomic status. The majority of participants self-identified as female (87.1%), were employed full time (61.4%), and highly educated (81.4% had at least a college degree, 57.1% had an undergraduate degree or higher) (Table 1). These data were similar to the overall BEAT project sample where participation was higher amongst female (76.2%), employed full-time (54.3%), and highly educated (49.9% had an undergraduate degree or higher) parents/guardians. Along with the above-mentioned individual-level social characteristics, the LOI scores of schools under study were also examined as an indicator of socio-economic status of the participants who left informal comments. The largest proportion of BEAT respondents attended schools with LOI scores between 0.00 and 0.20 indicating schools labelled as having a low presence of external challenges. Families from that group also produced the largest share of informal comments.

Female respondents were more likely to apologize or report frustration with the study (Table 2). Respondents who attended graduate school were more likely to write about data quality. Those with an undergraduate degree apologized less often than others while the opposite was true for those with a college degree. Finally, respondents with graduate education did not report frustration, while those with a high school degree only were more likely to be frustrated by the study.

# 5. Discussion

This study examined unsolicited comments written on hardcopy activity-travel diaries in a study of children's activities, school transportation, and health conducted in Toronto, Canada. These comments

are a unique type of data: they are different from responses to openquestions as they are unanticipated and unsolicited informal data from research participants that offer insights into the experiences of some participants during the research process. While it is likely that survey participants frequently write unsolicited comments in surveys, as was the case in previous work (Huppertz and Smith, 2014), very little research, and none in the field of transportation, has examined the content and value of these comments.

Many participants wrote about potential errors in the formal sections of their surveys. In some cases, these additional annotations offered details that allowed the researcher to correct the data while digitally transcribing it. At other times, participants wrote comments to provide context for the data written in the official sections of their activity-travel diaries. For example, many participants made the research team aware that the four-day period used in this study did not accurately represent their child's day-to-day lives. This was most frequently the case if their children were sick or had atypical activity scheduling during the research period. This type of insight is usually ascertained by combining surveys with other forms of qualitative research such as interviews or focus groups. For example, some of the unsolicited comments provided insights about how children's travel decisions are made at the household level, a process generally examined using qualitative methods such as semi-structured interviews (e.g.: Faulkner et al., 2010). While informal survey comments are not equivalent to the rich data ascertained through interviews or focus groups, perhaps they have the potential to provide initial insight into processes normally ascertained through qualitative methods that require additional resources.

Some of the comments pointed toward the difficulties in having children go about their daily lives while wearing an accelerometer, especially when participating in organized sport or when ill. In future work using accelerometry data, researchers can try to design around this issue, for example by using more comfortable accelerometers. Accelerometer design has also changed a little since the BEAT project, and can be wrist-worn, potentially reducing these types of concerns. Furthermore, some respondents reported frustration with the research project, and specifically identified issues with the study's design. Specifically, respondents reported that the study had a large time burden and that the activity-diaries themselves were difficult to read and complete due to their small size. Feedback about the legibility and tactile experiences of participants with the research tools is helpful information. While we did pilot test the survey tools, wider use of the diaries, resulting in this sort of participant response, could inform subsequent design work. Furthermore, those participants who reported this frustration still completed the study. Perhaps the incentive provided (a retail gift card) encouraged these participants to return a completed survey.

Many respondents noted that their children were usually more active while others apologised for their children's inactivity. This could be because respondents did not understand what counted as activity, or they felt embarrassed that their child might not come across as an active child. Nevertheless, it is problematic that some parents of children who were perhaps less active during the study period may have felt stigmatized by the research process. Moreover, comments of this sort may reveal the strong social pressures some caregivers face to perform "good parenting" by keeping their children active and healthy. These social pressures may even explain why those who reported frustration about the time burden of the activity diaries still completed the study. Perhaps they felt pressure to complete the study to come across as "good" parents involved and invested in their children's school-related projects. Future work could look into questions lying at the intersection of "good parenting" and research participation in studies focused on childhood transport and physical activity. Furthermore, previous work has studied the emotional responses to transport situations, usually by measuring well-being or mood while traveling using different modes (Bergstad et al., 2011; Morris and Guerra, 2015; De Vos et al., 2013).

**Table 2**Social Characteristics of Respondents by Type of Informal Comment.

	All Comments		Data Quality	Data Quality Comments		Sorry Comments		Frustration Comments	
	(%)	(n)	(%)	(n)	(%)	(n)	(%)	(n)	
Female	87.6	99	87.4	83	90.5	19	100.0	10	
Male	12.4	14	12.6	12	9.5	2	0.0	0	
Graduate School	24.6	28	28.4	27	22.7	5	0.0	0	
University	37.7	43	33.7	32	22.7	5	40.0	4	
College Degree	20.2	23	22.1	21	27.3	6	20.0	2	
High School	10.5	12	8.4	8	9.1	2	30.0	3	
Elementary School	1.8	2	3.2	3	0.0	0	0.0	0	
Not Applicable	5.3	6	4.2	4	18.2	4	10.0	1	

None of this existing research, however, has considered respondent affect while engaged with a research process. Looking into the possible affective, psychological or physiological responses during the research experience could be a potentially interesting new area of study in travel behaviour studies.

