

Missing the Bus, Missing School:
Does Mode of Transportation Affect Educational Engagement Among High School Students in
the HRM?

by

Madelyn Keeping

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Arts with
Honours in Sociology

at

Dalhousie University

Halifax, Nova Scotia

April 2022

© Copyright by Madelyn Keeping, 2022

Abstract: *Whether it is time spent sitting in traffic on the way home from work, flying to visit distant family, or simply driving aimlessly with friends, our lives are greatly impacted by mobility. This study, guided by literature from the mobilities turn and the sociology of education, considers the impact of mobility on education. Employing a quantitative approach, this project seeks to determine whether students who use public transit display varying rates of educational engagement compared to their peers who do not rely on public transit. The results show that public transit use impacts a student's odds of reporting having missed school as well as feeling as if they waste time travelling. However, this is not paired with further implications for the educational experience. The use of public transit impacts students' experiences getting to school; despite this, students who use public transit display similar levels of educational engagement compared to their peers who do not use public transit.*

Acknowledgements: Dr. Radice and Dr. Foster, thank you both for your invaluable guidance and support throughout this project. Your passion for teaching and research is greatly appreciated. Dr. Amoyaw, thank you for your continued support, advice, and for making statistics a little less daunting. This project would not have been feasible as a quantitative study without your support, and I am incredibly grateful for your help. Thank you, Rachael, for gifting me the moment that inspired this project. Finally, a huge thank you to mom for your immeasurable love and support.

Table of Contents

Abstract	2
Acknowledgements	3
Introduction	5
Theoretical Framework	6
The Mobilities Turn	7
The Sociology of Education	9
The Intersection of Mobility and Education	11
Data and Methods	14
Data	14
Variables	15
Methods	16
Results	17
Descriptive Results	17
Bivariate Results	19
Multivariate Results	22
Discussion	24
Commuting as “Dead Time”	25
Varying Commutes	26
Conclusion	27
References	29
Appendices	
Appendix 1: Recruitment Materials	31
Appendix 2: Consent Form	32
Appendix 3: Final REB Form	34
Appendix 4: Questionnaire	38

1. Introduction

Many of our formative and impressionable years of adolescence are spent in school. These early years are known to significantly impact how we experience our adult lives. Generally, schools work to pass down commonly shared values, norms, and rules in society (Filloux, 1993). It is through education that individuals become social beings (Mannion, 2016). However, these early experiences are not universal, and a variety of factors can impact our early education and its role in our later lives. The factor of interest for this study is transportation. My interest in this topic arose from a conversation with my sister in September of 2021. In this conversation, I learned that her school had announced a later start time for the year. This was largely a result of students blaming their frequent lateness on crowded and delayed city buses. There was likely some merit to the students' excuses. Her school did not offer any school bus routes. Additionally, at that time, Halifax Transit was operating their buses at a reduced capacity due to Covid-19 restrictions. This meant that common bus routes among students filled up quickly at peak times. Even if students were at their bus stop in time, it was not guaranteed they would make it on their bus if it was full. I was left wondering whether this delayed start time would really make a difference, or if students would simply use the extra time to arrive at their bus stops later. Even more, this conversation left me wondering whether the impact of using public transportation extends itself further into the school experience beyond acting as an excuse for lateness during the Covid-19 pandemic.

I am not the first to consider the impact of mobility on education. Scholars have explored how a student's commute may impact school choice, absenteeism, and bullying (Scott & Marshall, 2018; Burdick-Will et al., 2019; Cozma et al., 2015). Furthermore, Symes (2007) has established that the use of public transit is a unique social experience for students. These studies

are vital to understanding the impact of public transit, and mobility more broadly, on education. However, they neglect to consider the impact of one's commute more broadly on performance in school. This project aims to contribute to this discussion by exploring the implications of the use of public transit with a wider understanding of educational engagement. Specifically, I ask the question "Do students who use public transit to get to school display varying rates of educational engagement compared to students who do not rely on public transportation in the Halifax Regional Municipality (HRM)?" Taking a quantitative approach, the odds of missing school, being late to school, completing homework on time, preferring online school, participating in extra-curriculars, feeling as if commuting is wasting time, and being content with one's grades are compared between students who use public transportation to get to school and those who do not. This project focuses on the HRM specifically as transit systems often vary significantly from region to region. Findings of this study suggest that the use of public transit does not have a direct impact on the educational experience but rather impacts the commuting experience which in turn has implications for education. Findings of this study are important to consider as Halifax Transit continues to adapt, expand, and ameliorate transit routes and coverage.

2. Theoretical Framework

Mobility is a central pillar of society. For many of us, a significant amount of time is spent moving or commuting. It becomes a natural and everyday part of our lives that is not given much thought. While many of us do not give these areas much thought day to day, they are constantly working behind the scenes of our social lives and serve as the foundation theoretical framework for this thesis. Similarly, most of us spend a significant portion of our early lives in school and become familiar with the everyday routines involved with this. This process is equally important to our social lives as mobility. As such, this project is rooted in the study of

mobility and the sociology of education. It is essential to understand the role of movement and commuting in our social lives in an increasingly mobile world. Additionally, it is crucial to understand the implications of education on our social lives. Considering the convergence of the two offers an opportunity to understand how transportation may impact education.

The Mobilities Turn

Historically, the term “mobility” in sociology has referred to the social movement of individuals or distinct groups within a class hierarchy (Sheller, 2014). In a contemporary context, the study of “mobility” has expanded to refer to a field of study that is concerned with the movement (and lack of movement) of people, information, and goods across physical and virtual spaces as well as the physical infrastructure that enables movement (Vannini, 2010; Sheller, 2014; Sheller & Urry, 2016). This relatively new emphasis on the ways in which people and things move and what this means for social relations has been coined “the mobilities turn” or “new mobility paradigm”. Specifically, the mobility turn in sociology considers the intersection of research on transportation and social patterns (Sheller & Urry, 2016).

We may begin to understand the influence of mobility on social lives when we consider travel time. Time spent travelling is not simply “dead time” spent getting from one place to another (Vannini, 2010). Instead, it is a space for social interactions, development, and connections. The new mobilities paradigm centers around the idea that “activities occur while on the move” (Sheller & Urry, 2006, p. 213). In addition to the act of traveling itself, infrastructure and spaces created for and around movement allow for new and distinct forms of social life (Sheller & Urry, 2006). For example, the social relations and interactions that occur at hotels, airports, roadside parks, and resorts are often unique to the place in which they take place

(Sheller & Urry, 2014). Evidently, the act of being on the move provides a unique space to study social interactions and activities.

While the paradigm incorporates many fields and areas of interest, the specific concerns for the purpose of this project are the social relations and implications that arise with mobility through public transportation. Within mobility discourse, there is often an emphasis on large-scale and cross border travel (Binnie, Edensor, Holloway, Milington & Young, 2007). However, Binnie et al. (2007) in turn place the emphasis onto the “mundane” mobility of everyday commutes in familiar physical spaces. They argue that everyday and routine movement by car, bus, bicycle and train are more central to the human experience of mobility than less frequent cross-border travel (Binnie et al., 2007). These every day and seemingly “boring” travels are essential to our understanding of the social workings that occur during mobility. Vannini (2010) highlights that public transportation on buses or trains provides a unique opportunity for passengers to “establish meaningful rapports” (p. 114). Furthermore, children who travel on public transportation are given the opportunity to be socialized to an adult world as well as given the opportunity “for the formation of routines and habits, the maintenance of in-group bonds, and the performance of identity, emotions, and gender” (Vannini, 2010, p. 114). The role of everyday commutes and travel is highly relevant for the purpose of this project. While many researchers have studied the patterns and realities of everyday commutes, I aim to contribute to the discussion by examining the experiences of young people in their everyday commutes accessing education.

