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Reading or Not reading: The Influence of Different Individual Activities on Happiness While Commuting to UBC

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Abstract

The present study investigated which activities individuals engaged in while commuting to UBC, and whether certain activities increased commuter happiness. To this end, we created a survey

and asked 199 randomly selected UBC students fill them out. The surveys included demographic questions, likert scale types and open ended questions. We surveyed individuals in different locations on campus. Our results, although inconclusive, did provide some valuable data that can have much broader implications for both UBC and stakeholders. We looked at different types of commute and found that taking the bus was among the least favoured modes of commute, and most frequent activities that students engaged in while commuting include thinking or wondering, and listening to music on electronic devices. A negative correlation between reading without using electronic devices and commuter satisfaction was also found, but the results were inconclusive. The present study showed significant negative correlation between commuting time and both commuter happiness and satisfaction. Additionally, some detailed information with our open ended questions with respect to how transit could be improved included some suggestions on how individual commutes could be more satisfactory. We also discuss further implications and provide some suggestions for UBC to promote more transit use.
Keywords: Happiness, Satisfaction, Commute, Travel Time, Individual Activities

The Influence of Different Individual Activities on Happiness While Commuting

Previous studies have shown that engagement in different activities have different influences on general happiness levels(Millar & Thomas, 2009). While commuting or traveling, people usually engage in individual activities such as listening to music, reading books and texting(Colbert & Livingstone, 2006). Time spent on commuting is sometimes perceived as being unproductive and exhausting, especially for students who live far from campus and must

commute to school(Ohmori & Harata, 2008, pp.549). The primary aim of the present study is to investigate how students effectively use their time while commuting to UBC, what individual activities students engage in while they are commuting, and particularly, do certain individual activities increase commuter happiness if performed while commuting. We hypothesize that students participate in a variety of activities while commuting to UBC and these activities could vary depending on different commute modes. Previous research showed that bus and train riders reported less happier than bicyclists and car drivers (Morris & Guerra, 2014).We predict that students who engaged in individual activities involving use of electronic devices will report both higher level of happiness as well as satisfaction with their commuting experience than students who do not engage in individual activities involving use of electronic devices.

Method

Participants

Our sample size comprised 199 UBC students of which 106 were female and 93 were male. Participants were randomly approached by experimenters to ensure that 199 students were from different year levels (41 first-years, 44 sophomores, 57 juniors, 52 seniors, 4 fifth-year and one master), as well as, from different faculties (104 Arts, 31 Commerce, 34 Science, 7 Applied Science, 10 Engineering, 2 Music, 5 LFS, 1 Medicine, 3 Kin, 1 Forestry, 1 Humanities) with different majors.

Conditions

The present study tested (1) the relationship between each of four different commuting modes (Bike, Bus, Car and Walk) and participants' self- reported happiness and commute satisfaction; as well as (2) the different activities (whether activities involved use of electronic devices or not) engaged in while commuting and their relationships with both happiness and satisfaction.

Measures

The present study ascertained participants' commuting modes, and within each mode, which activities participants frequently engaged in. Then both self-reported happiness ratings and commuting satisfaction ratings were measured. Students were asked to fill out a survey questionnaire after informed consent. The survey included 4 demographic questions, and 7 research questions which are designed by our research group. The research questions included commuting mode, self-rated happiness level, satisfaction rating of participant's commute, frequency of individual activities in which they engaged while commuting to school, time spent on commuting, whether engage in same activity during the commute TO UBC as it FROM UBC, and comments about their commuting experiences. Participants were being asked about their happiness level on the test day, and their happiness were measured by a scale from 1(not happy at all) to 10(extremely happy). The satisfaction rating of participant's commute was edited from the Satisfaction with Life Scale by Ed Diener (Diener, Emmons, Larsen, & Griffin,1985). A list of activities were followed by happiness and satisfaction ratings. We separate activities into two categories: activities involved use of electronic devices and activities without using electronic devices. Within each category, a list of activities were provided. Participants were asked to fill in the frequency of engaging each activity with numbers from 0 (Never) to 3 (Often). Participants were allowed to write down any other activities except the options we had provided.