The exploratory study of social characteristics showed that the majority of commenting respondents were female, employed full-time, and of high educational standing. The social profile of this sub-set of respondents, however, is similar to the overall project BEAT sample. While high female participation rates are not unique to this study, they reflect other data on gender, labour and childhood that indicate how women remain more likely to be responsible for child-communication and transport activities (McGuckin and Murakami, 1999; Statistics Canada, 2011), and in this case, participating in their child's school's research project. Researchers should be aware of this inequitable, gendered division of labour among the "researched". Further, higher education, particularly graduate education, seemed to produce more comments about study design and data quality. Highly educated respondents may act as "expert" users within a research context of this sort perhaps because some will have been exposed to courses on research methods during their graduate training. Due to the privilege and experience of higher education, these respondents achieve an almost "insider" status in terms of their ability to engage with and provide feedback on the study design using a more formalized, codified knowledge about research design. As researchers we should be mindful of this uneven experience with participant educational background and how it may inform or affect the experience of the "researched" in our work, while also considering, reflexively, how we are reacting to and/or valorizing participant feedback.

The unsolicited information also contributed a more complete understanding about some of the contextual aspects of some of our participant's everyday lives. These aspects included complex family arrangements and relationships, scheduling, and circumstances like separation, and how these lived experiences impacted research participation and children's activities and transport. These data illustrated some tension between the messiness of everyday life and the sort of exercise in classification and categorization that is common within quantitative work of this sort. They also point toward a need in travel behaviour research to think more broadly about how we set out to define and study "family" and "households" within our work.

Given how infrequently these informal comments have been assessed, future work examining the potential contributions of these comments could be helpful to improving how we work with the public to learn about their transport needs and preferences. Rather than dismissing these comments, we suggest that researchers engage with them as they may provide insight, as the ones in this study did, into the study or the research process. Depending on the nature of the comments, scholars should seek to be rigorous in the application of appropriate qualitative methods (e.g. thematic analysis) to try to understand further what respondents are saying and how their experiences can be incorporated into the research process. Furthermore, the extent to which survey tools and research designs, e.g., either in hard-copy or using

digital media, can be developed and designed in a manner that facilitates this sort of informal participant engagement remains an interesting area for future research. For example, an alternative study design that includes both GPS tracking, accelerometry, and a paper diary, could give rise to the possibility of improved identification of the spatio-temporal context within which comments are made.

It has been argued that surveys are flawed because there are aspects of people's lives that cannot be pre-known and pre-defined and therefore cannot be captured in survey questions (Maynard, 1994). While it is true that surveys cannot capture the full range of human experience, the unsolicited comments in this study demonstrate that respondents can still exert their agency, and, however briefly, resist placement into the pre-determined categories the researcher is asking them to position themselves. Overall, this study of the unsolicited responses of some participants offered new insights into the questions posed by the broader project, pointed toward some novel directions for future research, and served to humanize our research participants. We have gained and contribute knowledge about the experiences of some people who agreed to participate in a relatively demanding childhood activity-travel and physical activity participation study.

# Acknowledgements

Original funding for the project BEAT was provided by the Canadian Institutes of Health Research and the Heart and Stroke Foundation of Canada. Léa Ravensbergen received the Joseph-Armand Bombardier Graduate Scholarship from the Social Sciences and Humanities Research Council of Canada (SSHRC).

#### References

Bergstad, C.J., Gamble, A., Garling, T., Hagman, O., Polk, M., Ettema, D., Olsson, L.E., 2011. Subjective wellbeing related to satisfaction with daily travel. Transportation 38 (1), 1–15.

Bryman, A., Bell, E., Teevan, J.J., 2012. Social Research Methods. Oxford University Press, Don Mills, Ontario.

Braun, V., Clark, V., 2006. Using thematic analysis is psychology. Qualitative Res. Psychol. 77–101.

Buliung, R.N., Larsen, K., Faulkner, G.E.J., Stone, M.R., 2013. The "Path" not taken: exploring structural differences in mapped- versus shortest-network-path school travel routes. Am. J. Public Health 103 (9) 1589e1596.

Buliung, R.N., Kanaroglou, P.S., 2006. A GIS toolkit for exploring geographies of household activity/travel behavior. J. Transp. Geogr. 14, 35–51.

Buliung, R.N., Kanaroglou, P.S., 2007. Activity-Travel behaviour research: conceptual issues, state of the art, and emerging perspectives on behavioural analysis and simulation modelling. Transport Rev. 27 (2), 1–15.

Denscombe, M., 1998. The Good Research Guide: For Small-Scale Social Research Projects. Open University Press, Berkshire, England.

