Move More, Learn More Tailored to First-year Students' Undergraduate Programs UBC

Prepared by: Nikolette Sidiropoulos, Josephine Pan, Montana Norberg, Pascale Pedersen-Arseneau, Amy Wilkie

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Group 7 Project D

Nikolette Sidiropoulos, Josephine Pan, Montana Norberg, Pascale Pedersen-Arseneau and Amy

Wilkie

University of British Columbia

KIN 464

Dr. Andrea Bundon

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Executive Summary

The objective of this research project proposed by SEED and UBC Recreation is meant to gather information on first-year students' physical activity (PA) to explore what a Move More, Learn More (MMLM) program would look like for first-year students.

Those who are physically literate are more likely to engage in daily PA, which is thought to be the foundation of lifelong PA participation (Kwan et al., 2019). Providing physical literacy (PL) based programs may be an effective intervention to encourage first-year university students to engage in PA. The literature reveals that this group could significantly benefit from a PL program as first-year university students are a demographic that often demonstrates a notable decrease in PA (Sukys et al., 2019). This project explores PA differences among first and second-year students across different faculties, intending to identify factors preventing PA engagement and how they may differ between faculties.

A survey that consisted of quantitative and open-ended questions targeted first and second-year students at the University of British Columbia (UBC). The survey was made available to these students through online social media platforms and online recruitment posters. The survey questions asked students to reflect on their first semester at UBC and their behaviours surrounding PA. The questions were designed to better understand the participant's academic life and the potential motivators and barriers to engaging in PA during the first semester in university.

Research by Sukys et al. (2019) suggests that students studying health-education courses have higher PA engagement, yet a primary theme that emerged in response to these questions was that there were no notable differences in PA levels between Kinesiology students and those in other faculties. However, due to uneven distribution and a limited amount of survey responses, a between individual faculty comparison of PA levels was not possible. Additionally, there seemed to be little correlation between academic workload and ability to engage in PA. The primary motivators to engaging in PA that emerged were health, friends and fitness. The most-reported barriers were time, schoolwork and lack of motivation. These themes helped highlight potential areas of focus for an MMLM program catered to first-year students.

The lack of correlation between workload and PA implies that the barrier of time is likely a perceived barrier rather than an actual barrier. This suggests that a future MMLM program should focus on teaching students time management skills and helping them learn to prioritize PA. One recommendation is that MMLM should capitalize on friends as motivators by implementing activities that encourage participants to bring or meet a friend. In turn, this could help create an environment where students feel more comfortable and confident to engage in PA. Very few of the participants had heard of the MMLM program suggesting the need for greater promotion and advertisement of this program in the future.

Introduction

An abundance of research has shown that physical activity (PA) provides several physical and mental health benefits, such as reducing the risk of stress and depression while also enhancing academic results (Esteban-Cornejo et al., 2014; Cairney et al., 2014). Despite being aware that regular PA is essential for their overall health, only 38% of university students meet PA guidelines (Thomas et al., 2019). Specifically, this decrease in adult PA has shown to be most common for first-year university students, as they hit a milestone in life; transitioning out of high school and into post-secondary (Sukys et al., 2019). Adults aged 18–64 years should aim for 150 minutes of moderate to vigorous PA per week, in bouts of 10 minutes or more, to achieve health benefits (Canadian Society for Exercise Physiology, 2021). As university life begins to take over, students are engaged in less sport participation and more sedentary activities (Thomas et al., 2019). The PA behaviours and habits formed while in university tend to be maintained throughout adulthood and can predict long-term health outcomes; this can be a promising avenue to encourage change (Thomas et al., 2019).

UBC Recreation created a Move More, Learn More (MMLM) program to encourage PA participation and increase health education among female Asian students. They were a group found to have the lowest reported PA rates at the University of British Columbia (UBC) (UBC Recreation, 2021). With the same intentions in mind, UBC Recreation aims to create a similar and unique opportunity for first-year or incoming students. By creating specific programming that teaches them about UBC's many PA resources, students will create connections with others and make friends while being active. This research project intends to gather more information from the UBC's first-year community to create a program based on the gaps identified. In this

literature review, PA trends are examined in first-year university students, as well PA facilitators and barriers are identified.