Procedure

All participants in this study were shown an informed consent before they filled out the survey questions. Data collection for this survey was done on the UBC main campus including

Buchanan Building, Irving Learning Center, Koerner Library, Sauder School of Business, bookstore and the SUB. Participants were approached on weekdays (from March 16 to March 23, 2015, excluding Friday and weekends) in the morning from 10 a.m. to 12 p.m. as well as in the afternoon from 3 p.m. to 5 p.m. The weather was sunny during the test week. Participants received no compensation for completing the survey.

Results

As predicted, participants who commuted by car or by walking showed higher self-rated happiness (M = 7.4, SD = 1.58, n=44; M=7.6, SD = 1.96, n=33) than those who biked (M = 6. 58, SD = 2.23, n=7) or took buses (M= 6.5, SD=1.35, n=115). Students who biked reported the least satisfaction (M = 30.57, SD =8.9). Students who walked reported the highest satisfaction levels(M=38, SD = 9.51) (see Graph 1 & 2).

For students who commuted by bike, they were more likely to engage in activities such as thinking and wondering, as well as listening to music using their electronic devices. Students who commuted by bus often engaged in activities such as texting and listening to music using electronic devices, as well as thinking or wondering when not using electronic devices. Students who commuted by cars or by walking often listened to music on their electronic devices, and engaged in activities such as talking to friends and thinking or wondering when not using electronic devices. Only two participants reported other activities which included eating and drinking.

The present study did not show significant results on correlation between individual activities and both happiness or satisfaction. The only correlation that we found was that individuals who read while commuting showed a negative correlation with satisfaction of their commutes (r=-0.167, t =-2.23, p-value=0.027) (See table 3).

However, the results have shown that there was a significant negative correlation between commuting time and both commuter's happiness and satisfaction level (r=-0.3455367, t = -5.1682, df = 197, p-value = 5.777e-07; r=-0.3794965, t = -5.7572, df = 197, p-value = 3.24e-08). Students, on average, spent more than half an hour on their commuting (M=32.07, Median= 30, SD= 21.71). When students spend more time on commuting, their happiness and satisfaction of the commuting experiences decreased.

Of the 199 surveys, most of the students (92.5%) engaged in same activities during their commutes TO UBC as their commutes FROM UBC.

There were 94 participants who wrote suggestions to improve their commuting experiences. Among these suggestions, 45% reported that more buses and more frequent buses are needed. Participants also reported that direct buses and skytrains to UBC would improve their commuting experience. 17% of the participants had concerns about having more space and being less crowded. 12% reported concerns about traffic congestions (see table 5).

Discussion

The present study was designed to examine what students do while they are commuting to UBC, and whether specific individual activities increase commuter happiness if performed while commuting. The results have shown that UBC students do engage in a variety of activities, and the frequencies of activities vary depending on different modes of commute. Among the four modes of commute (by bus, biking, by car, and walking), students who walk to school showed both highest happiness rating and satisfaction ratings. One possible explanation is that students who walk to classes usually live on campus or nearby, and their commute time were less than the commute time via other modes. Our results also indicated that listening to music is the most

frequent activity. However, we did not find a significant relationship between listening to music and both happiness and satisfaction. We have found a negative relationship between reading without using electronic devices and satisfaction. One possible explanation to this would be reading books while commuting may cause motion sickness and nausea, which leads to less happiness and less satisfaction about the commute(Turner & Griffin, 1999, pp. 446). Furthermore, the present study showed significant negative correlation between commuting time and both commuter happiness and satisfaction.

The results suggest travel modes such as walking promote happiness, which may be due to the increase of dopamine as a result of physical activities(Meeusen & Meirleir, 1995, pp. 166). Although walking and biking both are physical activities, biking did not increase commuter happiness and satisfaction in our study. This may be a question for future studies. One possible explanation is that biking to campus can be seen as unpleasing since the commute is all uphill to UBC from most locations, and the road is winding instead of just straight. Taking the bus though, which is a very important mode of transportation since it is highly efficient in taking loads of passengers, and also very environmentally friendly with the use of electric buses, but it received the lowest level of happiness. This is an issue of concern, and something that should be looked at and hopefully improved so we can promote a more efficient and environmentally conscious method of transportation for now and for the future. Our results also suggest the most frequent activity that students engaged in while commuting is listening to music; however, we did not investigate what kind of music or was preferred as well as whether they listened to other recordings. Our results also suggest that shortening the commute time would promote both commuter happiness and satisfaction.