When considering mobility and how it impacts access to institutions such as schools, it is important to understand that mobility is not an equally accessible phenomenon. For example, unequal rates of mobility are often characterized across lines of gender, race, class, age, and

place of residence (Vannini, 2010). Physical movement between places and virtual mobility can be considered a source of “status and power” (Sheller & Urry, 2006, p. 213). Like many social patterns, “mobility is a resource to which not everyone has an equal relationship” (Sheller & Urry, 2006, p. 211). These differing experiences with mobility are important to consider when studying varying ways in which individuals access aspects of social life, such as schools. For the purpose of this project, I seek to determine whether a specific method of transit presents inequalities, specifically related to accessing education.

The Sociology of Education

Like the study of mobility, extensive work has been done to identify the role of education in social life. Schools serve as a tool to teach young members of society their rights and responsibilities as citizens while also encouraging and enforcing a variety of socially held values (Dill, 2009). Schools are important in informal processes of socialization (Lahelma, 2002). A number of key thinkers have been used to reinforce these ideas. Of most relevance for the purpose of this study are the works of Durkheim and Bourdieu.

Durkheim considers education to be “the means by which society prepares, in its children, the essential conditions of its own existence” (Durkehim, 1972, p. 203-204). Central to this framework is Durkheim’s idea of a collective consciousness (Filloux, 1993). Groups of individuals who share complementary values and norms (partially transmitted by schools) make up societies (Filloux, 1993). Filloux (1993) highlights the emphasis Durkheim placed on a certain homogeneity among members of society and the role that education has in ensuring this homogeneity. Schools work to pass down values, standards, and knowledge (Mannion, 2016). For Durkheim, our ways of being and knowing in adulthood are cemented in childhood education (Mannion, 2016). In other words, “the education system is the main agent of

socialization” (Mannion, 2016, p. 700). Evidently, Durkheim’s work is essential in determining the importance of widespread and equitable access to education. If schools act in a way that promotes socialization and ensures that young people learn shared values, it is important that all individuals have equal access to and opportunities for education. Specifically, “providing equal access to education increases social cohesion” (Palm & Farber, 2020, p. 219).

Among Pierre Bourdieu’s ideas, the most applicable to the sociological study of education are his concepts of cultural capital and social reproduction theory. Specifically, Bourdieu writes about the role of schools in perpetuating and reproducing social inequalities (Mills, 2008). For Bourdieu, it is the group that dominates political and economic spheres that create the ideas of culture that schools often place an importance on (Mills, 2008). Therefore, differences in performance are frequently miscategorized as ‘individual giftedness’ rather than being from class-based differences or inequalities (Mills, 2008). This ignores the fact that abilities or performances that are praised in educational settings may not stem from natural ‘gifts’ but form cultural capital passed down in certain groups (Mills, 2008). For Bourdieu, it is cultural capital that perpetuates inequalities in performance in schools rather than sheer intelligence or ability.

It is also important to consider the impact of extracurricular activities among youth. The ability to participate in extra-curriculars, both in school and within the community, is often dependent on cost, location, and accessibility. As such, disadvantaged youth may be left underserved in access to extra-curricular activities (Reverdito et al., 2017). Participation in extra-curriculars is associated with positive outcomes and development (Reverdito et al., 2017). Therefore, extra-curricular activities also work to reproduce social inequalities as those who can afford to participate continue to reap the benefits of doing so. Following Bourdieu’s argument,

mobility (or a lack of mobility) may be a factor that impacts a student's performance in school and participation in extra-curricular activities rather than ability, talent, or drive. This is where the intersection between mobility and education occurs. It is important that all students experience equal access to education, extracurriculars, and their benefits.

The Intersection of Mobility and Education

At the crossroads of mobility and education lies the experiences of young people as they access and participate in education. As highlighted by Symes (2007), “the journey to school is one of those occasions when the gaze of teachers and parents are absent, and children enjoy a measure of autonomy” (p. 444). While this may be considered as a positive by some students, other students may suffer as a consequence. Cozma et al. (2015) found that a large proportion of students worry about being victimized by bullying on their commute to school, whether they participate in active transportation (walking or cycling) or use public transportation. Sampasa-Kanyinga et al. (2016) found that students who commuted by school bus were more likely to report being victimized by bullying. Evidently, the commute to and from school is a unique space for students as it is separate from parents or teachers. This creates the opportunity for the social patterns or interactions that may occur during commuting to be different from those that occur at home or at school.

While movement to and from school is relatively autonomous for many older students, it is important to note that the experiences of students as they get to school are far from universal. For example, using quantitative data, Scott and Marshall (2018) found that in Philadelphia, it takes students who use public transportation on average, between 21.75 and 23 minutes more than students who drive. Burdick-Will et al. (2019) point out that the commute to school is often longer (and sometimes more dangerous) for certain groups of students. Burdick-Will et al (2019)

found that exposure to violence on the way to school (especially while walking but also while waiting for the bus) leads to a higher likelihood of reduced attendance. However, the difference in experiences of mobility does not necessarily mean a negative experience. Unlike students who drive or are driven, students who use public transportation participate in “wayfinding” (Symes, 2007). This is the practical skill of “finding an efficient itinerary between home and school, one allowing enough time to reach school on time, with a minimum delay” (Symes, 2007, p. 450). For students using public transportation, there are various steps involved including walking, waiting, and active movement (Symes, 2007). When we consider the different experiences students may face while on their way to the same location, it is easy to see how social research ties into mobility. While the research above has found a significant tangible difference between students who utilize public transportation and those who do not, there is less research that focuses on the educational outcomes associated with these differences. I hope to contribute to this gap by identifying whether inequalities in engagement arise out of these differences in commutes.

The experience of commuting to school may be different for distinct groups of students; however, a few general patterns do exist. Scott and Marshall (2018) found that the distance of a school from home is just as important to students and families as the quality of the school when it comes to selecting a school in Philadelphia. This is notable because Philadelphia is a city in which students may attend whichever school they choose rather than simply attending the school in their neighborhood (Scott and Marshall, 2018). Clearly, students consider mobility and the length of their commute as much as they consider the quality of school or education. Similarly, Stein, Burdick-Will, and Grigg (2020) found that students in Baltimore City who have a commute time to school of roughly an hour are three times more likely to transfer high schools.

This is important as school transfers are often associated with lower academic performance (Stein et al., 2020; Alexander et al., 1996). Again, there is a clear emphasis on reduced travel time over the quality of a school.

While mobility and access to schools is in itself relevant, this project is more specifically concerned with the relationships between public transportation and access to schools. Notably, Symes (2007), found that the mobilities of students using public transit typically appear to be more complex than their non-student transit peers. This ethnography by Symes (2007) found the behaviour of school students utilizing public transportation to be significantly different from adults on the same train or bus as them. Non-students who utilized public transportation often engaged in very individualized and self-contained activities, such as reading, listening to music through headphones, or using mobile phones or laptops (Symes, 2007). Students, however, often travelled in groups and actively participated in socialization (Symes, 2007). The train station became a place of chatting, roughhousing, or other forms of socialization (Symes, 2007). On the train, students sat in groups and frequently moved seats in stark contrast to non-student commuters who picked a seat and stayed in it for the duration of the ride (Symes, 2007). Evidently, the experiences of young people who take public transportation on their way to and from school is a unique social experience. There is a lack of research on how this distinct experience plays out in terms of academic performance or participation in extra-curricular activities. This is the gap I hope to help fill by examining the relationship between this unique social experience on public transportation and access to education and school related extracurriculars.