De Vos, J., Schwanen, T., Van Acker, V., Witlox, F., 2013. Travel and subjective well-being: a focus on findings, methods, and future research needs. Transp. Rev. 33 (4), 421–442

Faulkner, G., Richichi, V., Buliung, R., Fusco, C., Moola, F., 2010. What's "quickest and easiest?": parental decision making about school trip mode. Int. J. Behav. Nutr. Phys. Activity 7, 62.

Finlay, S.J., 2010. Nonresponse? Well Not Really. Feminism Psychol. 10 (1), 141–146. Huppertz, J.W., Smith, R., 2014. The Value of Patient's Handwritten Comments on HCAHPS Surveys. J. Healthc. Manag. 59 (1), 31–47.

Jones, P.M., 1979. New approaches to understanding travel behavior: the human activity

- approach. In: Hensher, D.A., Stopher, P.R. (Eds.), Behavioral Travel Modelling. Redwood Burn, London, pp. 55-80.
- Kenyon, S., 2006. The 'accessibility diary': Discussing a new methodological approach to understand the impact of Internet use upon personal travel and activity participation. J. Transp. Geogr. 14 134 134.
- Kwan, M.-P., 2000. Interactive geovisualization of activity-travel patterns using threedimensional geographical information systems: a methodological exploration with a large data set. Transp. Res. C 8, 185-203.
- Maynard, M., 1994. Methods, Practice and Epistemology: The Debate About Feminism and Research. In: Maynard, M., Purvis, J. (Eds.), Researching Women's Lives from a Feminist Perspective. Taylor & Francis Inc., New-York, New York, pp. 10-26.
- Miller, H.J., 1991. Modelling accessibility using space-time prism concepts within geographical information systems. Int. J. Geogr. Information Syst. 5 (3), 287-301.
- Miller, H.J., Wu, Y.-H., 2000. GIS software for measuring space-time accessibility in transportation planning and analysis. GeoInformatica 4 (2), 141-159.
- McGuckin, N., Murakami, E., 1999. Examining Trip-Chaining Behavior: Comparison of Travel by Men and Women. Transp. Res. Rec. 1693, 79-85.
- Mitra, R., Faulkner, G., Buliung, R., 2014. Do parental perceptions of neighbourhood environment influence children's independent mobility? Urban Studies 51 (16),
- McGuick, P.M., O'Neill, P., 2010. Using Questionnaires in Qualitative Human Geography. In: Hay, I. (Ed.), Qualitative Research Methods in Human Geography. Oxford University Press, Don Mills, Ontario, pp. 191-216.
- Morris, E.A., Guerra, E., 2015. Mood and mode: does how we travel affect how we f eel? Transportation 41 (1), 25-43. https://doi.org/10.1007/s11116-014-9521-x.
- O'Cathain, A., Thomas, K.J., 2004. "Any other comments?" Open questions on ques tionnaires - a bane or a bonus to research? BMC Med. Res. Method. 4 (25), 1-7.
- Polanyi, M., Wilson, B., Mustachi, J., Ekra, M., Kerr, M. Unequal City: The Hidden Divide

- Among Toronto's Children and Youth. 2017 Toronto Child and Family Poverty Report Card, 2017. Retrieved Nov 2018 from: http://www.oacas.org/2017/11/toronto region-remains-the-child-poverty-capital-of-the-country/
- Ravensbergen, L., Buliung, R., Wilson, K., Faulkner, G., 2016a. Socioeconomic Inequalities in Children's Accessibility to Food Retailing: Examining the Roles of Mobility and Time. Soc. Sci. Med. 153, 81-89.
- Ravensbergen, L., Buliung, R., Wilson, K., Faulkner, G., 2016b. Socioeconomic Discrepancies in Children's Access to Physical Activity Facilities: An Activity Space Analysis. The Transportation Research Records: J. Transp. Res. Board. https://doi. org/10.3141/2598-02.
- Statistics Canada: Families, Living Arrangements and Unpaid Work. Women in Canada: A Gender-based Statistical Report, 2011, Catalogue No. 89-503-XPE.
- Stone, M., Faulkner, G., Mitra, R., Buliung, R., 2012. Physical activity patterns of children in Toronto: the relative role of neighbourhood type and socioeconomic status. Can. J. Public Health 103 (3), 170-174.
- Toronto District School Board. The 2017 Learning Opportunities Index Questions and Answers. http://www.tdsb.on.ca/Portals/research/docs/reports/LOI2017.pdf. Accessed February 2018.
- Wang, J., Kwan, M.-P., Chai, Y., 2018. An innovative context-based crystal-growth activity space method for environmental exposure assessment: a study using GIS and GPS trajectory data collected in Chicago. Int. J. Environ. Res. Public Health 15 (4),
- Wang, D., 2015. Place, context and activity-travel behavior: Introduction to the special section on geographies of activity-travel behavior. J. Transp. Geogr. 47, 84-89.
- Widener, M., Minaker, L., Reid, J., Patterson, Z., Ahmadi, T., Hammond, D., 2018. Activity space-based measures of the food environment and their relationships to food purchasing behaviours for young urban adults in Canada. Public Health Nutr. 21 (11), 2103-2116.