Most of the results for the individual activities were inconclusive; however, we did find that many students were unhappy with transits. We had open ended questions for individuals to suggest how their transit to UBC could be improved. A majority of our participants suggested more express busses to get students to school faster, as well as more frequent busses are needed. Also, buses are crowded, preventing individuals from doing anything; thus, more direct buses, as well as more frequent buses would create and even more efficient, as well as a more convenient commute via transit. This could help to promote more transit use, consequently driving the use of cars down, and ultimately decreases the emissions, and protecting the environment that much more.

One of the limitations in our study is that this is a correlational study. It was difficult to identify whether reading influences commuters' satisfaction, or whether commuters who have lower satisfaction about their commutes are more likely to read books while commuting. A third variable might also have an effect on our results. For example, the weather may have affected participants' mood on the test day. Questions about whether sitting or standing, being crowded or not crowded were not asked in our survey. These variables may also have an influence on our results. Another limitation is our small sample size. As only the responses of 199 students were examined and most of the students were from the Faculty of Arts, it is possible that the results were skewed. The findings may not be generalized enough to represent all UBC students' happiness in each activity while commuting.

The biggest challenge that is outside the scope of the study's control is that it was difficult to investigate commuter happiness prior to the commute and whether this prior state of happiness or satisfaction had any effect on the choices of activities and participant's current mood, even though we intentionally excluded Fridays and weekends, and tried to avoid rush hour which could have had an effect on commuter general happiness ratings, and to ensure that participants

had enough patience and time to go through the survey. Additionally, students do not engage in only one activity while commuting; consequently it was difficult to investigate the specific activity increases happiness since other activities may have combined influence on commuters' perceptions of both happiness and satisfaction. Future studies need to address these issues. Even though this study was not an experiment but rather a correlational study, we did have interesting results that could branch out to bigger questions and other avenues for further studies.

Recommendations for UBC

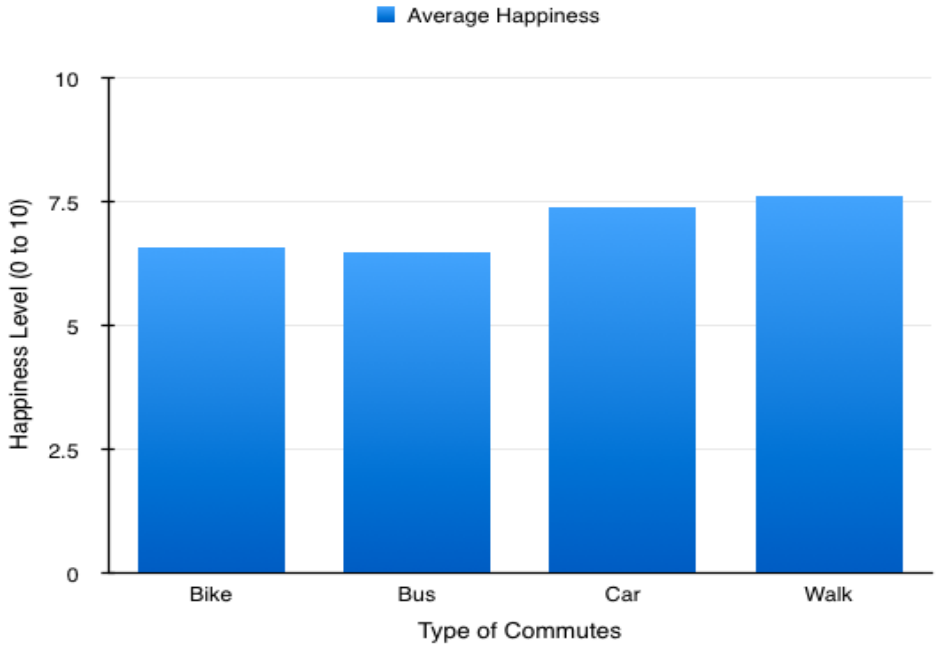
The first recommendation is that more research related to our study is needed in order to generate more data, statistics and questions with respect to improving commuters' public transit experiences. UBC has been working to reduce the rate of student driving to UBC by promoting public transit. By increasing awareness of global warming, carbon footprints and healthy lifestyles, UBC has the opportunity of educating students not only academically but also environmentally. Our results indicate that students who drive and walk to school yield the highest happiness level and students who take the bus to school are shown to be the least happy. Further investigation into specific behaviours, attitudes and perceptions on commuting via bus are recommended, as it is UBC's intention to promote environmentally-friendly behaviours. In order to promote better walking experiences, UBC should consider providing safer environment for students who walk to classes.