While expansive literature exists on both the mobility turn and the sociology of education, there is significantly less literature on the convergence of the two. Researchers

generally agree that inequalities exist in both mobility and education. I hope to contribute to these fields by determining whether inequalities exist within the unique and distinct experience of an adolescents' commutes to school and their related experience with education.

3. Data and Methods

Participants

The target population for this study was students aged 16 years of age or older attending high school in the HRM. I was interested in the experiences of those aged 16 years or older specifically as this is when some teenagers begin to drive and when most are awarded increased responsibility and autonomy. Due to time constraints and the scope of this project, I chose to focus on two specific high schools in the HRM. Both are centrally located and were chosen for their proximity to public transit routes and terminals.

Data for this study came from a self-administered survey distributed among students at the two high schools of focus. I chose a survey because it allowed for collected responses to be entirely anonymous. This created a guarantee that students would not face any consequences based on the responses they shared. To reach students, I approached teachers at both schools through email. I asked them to share a short description of my project and a link to the survey with their students on their Google Classroom pages. From there, students who wished to participate were able to. I chose to distribute the survey through teachers as it allowed for a broader, more diverse sample to be reached. This ensured that students in varying classes and of different ages could be reached. The survey was 43 questions long and asked students about their commutes to school and feelings towards school.

Variables

The main independent variable for this study is transit status. This was derived from two questions. The first question asked students “What is your primary method of travel from home to school in the morning?”. This question had the following response options: “Walk”, “Drive (As the Driver)”, “Drive (As a Passenger)”, “Public Transit (Bus and/or Ferry)”, “Cycle”, and “Other”. The second question asked students “What is your primary method of travel from school to home in the afternoon?”. This question had the following response options: “Walk”, “Drive (As the Driver)”, “Drive (As a Passenger)”, “Public Transit (Bus and/or Ferry)”, “Cycle”, and “Other”. Students who did not use public transit during their commutes were recoded as “0=Does Not Use Public Transit”. Students who indicated they used public transportation during either their morning or afternoon commutes were recoded as “1=Uses Public Transit”. This grouping was done to examine the impact of public transit specifically rather than other methods of transportation.

This study has a number of outcome variables. First, students were asked whether they participate in extracurricular activities and coded as either “0=Does not Participate in Extracurriculars” or “1=Does Participate in Extracurriculars”. Students were asked whether they have missed school in the past due to being unable to get there and were coded either as “0=Has not Missed School” or “1=Has Missed School”. Another question asked students whether they felt they wasted time travelling to and from school. Students were coded as either “0=Does not Feel They Waste Time Travelling” or “1=Does Feel They Waste Time Travelling”. When asked whether they were happy with their grades, students were coded as either “0=Is Happy with Grades” or “1=Not Happy with Grades”. Students were asked whether they preferred online school because it meant that they did not have to travel back and forth to school. Students who did not agree were coded as “0=Does not Prefer Online School”. Students who agreed were

coded as “1=Does Prefer Online School”. Students who indicated that they “sometimes” or “never” complete schoolwork on time were coded as “0=Does not Complete Schoolwork on Time”. Students who indicated they complete schoolwork either “always” or “usually” on time were coded as “1=Does Complete School Work on Time”. When asked whether they enjoy their commute to school, students who agreed were coded as “0=Enjoys Commute” and students who disagreed were coded as “1=Dislikes Commute”. Finally, students who indicated they were never late to their first class of the day were coded as “0=Never Late”. Students who indicated they were late at least once a month were coded as “1=Late”.

In addition to the categorial outcome variables, students were asked to rate their enjoyment of school on a scale of 1 to 10. Students were also asked to indicate the length of their commutes to and from school as well as from school to home. Responses for both questions were coded as “0=Less than 10 minutes”, “1=10-25 minutes”, “2=26-45 minutes”, “3=46-60 minutes”, and “4=60 minutes or greater”. This was done to allow comparison of commute times between transit users and non-transit users. Students were asked about their age, gender, languages spoken at home, the presence of a permanent disability, and which school they attended to allow for the inclusion of control variables.

Methods

Categorical outcome variables were regrouped to allow for binary logistic regression. This provided a comparison of odds for each categorical outcome variable between those who use public transit and those who do not. T-tests were used to compare the difference in mean self-rated enjoyment and length of morning and afternoon commute between the transit users and non-transit users. Quantitative research, rather than qualitative, is used when we are interested in the “typical” situation and want to “identify the factors that influence a certain type of behaviour

or result” (Wilkinson et al., 2019, p.63). Before I could question why students who use transit might exhibit higher or lower engagement, I first had to establish a relationship. For this reason, I chose a quantitative approach. It is important to note that there are limitations associated with these methods. For example, conducting a survey did not allow me to explore why a respondent answered the way they did. While steps were taken to mitigate any potential ethical concerns associated with this project, it does involve participants under the age of 18. However, this project was reviewed and approved by the schoolboard. This survey was also entirely anonymous. Finally, participation in this study posed no further risk to participants than discussing their commutes in everyday discussions would.

4. Results

Descriptive Statistics

Table 1 shows the general distribution of the main independent variable, the outcome variable, and control variables. Of the 159 respondents, 57 (representing 36%) reported primarily using public transportation to get to school at least one way. A slim majority of respondents (52%) identify as female. Those aged 16 years old represented nearly two-thirds (63%) of all respondents. Just over half (57%) of respondents attend high school in Halifax while the remaining 43.40% attend high school in Dartmouth. A small portion of students (8.81%) report having a permanent disability. When asked about languages spoken at home, 25.16% of students reported primarily speaking a language other than English.

Over half (54.09%) of the students participate in extra-curriculars, either through their school or their community. About a third of students (33%) reported having missed school before due to being unable to get there. A majority of students (57.23%) do not feel that they

waste time traveling to and from school. A large portion (69.81) report being happy with the grades that they receive at school. When asked if they preferred online school because it means they do not have to travel back and forth to school, respondents were very closely split. The largest proportion of students (49.06%) preferred when school was online while 44.03% of students do not prefer online school and 6.92% did not say. Most students (83.02%) submit their schoolwork either always, or usually on time. Over half of respondents (61.33%) are late to school at least once a month. A majority of students (63.51%) enjoy their commute to school. On average, students spend longer on their afternoon commutes than their morning commutes. Finally, when asked to rate their enjoyment of school on a scale of one to ten, the mean is 5.92 for all respondents with a standard deviation of 2.01.

Table 1: Sample Distribution

Sample Distribution (N= 159)	
Variables	N (%)
Main Predictor Variable	
Method of Travel	
Uses Public Transit	57 (35.85%)
Does Not Use Public Transit	102 (64.15%)
Control Variables	
Gender	
Male	64(40.25%)
Female	82(51.57%)
Non-binary	6(3.77%)
Other or prefer not to say	7(4.40%)
Age	
16 Years Old	100(62.89%)
17 Years Old	43(27.04)
18 Years Old	15(9.43%)
19 Years or Older	1(0.63%)
School	
Halifax	90(56.60%)
Dartmouth	69(43.40%)
Permanent Disability	
No	145(91.19%)
Yes	14(8.81%)
Language Spoken at Home	