Literature Review

Entering post-secondary school is a transformative period where habits are formed; students navigate their newfound autonomy against making time for schoolwork, extra-curricular activities, and their health choices (Hull et al., 2010; Palfai & Ralston, 2011). Due to this being such a unique and critical time in a young person's life, it is vital to understand the factors contributing to this widespread change in health-related behaviours (Brown et al., 2017). Thomas et al. (2019) examined factors that influence the amount of time first-year students spend engaging in PA, regular exercise, as well as sports. Both women and men reported decreased endurance and team activities (Thomas et al., 2019). However, fitness activity participation did not change significantly, as these are things like aerobics, dance, martial arts and yoga (Thomas et al., 2019). Their study found that for both genders, there was an increase in "other activities" such that men spent more time weight-lifting and resistance training, and women spent more time in fitness classes (Thomas et al., 2019). Another form of PA that Thomas et al. (2019) found remained consistent was intramural sports participation. They highlight the potential for intramural sports, or similar PA structures, to be used as a way to increase or sustain PA among first-year university students (Thomas et al., 2019).

As student's course loads increase, so does their academic stress; Thomas et al. 's (2019) found that stress and perceived skill are the strongest intrapersonal barriers, lack of friends to participate with the strongest interpersonal barrier and homework the strongest structural barrier. Perceived skill can be related to self-efficacy; self-efficacy is defined as one's belief about their

ability to perform a particular task (Cortis et al., 2017). These barriers, influenced by the

increased academic and personal pressures that accompany the start of university, can impact

students' perception of PA to be time and energy-consuming (Thomas et al., 2019). Lack of time

was also a frequently reported deterrent to PA (Thomas et al., 2019). Another study by Silver et

al. (2019) emphasized that lack of time was one of the most common barriers that lead to many

students not engaging in PA.

   Silver et al. (2019) research also examined the first-year Canadian university population

but focused on elements that were either promoting or inhibiting regular exercise participation

among university undergraduate students. They identified which factors predict regular exercise

engagement, which were perceived as promoters to engage in regular exercise, and which they

perceive as barriers to regular PA (Silver et al., 2019). Qualitative semi-structured interviews

recognized how campus fitness centers create barriers to exercise (Silver et al., 2019). Findings

suggest that both male and female participants find the athletic centers on campus intimidating;

however, more women than men reported this (Silver et al., 2019). Silver et al.'s (2019)

identified that specifically, students did not feel comfortable using equipment that they were

unfamiliar with, and they found navigating the building intimidating; women specifically felt

body conscious and intimidated by the number of men.

   When examining why a person may not engage in PA or exercise behaviours, one should

look at whether they exhibit high physical literacy (PL). PL is the foundation for lifelong PA

engagement, and it encompasses five domains: movement competence, confidence, motivation,

knowledge and understanding of maintaining PA's benefits (Kwan et al., 2019). Kwan et al.

(2019) created the PLUS (Physical Literacy intervention in first-year University Students)

program at a Canadian university to examine whether a twelve-week PL-based intervention

would positively affect students' PA behaviours in their first year of university. Students were either in the intervention group or in the control group; all participants had a PL assessment at the beginning and end of the program, with sixty-five students completing the study in their first semester of school that fall (Kwan et al., 2019). Kwan et al. (2019) created unique game-based activities in different settings paired with a program manual that illustrated the PL domain that was being focused on and how the particular activity may improve their proficiency in that domain. The PL intervention group used the 12-week manualized program, while the control group only completed the baseline and follow-up assessments with no intervention (Kwan et al., 2019). Kwan et al. (2019) found significant increases in the overall PL of the intervention compared to the control group. For the domain of confidence: the intervention group had significant increases over the control group. This finding is important because confidence, as the construct of self-efficacy, is one of PA behaviour's biggest influencers, especially during a critical period such as a life change like entering university (Kwan et al., 2019). Kwan et al. (2019) report that they are the first to study PL in this population, with most past PL studies done only among children. Kwan et al. 's (2019) data also found the intervention group had stable results throughout the study in the domains of motivation and knowledge, and understanding, while the control group reported significant decreases at the end of the twelve weeks. Reflecting on the work of Silver et al. (2019) and Thomas et al. (2019) that address factors such as stress, homework, and lack of knowledge about PA benefits and recreation facilities affect students exercise involvement, a program such a Kwan et al.'s (2019) that focuses on increasing PL could reduce these barriers to create substantial change in students outlook on PA and their belief in their abilities.

A study conducted by Sukys et al. (2019), through survey responses from 709 university students aged 18-25, found a positive correlation between the number of health education-related courses a student has taken and their leisure time spent doing PA. This research demonstrates that science-based knowledge of exercise's health benefits can positively impact PA engagement (Sukys et al., 2019). Therefore, health promotion measures should target students whose programs do not include this kind of information and should be implemented systematically so that information is not a one-time session (Sukys et al., 2019). This discrepancy between PA education and knowledge of health behaviours translates to lower PL among first-year university students and brings attention to creating programs for university students in specific programs (Kwan et al., 2019; Sukys et al., 2019). Kwan et al. (2019) identified that PL is a critical factor in lifelong PA and healthy lifestyle choices. Could structured programs that focus on PL development create many benefits for first-year university students, particularly those whose programs do not incorporate this knowledge?