Previous studies have shown that shorter travel time would promote health. To improve students' overall well being, not only physical health is important, but mental health is also vital. Our result provided evidence that there is a significant negative correlation between travel time and happiness, students who travel a shorter time to school showed the greatest general happiness and students who commute a longer time to UBC tended to be less happy. This suggests that we should encourage students to live on campus or close to campus. Another suggestion is that UBC may consider to offer off-campus classes, where close to transits. Additionally, more direct and frequent buses are recommended.

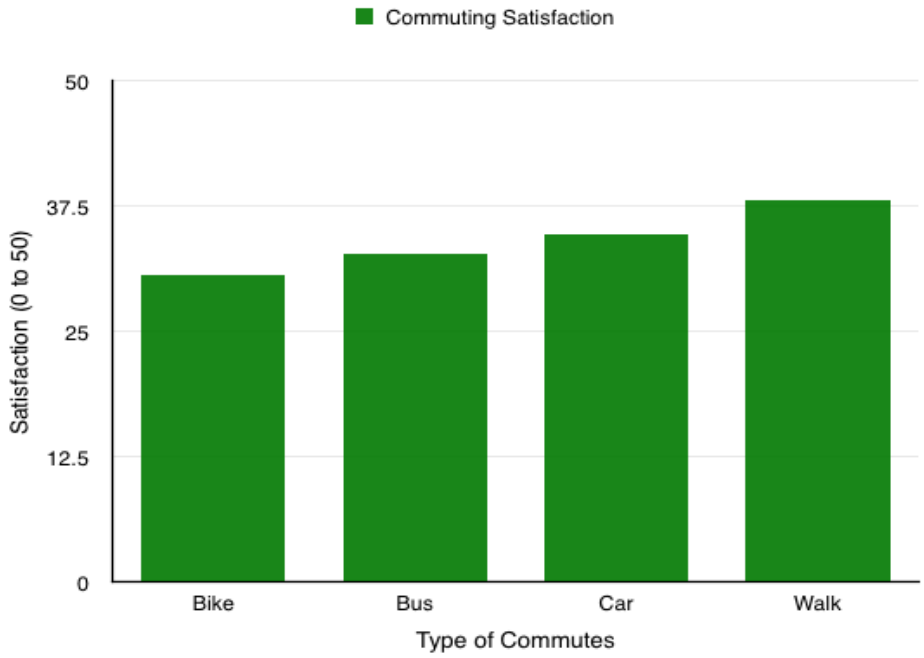
Infrastructure recommendations include building an underground skytrain directly connecting UBC to other districts including Downtown, Burnaby and Richmond. A majority of our participants suggested more frequent and more express transits are needed. Previous studies also showed that longer commutes time are "associated with behavioural patterns which would contribute to obesity and together poor health outcomes" (Christian, 2012, pp.746). Having an underground skytrain would reduce students' commuting time, as well as help students escape from the rain in rainy season. One study also concluded that " to achieve a transport-mode shift to public transport, public policy strategies should focus on individuals' transport-related environmental beliefs (personal control and environmental effect of cars) and situations (access to public transport at reduced cost)." (Collins & Chambers, 2005, pp. 641)To raise happiness levels and increase public transit population, perhaps implementing a reward system whereby transit could be redeemed at cafes, UBC bookstores and library fines would be considered.