English	119(74.84%)
Language other than English	40(25.16%)
Outcome Variables	
Participation in Extra Curriculars	
Participates in EC	86(54.09%)
Does not Participate in EC	73(45.91%)
Has Missed School (Unable to Get There)	
Has Not Missed School	103(64.78%)
Has Missed School	52(32.70%)
Unspecified	4(2.52%)
Time Spent Traveling to and From School	
Feels They Waste Time	63(39.62%)
Does not Feel they Waste Time	91(57.23%)
Unspecified	5(3.14%)
Grades	
Happy with Grades	111(69.81%)
Not Happy with Grades	38(23.90%)
Unspecified	10(6.29%)
Online School	
Prefers Online School Because of Commute	78(49.06%)
Does not prefer Online School Because of Commute	70(44.03%)
Unspecified	11(6.92%)
Completes School Work on Time	
Always or Usually	132(83.02%)
Rarely or Never	23(14.47%)
Unspecified	4(2.52%)
Late to School	
Never Late	57 (35.85%)
Late One or More Times a Month	98 (61.33%)
Unspecified	4 (2.52%)
Enjoys Commute	
Yes	94(63.51%)
No	54(36.49%)
Length of Commute (Morning)	
Mean (Standard Deviation, Range)	0.92 (0.66, 0-4)
Length of Commute (Afternoon)	
Mean (Standard Deviation, Range)	1.23 (0.82, 0-4)
School Enjoyment	
Mean (Standard Deviation, Range)	5.92 (2.01, 1-10)

Bivariate Results

The bivariate results between transit status and outcome variables measuring educational engagement are presented in Tables 2-4 and Model 1 in Tables 5-12. There is a statistically

significant relationship between the use of public transit and the likelihood of missing school. The odds of having missed school due to being unable to get there are 3.93 times higher for those who use public transit compared to those who do not. A significant relationship also exists between the use of public transit and feeling as if one is wasting time while commuting. When asked whether they feel like they waste time traveling to and from school, the odds of answering in the affirmative are 2.63 higher for those who use public transit. There is no statistically significant relationship between the use of public transit and the likelihood of participating in extra-curricular activities, being discontent with one's grades, preferring online school, completing schoolwork on time, disliking one's commute, and being late to school.

Notably, the odds of participating in extra-curriculars are 47% (p value =0.56) lower for those who use public transit compared to those who do not. This is not statistically significant but is relatively close to being so. This may require further investigation beyond the scope of this study. Tables 2 and 3 show that students who use public transit have longer commutes both in the mornings and afternoons compared to those who do not use public transit. Specifically, the mean length of commute falls in the "less than 10 minutes" category for non-transit users but in the "10-25 minutes" category for transit users in both the morning and afternoon. The difference is statistically significant. Table 4 shows that there is no statistically significant difference in the level of school enjoyment between those who use public transportation and those who do not use public transportation.

Table 2: T-test Measuring Mean Length of Commute Between Those Who Use Public Transit and Those Who Do Not (Morning)

	Mean	Standard Deviation	Confidence Interval
Does Not Use Public Transit	0.76	0.05	0.65-0.86
Uses Public Transit	1.38	0.10	1.18-1.58

T= -6.0308 Pr (T > t) = 0

Table 3: T-test Measuring Mean Length of Commute Between Those Who Use Public Transit and Those Who Do Not (Afternoon)

	Mean	Standard Deviation	Confidence Interval
Does Not Use Public Transit	1.01	0.72	0.87-1.15
Uses Public Transit	1.65	0.10	1.45-1.344
T= -5.0633 Pr (T > t) = 0			

Table 4: Measuring Mean School Enjoyment Between Those Who Use Public Transit and Those Who Do Not

	Mean	Standard Deviation	Confidence Interval
Does Not Use Public Transit	6.10	1.97	5.70-6.49
Uses Public Transit	5.58	2.04	5.03-6.13
T= 1.5457 Pr (T > t) = 0.1243			

Multivariate Results

Module 2 of Tables 5-12 show the results of multivariate logistic regression when controlling for age, gender, school attended, presence of permanent disability, and whether English is the primary language spoken at home. Control variables found to be statistically significant are also found in these tables. After controlling for these variables, the relationships between transit status and missing school as well as feelings of wasting time are still statistically significant. While transit status is not relevant to the odds of preferring online school, gender is. Specifically, the odds of preferring online school due to not having to commute back and forth are 2.33 times greater for women compared to men. Similarly, transit status is not relevant to the odds of a student disliking their commute; however, gender is. Specifically, the odds of disliking one's commute is 2.68 times greater for women compared to men.

Table 5: Multivariate Logistic Regression Predicting the Likelihood of Preferring Online School Due to Commute

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit) Uses Public Transit	1.20	0.598	0.61-2.35	0.83	0.636	0.39-1.77
Gender (Ref: Man) Woman Non-Binary				2.33 4.23	0.027 0.231	1.10-4.95 0.40-44.78

When controlling for age, gender, school attending, permanent disability, and language spoken at home, the odds of having missed school increases to 5.28 times greater for those who use public transit. The increased odds suggest that the control variables act as suppressor variables. In addition to transit status, there is also a significant relationship between the likelihood of having missed school and age as well as the presence of a permanent disability. Specifically, the odds of having missed school are also 3.05 times greater for students aged 17 compared to students aged 16. The odds of having missed school are 5.97 times higher for those who reported having a permanent disability compared to those who did not. Overall, transit status, age, and the presence of a permanent disability have an impact on the odds of students' reporting that they had missed school due to being unable to get there.

Table 6: Multivariate Logistic Regression Predicting the Likelihood of Having Missed School

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit) Uses Public Transit	3.93	0.00	1.94-7.99	5.28	0.00	2.93-12.09
Age (Ref: 16) 17 18				3.05 1.57	0.014 0.528	1.26-7.40 0.39-6.37
Disability (Ref: No) Yes				5.97	0.032	1.16-30.60

Table 7: Multivariate Logistic Regression Predicting the Likelihood of Feeling as if One is Wasting Time Commuting

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	2.88	0.002	1.46-5.68	2.57	0.011	1.25-5.31
Gender (Ref: Man)						
Woman				2.97	0.006	1.38-6.41
Non-Binary				0.63	0.711	0.05-7.25

When controlling for these variables, transit status is still significant to a student's odds of reporting that they feel as if they are wasting time. However, the odds decrease when controlling for these factors and this suggests that age, gender, school attended, presence of a permanent disability, and language spoken partially account for the initial higher odds. After considering control variables, the odds of reporting as if one is wasting time travelling to and from school are 2.57 times greater for those who use transit compared to those who do not. There is also a significant relationship between gender and feeling as if time is being wasted. The odds of reporting that they feel as if they are wasting time commuting are 2.97 greater for those who identify as women compared to those who identify as men. Notably, the odds of disliking one's commute are also 1.45 greater for those who identify as a woman compared to those who identify as a man. Overall, controlling for a number of demographic variables strengthens the relationship between public transit use and the likelihood of missing school while weakening the relationship between public transit use and feeling as if time is being wasted commuting. The odds ratios of the control variables are omitted in Tables 4 and 8 as there is no statistically significant relationship between any of the control variables and the likelihood of completing schoolwork on time or the likelihood of reporting being one or more times a month.

Table 8: Multivariate Logistic Regression Predicting the Likelihood of Completing Schoolwork on Time

Variables	Model 1	Model 2
-----------	---------	---------

	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	0.55	0.184	0.22-1.33	0.41	0.073	0.15-1.09

Table 9: Multivariate Logistic Regression Predicting the Likelihood of Being Unhappy with Grades Received in School

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	1.88	0.101	0.88-3.97	1.77	0.161	0.80-3.95

Table 10: Multivariate Logistic Regression Predicting the Likelihood of Participating in Extra-Curriculars

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	0.53	0.054	0.27-1.01	0.56	0.123	0.27-1.17
Age (Ref: 16)						
17				0.43	0.036	0.19-0.95
18				0.60	0.404	0.18-1.98

Table 11: Multivariate Logistic Regression Predicting the Likelihood of Being Late

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	1.03	0.937	0.52-2.04	0.98	0.954	0.47-2.03

Table 12: Multivariate Logistic Regression Predicting the Likelihood of Disliking One's Commute

Variables	Model 1			Model 2		
	AOR	P Value	95% CI	AOR	P Value	95% C.I
Transit Status (Ref: Does Not Use Public Transit)						
Uses Public Transit	1.44	0.301	0.72-2.86	1.45	0.337	0.68-3.07
Gender (Ref: Man)						
Woman				2.68	0.017	1.19-6.03

Non-Binary				4.53	0.119	0.68-30.30
------------	--	--	--	------	-------	------------

5. Discussion

The goal of this study was to determine whether students who primarily use public transit differ in elements of educational engagement compared to peers who do not rely on public transit. Educational engagement can be perceived and measured in a number of ways. This study uses the likelihood of participating in extra-curriculars, arriving at school on time and prepared, self-rated enjoyment of school, students' sentiments towards their commutes, and satisfaction with grades to measure broad concepts of educational engagement among students. Overall, this study has found no evidence to suggest a relationship between public transit use and differing odds in many of these areas. However, the use of public transit does increase the likelihood of students having missed school because they were unable to get there as well as the likelihood that students will feel as if they are wasting time commuting. While public transit status may increase the likelihood of missing school, this does appear to extend further into the educational experience as it is not associated with factors such as decreased enjoyment, decreased homework completion, decreased participation in extra-curriculars, or decreased content with grades. Similarly, the increased likelihood of feeling as if time is wasted while commuting is not paired with an increased likelihood of students who use public transit disliking their commute.

Commuting as Dead Time

For many scholars, the time spent commuting is not just "dead" time spent getting from one place to another (Vannini, 2010). Instead, it offers opportunities for social interaction or connection and skill development (Symes, 2007; Vannini, 2010). The concept of "dead" time is important to consider when discussing how students feel about their commutes. The fact that students using transit are more likely to feel as if they are wasting time commuting but are not

more likely to report disliking their commute is significant. Evidently, time is not wasted because of disliking their commute. Instead, the feeling of wasting time likely stems from another area. It is possible that students feel unproductive during this time and thus feel as if they are wasting time in a literal sense. However, this study has found that there is still value in students' commutes as a majority of students reported enjoying their commute. Furthermore, there is no significant difference between students who use transit and those who do not when it comes to the odds of enjoying one's commute. Even if students feel unproductive or as if they are wasting time during their commute, it appears that this sentiment does not bother them. It seems that the time spent commuting offers value in areas other than being productive or making the most of time.

However, this argument becomes more complicated when considering the impact of gender as well as transit status. Both public transit users and women (both who use transit and who do not) are more likely to feel as if they are wasting time travelling. However, while this is not paired with increased odds of disliking one's commute for transit users, it is for women. The odds of disliking one's commute are 2.68 times greater for those who identify as women compared to those who identify as men. For women, the dislike for one's commute may stem from the fact that they feel as if they are wasting time. Additional work to unpack how students, particularly between men and women, feel about time usage within the period spent commuting may be useful.

Differences in Commutes

Many scholars have established that students experience their commutes to and from school in varying ways (Burdick-Will et al., 2019; Scott & Marshall, 2018; Symes, 2007). With different methods of arriving at school, it is a given that students will likely experience these

trips differently. However, the experience of using public transit is a unique social and cultural one. The results of this study are consistent with this. Students in the HRM who use public transit do face a unique commuting experience compared to those who do not use public transit. They are at increased odds of reporting having missed school as well as feeling as if they are wasting time. If a student is unable to be present at school, they are already at a disadvantage compared to their peers who are present. Furthermore, transit users also face longer commutes to and from school than their peers. Evidently, there are unique implications of using public transit rather than other methods of travel. However, this study has not found any evidence to suggest that this unique experience and longer commutes are associated with increased odds of having varying educational engagement from those who do not use public transit.

6. Conclusion

The goal of this study was to determine whether students who use public transportation to get to school display varying rates of educational engagement measured by a number of outcome variables. This paper has established that commuting is a different experience for transit users than it is for non-transit users. Students who use public transit are more likely to report having missed school due to being unable to get there as well as reporting as if they feel they are wasting time travelling. However, this is not paired with decreased likelihoods of being unhappy with their grades, lower likelihoods of completing schoolwork, or lower likelihoods of participating in extra-curricular activities. Thus, it does not appear to be associated with lower overall educational engagement. Despite their longer commutes and being more likely to miss school or feel as if they are wasting time, students who use public transit display similar levels of education engagement compared to their non-transit using peers. The findings of this study are

consistent with existing literature that claims commuting is not “dead” time but rather offers value as well as literature that considers public transit usage as a unique social experience.

It is important to note that there are a few limitations associated with this study. First, the sample size is relatively small compared to the overall population of both high schools. Considering that participation in the survey was entirely voluntary, it is also possible that students who are more engaged with school are more likely to take and complete this survey. This may skew results and suggest that students are generally more engaged than they truly are. Furthermore, it is important to acknowledge that this is a regional study. I cannot claim that the results are indicative of trends in other areas with distinct public transit infrastructure. Finally, this survey took place during the Covid-19 pandemic and asked students to reflect on a year when they were impacted by school closures, restrictions, and school exposures. It is possible that the implications of Covid-19 impacted students’ transit experiences in a way that would not have happened had buses been running at full capacity.

Despite these limitations, it is important to acknowledge the findings of this study when it comes to the impact of transportation on students in the HRM. In the past, Halifax Transit had designated “school special” bus routes that ran at peak times and were designed to bring students from specific neighborhoods to their respective schools. However, these routes have since been cancelled. The findings of this study suggest that it may be worthwhile to reevaluate these routes and implement them in an improved and meaningful way. While students’ engagement with school is not overly impacted by transit usage, they are more likely to miss school. This effectively places them at a disadvantage before the school day even starts compared to their peers who do not rely on public transit to arrive at school. The results of this study are important to consider if we wish to give all students in the HRM equal opportunity to arrive at school

prepared and ready to engage. Thus, I conclude by arguing that the results of this study are important to consider as the municipal government works to make transit in the HRM more accessible, equitable, and expansive.