Appendix

Graph 1 Commute Modes and Happiness Ratings



Graph 2 Commute modes and Satisfaction Ratings



(Table 1)

Activities using	Correlation (r)	t	p-value

Electronic Devices	with Happiness		
Texting	-0.134	-1.81	0.07
Talking on the Phone	0.122	1.67	0.10
Social Media	-0.066	-0.88	0.38
Listening to Music	0.072	0.995	0.32
Checking Email	-0.048	-0.640	0.52
Studying/Working	-0.066	-0.861	0.39
Reading	-0.021	-0.277	0.78
Playing Games	0.032	0.413	0.68
Notes	**: p< 0.05		

(Table 2)

Activities NOT using Electronic Devices	Correlation (r) with Happiness	t	p-value
Talking to Strangers	0.070	0.92	0.36
Talking to Friends	-0.085	-1.073	0.29
Reading	-0.082	-1.073	0.29
Studying/Working	-0.118	-1.574	0.12
Sleeping	-0.118	-1.548	0.12
Thinking/Wondering	-0.045	-0.618	0.54
Notes	**: p< 0.05		

(Table3)

Activities using Electronic Devices	Correlation (r) with Satisfaction	t	p-value
Texting	-0.038	-0.502	0.617
Talking on the Phone	0.055	0.748	0.455
Social Media	0.052	0.694	0.489
Listening to Music	0.118	1.63	0.105
Checking Email	-0.015	-0.196	0.845
Studying/Working	-0.084	-1.097	0.274
Reading	-0.068	-0.879	0.381
Playing Games	0.071	0.929	0.354
Notes	**: p< 0.05		

(Table4)

Activities NOT using Electronic Devices	Correlation (r) with Satisfaction	t	p-value
Talking to Strangers	0.029	0.376	0.707
Talking to Friends	-0.046	-0.629	0.530
Reading	-0.167 **	-2.228	0.027
Studying/Working	-0.114	-1.517	0.131
Sleeping	-0.103	-1.342	0.181
Thinking/Wondering	-0.004	-0.058	0.954
Notes	**: p< 0.05		

Table 5 Participants' Suggestions on commutes (N=94)	
45%	More Buses, More direct Buses, More frequent Buses
17%	Less crowded, more spaces on buses
12%	Less traffic, less traffic congestion
6%	Less road construction
6%	On-time bus
3%	Commutes too long
3%	Less rainy day
3%	Lower parking price
5%	Others

Survey Questions

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What year of study are you in? _____ In what faculty do you study? _____
What is your major? _____ What is your gender? _____

1. How do you commute to UBC in general (choose one)?

- ❑ by bus
- ❑ by bike
- ❑ by car
- ❑ walk
- ❑ other: _____

2. Having chosen one of the above, how happy do you feel about your commute to UBC in general?
(not at all happy) 0 1 2 3 4 5 6 7 8 9 10 (extremely happy)

3. Below are five statements that you may agree or disagree with. Using the 0 - 10 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responses.
(extremely disagree) 0 1 2 3 4 5 6 7 8 9 10 (extremely agree)

____ In most ways my commute to UBC is close to my ideal.

____ The conditions of my commute are excellent.

____ I am satisfied with my commute to UBC.

____ So far I have gotten the important things I want in my commute to UBC.

____ On my next commute to UBC, I would change almost nothing.

4. Which activities do you engage in while commuting to UBC? Please indicate next to EACH activity, how often you typically engage in this activity during your commute. You may include as many activities as you like.

0=never

1=occasionally

2=often

3=always (i.e. every commute)

4=n/a (not applicable – e.g. reading if your commute is driving)

Using **electronic devices** for:

___texting

___talking on the phone

___social media

___listening to music, podcasts, etc.

___emails

___studying or working

___reading for pleasure (e.g. books, articles, websites)

___video games

___other:_____

___other:_____

When **NOT using electronic devices**:

__ Talking to strangers (in person)

__ Talking to friends (in person)

___Reading books for pleasure

___Studying or working

___Sleeping

___Thinking, reflecting, looking out the window

___Other activities: _____

5. How long, **in minutes**, is your typical commute to UBC (one way)?

_____

6. Do you typically engage in the same activities during your commute **TO** UBC as your commute **FROM** UBC?

Yes/No

If NO, please describe how your activities differ:

_____

7. Is there anything that you feel would improve your commute experience to UBC?

_____

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