References

- Alexander, K., Entwisle, D. & Dauber, S. (1996). Children in motion: School transfers and elementary school performance. *The Journal of Educational Research*, 90(10), 3-12. <https://www-proquest-com.ezproxy.library.dal.ca/socabs/docview/204193870/fulltext/E8AD08279F1A453EPO/1?accountid=10406>.
- Binnie, J., Edensor, T., Holloway, J., Milington, S. & Young, C. (2007) Mundane mobilities, banal travels. *Social & Cultural Geography*, 8(2), 165-174. <https://www.tandfonline.com/doi/abs/10.1080/14649360701360048>
- Burdick-Will, J., Stein, M. & Grigg, J. (2019). Danger on the Way to School: Exposure to Violent Crime, Public Transportation, and Absenteeism. *Sociological Science*, 6, 118-142. <https://www-proquest-com.ezproxy.library.dal.ca/socabs/docview/2182180524/9390637BF8A9446FPQ/10?accountid=10406>
- Cozma, I., Kukaswadia, A., Janssen, I., Craig, W. & Pickett, W. (2015). Active transportation and bullying in Canadian schoolchildren: a cross-sectional study. *BMC Public Health*, 15(99). <https://link.springer.com/article/10.1186/s12889-015-1466-2>
- Dill, J. & (2009). Preparing for Public Life: School Sector and the Educational Context of Lasting Citizen Formation. *Social Forces*, 87(3), 1265-1290. <https://www-proquest-com.ezproxy.library.dal.ca/socabs/docview/229868589/abstract/FD2FC5EC35C64B4CPQ/5?accountid=10406>
- Durkheim, E. (1972). The social bases of education. In A. Giddens (Ed.), *Emile Durkheim: Selected Writings* (pp. 203-218). Cambridge University Press. <https://web-a-ebsohost-com.ezproxy.library.dal.ca/ehost/ebookviewer/ebook/ZTAwMHhuYV9fNzExNjc1X19BTg2?sid=13e7fc6d-84ca-402f-b418-765972cd56bd@sdc-v-sessmgr03&vid=0&format=EB&rid=1>.
- Filloux, J. (1993). Emile Durkheim. *International Bureau of Education*, 23(1-2), 303-320. <http://www.ibe.unesco.org/sites/default/files/durkheie.pdf>
- Lahelma, E. (2002). School is for Meeting Friends: Secondary School as Lived and Remembered. *British Journal of Sociology of Education*, 23(3), 367-381. https://www-jstor-org.ezproxy.library.dal.ca/stable/1393432?seq=14#metadata_info_tab_contents
- Mannion, E. (2016). Autonomy, Race, and State Reproduction of Status: Durkheim and Weber on Education and Immigration. *Critical Sociology*, 42(4-5), 699-714. <https://journals-sagepub-com.ezproxy.library.dal.ca/doi/full/10.1177/0896920514544042>
- Mills, C. (2008). Reproduction and Transformation of Inequalities in School: The Transformative Potential of the Theoretical Constructs of Bourdieu. *British Journal of Sociology of Education*, 29(1), 79-89. https://www-jstor-org.ezproxy.library.dal.ca/stable/30036269?sid=primo&seq=9#metadata_info_tab_contents.

- Palm, M. & Farber, S. (2020). The role of public transit in school choice and after-school activity participation among Toronto high school students. *Travel Behaviour and Society*, 19, 219-230. <https://www.sciencedirect.com/science/article/abs/pii/S2214367X19302431>
- Reverido, R., Carvalha, H., Galatti, L., Scaglia, A., Goncalves, C. & Paes, R. (2017). Effects of Youth participation in Extra-Curricular Sport Programs on Perceived Self-Efficacy: A Multilevel Analysis. *Perceptual and Motor Skills*, 124(3), 569-583. DOI: 10.1177/0031512517697069
- Sampasa-Kanyinga, H., Chaput, J., Hamilton, H. & Larouche, R. (2016). School bus travel is associated with bullying victimization among Canadian male, but not female, middle and high school students. *Child Abuse & Neglect*, 58, 141-148. <https://www.sciencedirect.com.ezproxy.library.dal.ca/science/article/pii/S0145213416301260#bib0030>.
- Scott, M. & Marshall, D. (2018). Public Transit and School Choice in Philadelphia: Exploring Spatial Equity and Social Exclusion. *Journal of School Choice*, 13(2), 177-197. <https://www.tandfonline-com.ezproxy.library.dal.ca/doi/full/10.1080/15582159.2018.1547579>
- Sheller, M. & Urry, J. (2006). The mobilities paradigm. *Environment and Planning*, 38, 207-226. <https://journals-sagepub-com.ezproxy.library.dal.ca/doi/abs/10.1068/a37268>
- Sheller, M. (2014). The new mobilities paradigm for a live sociology. *Current Sociology Review*, 62(6), 789-811. <https://journals-sagepub-com.ezproxy.library.dal.ca/doi/full/10.1177/0011392114533211>
- Sheller, M. & Urry, J. (2016). Mobilizing the new mobilities paradigm. *Applied Mobilities*, 1(1), 10-25. <https://www.tandfonline-com.ezproxy.library.dal.ca/doi/full/10.1080/23800127.2016.1151216>
- Stein, M., Burdick-Will, J. & Grigg, J. (2020). A Choice Too Far: Transit Difficulty and Early High School Transfer. *Educational Researcher*, 50(3), 137-144. <https://journals-sagepub-com.ezproxy.library.dal.ca/doi/full/10.3102/0013189X20949504>
- Symes, C. (2007). Coaching and Training: an Ethnography of Student Commuting on Sydney's Suburban Trains. *Mobilities*, 2(3), 443-461. <https://www.tandfonline-com.ezproxy.library.dal.ca/doi/pdf/10.1080/17450100701597434?needAccess=true>
- Vannini, P. (2010). Mobile Cultures: From the Sociology of Transportation to the Study of Mobilities. *Sociology Compass*, 4(2), 111-121. <https://onlinelibrary-wiley-com.ezproxy.library.dal.ca/doi/full/10.1111/j.1751-9020.2009.00268.x>
- Wilkinson, L., Bouma, G. & Carland, S. (2019). *The Research Process* (4th Edition). Oxford University Press.

Appendix 1: Recruitment Materials (Email Sent to Teachers with Information to Post to Google Classroom Pages)

Hello X,

Thank you very much for your help in circulating the attached survey. I appreciate your help in gathering data for my honours project.

Here is a link to the survey and a bit about the project to pass along to students:

How do you get to school? I'm interested to know! I am a sociology student at Dalhousie University completing my honours thesis for my undergraduate degree. I am interested in studying how students get to school and how this impacts their experiences with school. I have created a short 15 minute survey and ask that anybody who is interested in participating click the link below to find out more! Choosing to or choosing not to participate in this survey will have no impact on your schoolwork or evaluations. No teachers or school staff will have knowledge of who has participated in this survey.

<https://surveys.dal.ca/opinio/s?s=66227>

Appendix 2: Consent Form



You are invited to take part in a research study being conducted by Madelyn Keeping, an undergraduate in Sociology at Dalhousie University. The purpose of this research is to explore the relationship between methods of transportation to and from school and students' daily experiences in school and with extracurricular activities. This research will be conducted through an online survey for high school students aged 16 years or older (as that is when young people are able to begin driving).

If you choose to participate in this research, you will be asked to answer 43 questions about how you get to school, how you feel about school, and what kind of extra curriculars you participate in. The survey will be completely anonymous and will take approximately 15 minutes to complete. Questions will ask about your daily commute to school as well as your experience with school and extra-curriculars.

Your participation in this research is entirely your choice. You do not have to answer questions that you do not want to answer (by selecting prefer not to answer), and you are welcome to stop the survey at any time if you no longer want to participate. All you need to do is close your browser. I will not include any incomplete surveys in my analyses. If you do complete your survey and you change your mind later, I will not be able to remove the information you provided as I will not know which response is yours.

Your responses to the survey will be anonymous. This means that there are no questions in the survey that ask for identifying details such as your name or email address. All responses will be saved on a secure Dalhousie server. Only myself, Dr. Martha Radice, and Dr. Jonathan Amoyaw (my professors in the department of Sociology and Social Anthropology at Dalhousie University) will have access to the survey results. Teachers and other school staff will not have access to study data or have knowledge of who has completed the survey. There will be no impact on your schoolwork or evaluations should you choose to or choose not to participate in this survey.

I will describe and share general findings of this research in my honours thesis as well as in a public presentation at the department's honours symposium in April.

The risks associated with this study are no greater than those you encounter in your everyday life when talking about your experiences at school.

There will be no direct benefit to you in participating in this research. The research, however, might contribute to new knowledge on the impact of transportation on education. If you would like to see how your information is used, please feel free to reach out to me at md304137@dal.ca after April 15th, 2021.

You should discuss any questions you have about this study with the lead researcher, Madelyn Keeping. Please ask as many questions as you like before or after participating. My contact

information is md304137@dal.ca. You may also direct any questions or concerns to my supervisor, Dr. Martha Radice. She can be reached at Martha.Radice@dal.ca.

If you have any ethical concerns about your participation in this research, you may contact Research Ethics, Dalhousie University at (902) 494-3423, or email ethics@dal.ca (and reference REB file # 2021-5899).

If you agree to complete the survey, please follow the link here/click continue. By clicking continue I acknowledge I have read and understood the information on this page.

Appendix 3: Final REB Report



ANNUAL/FINAL REPORT

Annual report to the Research Ethics Board for the continuing ethical review of research involving humans / Final report to conclude REB oversight

A. ADMINISTRATIVE INFORMATION

This report is (<i>select one</i>):				<input type="checkbox"/> An annual report	<input checked="" type="checkbox"/> A final report
REB file number:	2021-5899.				
Study title:	The Impact of Method of Transportation on Public High School Students' Educational Engagement in HRM				
Lead researcher (named on REB submission)	Name	Madelyn Keeping			
	Email	Mdd304137@dal.ca	Phone	902-818-2689	
Current status of lead researcher (at Dalhousie University):					
<input type="checkbox"/> Employee/Academic Appointment		<input type="checkbox"/> Former student			
<input checked="" type="checkbox"/> Current student		<input type="checkbox"/> Other (please explain):			
Supervisor (if lead researcher is/was a student/resident/postdoc)	Name	Dr. Martha Radice			
	Email	Martha.radice@dal.ca			
Contact person for this report (if not lead researcher)	Name				
	Email		Phone		

B. RECRUITMENT & DATA COLLECTION STATUS

<p>Instructions: Complete ALL sections relevant to this study</p> <p>Study involves/involved recruiting participants: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, complete section B1.</i></p> <p>Study involves/involved secondary use of data: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, complete section B2.</i></p> <p>Study involves/involved use of human biological materials: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, complete section B2.</i></p>
--

B1. Recruitment of participants <input type="checkbox"/> Not Applicable
--

B1.1 How many participants did the researcher intend to recruit? <i>(provide number approved in the most recent REB application/amendment)</i>	200
B1.2 How many participants have been recruited? <i>(if applicable, identify by participant group/method e.g. interviews: 10, focus groups: 25)</i>	
a) In total, since the beginning of the study: 159 survey respondents	
b) Since the last annual report:	
B1.3 Recruitment for this study is: <input checked="" type="checkbox"/> complete; or <input type="checkbox"/> on-going	
B1.4 Data collection from participants for this study is: <input checked="" type="checkbox"/> complete; or <input type="checkbox"/> on-going	

B2. Use of secondary data and/or biological materials	<input checked="" type="checkbox"/> Not Applicable
B2.1 How many individual records/biological materials did the researcher intend to access? <i>(provide number approved in the most recent REB application/amendment)</i>	
B2.2 How many individual participant records/biological materials have been accessed?	
a) In total, since the beginning of the study:	
b) Since the last annual report:	

C. PROJECT HISTORY

<i>Since your last annual report (or since initial submission if this is your first annual report):</i>
C1. Have there been any variations to the original research project that have NOT been approved with an amendment request? This includes changes to the research methods, recruitment material, consent documents, study instruments or research team. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, list the variation here: <i>(You will be notified if a formal amendment is required)</i>
C2. Have you experienced any challenges or delays recruiting or retaining participants or accessing records or biological materials?

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:
C3. Have you experienced any problems in carrying out this project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:
C4. Have any participants experienced any harm as a result of their participation in this study? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:
C5. Has any study participant expressed complaints, or experienced any difficulties in relation to their participation in the study? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:
C6. Since the original approval, have there been any new reports in the literature that would suggest a change in the nature or likelihood of risks or benefits resulting from participation in this study? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:

D. APPLYING FOR STUDY CLOSURE

Complete this section only if this is a FINAL report as indicated in section A

D1. For studies involving recruitment of participants, a closure may be submitted when: <input checked="" type="checkbox"/> all research-related interventions or interactions with participants have been completed <input type="checkbox"/> N/A (this study did not involve recruitment of participants)
D2. For studies involving secondary use of data and/or human biological materials, a closure may be submitted when: <input type="checkbox"/> all data acquisition is complete, there will be no further access to participant records or collection of biological materials

<input checked="" type="checkbox"/> N/A (this study did not involve secondary use of data and/or human biological materials)
D3. Closure Request
<input checked="" type="checkbox"/> I am applying for study closure

E. ATTESTATION (both boxes *must* be checked for the report to be accepted by the REB)

I agree that the information provided in this report accurately portrays the status of this project and describes to the Research Ethics Board any new developments related to the study since initial approval or the latest report.

I attest this project was, or will continue to be, completed in accordance with the approved REB application (or most recent approved amendment) and in compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2).

SUBMISSION INSTRUCTIONS

1. Submit this completed form to Research Ethics, Dalhousie University, by email at ethics@dal.ca at least 21 days prior to the expiry date of your current Research Ethics Board approval.
2. Enter subject line: REB# (8-digit number), last name, annual (or final) report.
3. Student researchers (including postdoctoral fellows and medical residents) must copy their supervisor(s) in the cc. line of the annual/final report email.

RESPONSE FROM THE REB

Your report will be reviewed, and any follow-up inquiries will be directed to you. You must respond to inquiries as part of the continuing review process.

Annual reports will be reviewed and may be approved for up to an additional 12 months; you will receive an annual renewal letter of approval from the Board that will include your new expiry date.

Final reports will be reviewed and study closure acknowledged in writing.

CONTACT RESEARCH ETHICS

- Phone: 902-494-3423
- Email: ethics@dal.ca
- In person: Henry Hicks Academic Administration Building, 6299 South Street, Suite 231
- By mail: PO Box 15000, Halifax, NS B3H 4R2

Appendix 4: Questionnaire

1. How old are you?

- A. 15 or younger – if respondents check this box, the survey will send them to a screen saying “You must be 16 or older to participate in this survey”
- B. 16
- C. 17
- D. 18
- E. 19 or older

2. Which high school do you attend?

- A. Citadel High School
- B. Dartmouth High School
- C. Neither – if respondents check this box, the survey will send them to a screen saying “You must attend either Citadel High School or Dartmouth High School to participate in this survey”

3. What is your primary method of travel from home to school in the morning?

- A. Walk
- B. Drive (as the driver)
- C. Drive (as a passenger)
- D. Public transit (Bus and/or ferry)
- E. Cycle
- F. Other (please specify here if you primarily use a combination)

4. (Will only appear for those that select public transit as their main mode of travel) If you use public transit to get to school in the mornings, how often does the bus or ferry that you take come to your bus stop or ferry terminal? If you take more than one bus and/or ferry, please choose your answer according to the first bus or ferry that you take.

- A. Every ten minutes or less
- B. Every 11 to 25 minutes
- C. Every 26 to 45 minutes
- D. Every 46 to 60 minutes
- E. Longer than 60 minutes

5. What is your primary method of travel from school to home in the afternoons?

- A. Walk
- B. Drive (as the driver)
- C. Drive (as a passenger)
- D. Public transit (Bus and/or ferry)
- E. Cycle
- F. Other (please specify here if you use a combination)

6. (Will only appear for those that select public transit as their main mode of travel) If you use public transit to get home from school in the afternoons, how often does the y bus or ferry that you take come to your bus stop or ferry terminal? If you take more than one bus and/or ferry, please choose your answer according to the first bus/ferry that you take.

- A. Every ten minutes or less
- B. Every 11 to 25 minutes
- C. Every 26 to 45 minutes
- D. Every 46 to 60 minutes
- E. Longer than 60 minutes

7. Do you have a valid Nova Scotia driver's license?

- A. No
- B. Yes – Class 7 (Learners)
- C. Yes – Class 5

8. How many motorized vehicles (cars, motorcycles or scooters) do the members of your household have in total?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4
- F. Greater than 4

9. Do you own a bicycle or have regular access to one?

- A. Yes.
- B. No

10. Are you offered a free bus pass by your school?

- A. Yes
- B. No

11. On average, how long does it take you to travel from your home to school in the morning?

- A. Less than 10 minutes
- B. 10-25 minutes
- C. 26-45 minutes
- D. 46-60 minutes
- E. Longer than 60 minutes
- F. Don't know

12. On average, how long does it take you to travel from school to your home in the afternoons?

- A. Less than 10 minutes
- B. 10-25 minutes
- C. 26-45 minutes

- D. 46-60 minutes
- E. More than 60 minutes
- F. Don't know

13. In the last month, how often were you late to your first class of the day?

- A. Never
- B. 1-2 times
- C. 3-5 times
- D. 6-10 times
- E. More than 10 times
- F. Don't know

14. Do you participate in any extracurricular activities before or after school (either school based, or club based)?

- A. Yes
- B. No (if participants select this option, they will be sent to question 25)

15. How many different school-based extracurricular activities do you participate in?

- A. 0 (By selecting this option you are indicating that you only participate in extracurricular activities that are not through your school)
- B. 1
- C. 2
- D. 3
- E. 4
- F. Greater than 4

16. What types of activities do you participate in through school? Select all that apply.

- A. Sports/physical activities
- B. Clubs, groups or societies
- C. Volunteering activities (peer tutoring, volunteering in the community with school groups, etc)
- A. Academic support
- B. Musical, art, or theater-based activities
- C. Other (please specify)
- D. N/A (I only participate in extracurricular activities outside of school)

17. How many different extracurricular activities do you participate in outside of school?

- A. 0 (By selecting this option, you are indicating that you only participate in school based extracurricular activities)
- B. 1
- C. 2
- D. 3
- E. 4
- F. Greater than 4

18. What types of activities do you participate in outside of school? Select all that apply.

- B. Sports/physical activities
- C. Clubs, groups or societies
- D. Volunteering activities
- A. Academic support

- B. Musical, art, or theater-based activities
- C. Other (please specify)
- D. N/A (I only participate in extracurricular activities through school)

19. How do you primarily travel to your extra-curricular activities (either school or club based)?

- A. Walk
- A. Drive (As the driver)
- B. Drive (As a passenger)
- C. Public transit (Bus or ferry)
- E. Cycle
- A. Other (please specify here if you use a combination)

20. How do you primarily travel from these activities (either school or club based)?

- A. Walk
- B. Drive (As the driver)
- C. Drive (As a passenger)
- D. Public transit (Bus or ferry)
- E. Cycle
- F. Other (please specify here if you use a combination)

21. Please indicate the time that the program/activity you spend the most amount of time at usually begins.

- A. Please indicate the time here: (participates will be able to type in their response and select AM or PM)

22. Please indicate the time that the program/activity you spend the most amount of time at usually ends.

- A. Please indicate the time here: (participants will be able to type in their response here and select AM or PM)

23. If you participate in more than one activity, please indicate the time that the program/activity you spend the second most amount of time at usually begins.

- A. Please indicate the time here: (participants will be able to type in their response here and select AM or PM)
- B. N/A (I do not participate in more than one extracurricular activity)

24. If you participate in more than one activity, please indicate the time that program/activity you spend the second most amount of time at usually ends.

- C. Please indicate the time here: (participants will be able to type in their response here and select AM or PM)
- D. N/A (I do not participate in more than one extracurricular activity)

25. Do you enjoy school? Please rate your response on a scale of 1 to 10 (1 being that you dislike school very much and 10 being that you enjoy school very much)

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

- F. 6
- G. 7
- H. 8
- I. 9
- J. 10
- K. Prefer not to say

26. How often do you complete your schoolwork and homework on time?

- A. Never
- B. Rarely
- C. Usually
- D. Always
- E. Prefer not to say

27. Do you plan on pursuing further education after high school?

- A. No
- B. Yes, but undecided where/at what level
- C. Yes – A trades program (Plumbing, Construction, etc)
- D. Yes – A non-trade college level program (Early childhood education, paralegal services, etc)
- E. Yes – A university program
- F. Prefer not to say

28. How often do you commute to or from school with friends?

- A. Never
- B. Rarely (once a month or less)
- C. Sometimes (once a week or less)
- D. Usually (twice a week or more)
- E. Everyday
- F. Prefer not to say

29. I have missed school before because I am unable to get there (for example, you do not have access to a drive, you have missed the bus, etc).

- A. True
- B. False
- C. Prefer not to say

For the next 5 questions, please choose the most appropriate response to the following statements:

30. I feel like I waste time traveling

- A. Strongly disagree
- B. Disagree
- C. Agree
- D. Strongly Agree
- E. Prefer not to answer

31. I liked it better when school was online because I did not have to travel to and from school.

- A. Strongly disagree
- B. Disagree
- C. Agree
- D. Strongly Agree

E. Prefer not to answer

32. I enjoy my commute to school

- A. Strongly disagree
- B. Disagree
- C. Agree
- D. Strongly agree
- E. Prefer not to say

33. I am happy with the grades that I receive in school.

- A. Strongly disagree
- B. Disagree
- C. Agree
- D. Strongly agree
- E. Prefer not to say

34. I feel that I am able to hang out with friends during my daily commute to school

- A. Strongly disagree
- A. Disagree
- B. Agree
- C. Strongly agree
- D. Prefer not to say

35. Please select the gender below that you identify with most.

- A. Female
- B. Male
- C. Non-binary
- D. Other
- E. Prefer not to say

36. Where do you live? If you live in more than one place, please pick the area that you spend the most time in during the school year

- A. Downtown Halifax
- B. South End Halifax
- C. North End Halifax
- D. West End Halifax
- E. Fairview
- F. Clayton Park/Clayton Park West
- G. Rockingham
- H. Bedford
- I. Timberlea
- J. Armdale
- K. Spryfield
- L. Downtown Dartmouth
- M. Tufts Cove
- N. Crichton Park
- O. Highfield Park
- P. Albro Lake
- Q. Manor Park
- R. Southdale

- S. Woodside
- T. Cole Harbour
- U. Eastern Passage
- V. Other (please specify)
- W. Prefer not to say

37. Please indicate whether you identify with any of the identities below. Please select all that apply

- A. Indigenous
- B. White
- C. Asian
- D. Black or African Canadian
- E. Latinx
- F. Middle Eastern
- G. Pacific Islander
- H. Other

38. Do you consider yourself to be somebody living with a permanent disability?

- A. Yes
- B. No

39. Were both of your parents born in Canada?

- A. Yes
- B. No

40. Do you regularly speak a language other than English or French at home?

- A. Yes
- B. No

41. How many members (including yourself) live in your household?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5
- F. 6
- G. Greater than 6

42. Please select your first parent's highest completed level of education

- A. Did not graduate high school
- B. High school diploma or GED
- C. College certificate or diploma
- D. Undergraduate degree
- E. Master's degree
- F. PHD
- G. Don't know

43. Please select your second parent's highest completed level of education

- A. Did not graduate high school
- B. High school diploma or GED
- C. College certificate or diploma

- D. Undergraduate degree
- E. Masters degree
- F. PHD
- G. Don't know

Thank you for completing this survey! Please click "submit" to complete. Again, if you wish to contact me about the results of this survey or would like to read my honours thesis written about the results, please send me an email at md304137@dal.ca