The research examined has identified many barriers that contribute to the decrease in PA in first-year students, including knowledge, time, and stress. For students to engage in regular exercise and PA, they must feel confident to use the facilities while translating knowledge about PA benefits into action. Much of this research has solely focused on individual barriers but has not considered how specific undergraduate programs' structure contributes to creating these barriers. Therefore, the proposed research project intends to examine first-year students across all faculties to understand the factors that impact first-year students' participation in PA and use input from first-year students to see which faculty would benefit most from a unique PL focused MMLM program.

Methods and Rationale

Sample

The study's target population included first and second-year University of British Columbia (UBC) students across all programs who transitioned directly from high school to university. As identified in the literature, a significant decline in PA was observed in the students first year of university, supporting UBC Recreations' push to create a Move More, Learn More (MMLM) program tailored to this population (Sukys et al., 2019; Thomas et al., 2019). Both current first and second-year students at UBC have been included in the study to allow for recent reflection on their PA in the first semesters of their first year. With COVID-19 being an uncontrollable factor affecting many students PA this year, second years have been included to reflect on their first year semester that was not affected by COVID-19, allowing for some balanced response. The broad sampling of first and second-years across all faculties addresses the research gap by further exploring the relationship between access to PA knowledge and health behaviours.

The study knowingly excluded transfer students that have entered UBC in the last year from another post-secondary institution. The reason for this specificity was the reviewed literature examined the transition from high school directly to university as a critical time where PA tends to decrease the most in young adults (Thomas et al., 2019). However, those transitioning in the last two years after high school graduation were included to account for the many students that take a gap year between high school and university (Martin, 2010). The literature also revealed that time is one of the most significant transition hurdles that first-year students have to overcome during their transition; for full-time students, there is an even more

significant reduction in free time (Thomas et al., 2019). Part-time students taking less than three

courses were therefore excluded from this investigation to account for this.

Methods

Data collection was conducted utilizing a student survey on the Qualtrics survey tool

between March 13th and March 26th, 2021 (See Appendix B). An online survey format allowed

participants to share their opinions, beliefs, or behaviours through a questionnaire aiming to

collect qualitative and quantitative data (Tokunaga, 2016). Online surveys are time-efficient,

straightforward and do not require personal information, making them convenient for many

students to participate (Evans et al., 2005). The questionnaire began with a consent form that

gave a brief description of the research project and allowed the participant to consent to the term

before participation (See Appendix A). The student had to agree to the conditions outlined in the

consent form to proceed with the survey. The online survey consisted of 24 questions, three of

which were open-ended, including general questions regarding their PL knowledge, current PA

level, and potential barriers that could influence their ability to participate in regular PA. Due to

the time constraint regarding when this research must be conducted and finalized, students

completed a one-time survey; the information collected pertaining to their first semester at UBC.

The recruitment target for the study was 50 minimum students. After the final day of data

collection, a total of 57 surveys were submitted. However, due to a glitch in Qualtrics, only 43

were fully completed and valid to be used for analysis. Participants were recruited for the study

primarily through online platforms. The link to the project poster* was shared over multiple

social media sites, including Facebook and Instagram, specifically over first and second-year

social groups (*See Appendix C). Mainly the virtual posters were administered through multiple

Facebook groups whose members reflected the participation conditions. On each poser, a scannable Quick Response (QR) code was added, allowing an alternative way for participants to assess the consent form and survey. These platforms are highly trafficked and are a popular means of communication among university students; therefore, the survey had the potential to be seen by an extensive amount of individuals (Alhabash & Ma, 2017). Additionally, due to COVID-19, UBC has transferred to an online learning environment, making social media the campus's primary communication source.

Data Collection & Analysis

Data Collection

The data collected in this project aimed to identify the relationship between PA participation trends and different undergraduate faculties (UF). Due to the study's multidisciplinary nature, a survey design using closed and open-ended questions provided quantitative information such as PA engagements per week as well as qualitative information examining motivators and barriers to exercise. This approach provided a more comprehensive analysis of the relationship between various UF and PA participation (Kowalski et al., 2018).

Measurements that differ in category or type are considered a nominal level of measurement; for this study, questions were asked about UF, type of PA participation, changes in PA levels, and students' knowledge of the UBC MMLM program (Tokunaga, 2016). Using Likert scales, which is an ordinal level of measurement, the answer options were placed in an order relative to each other without an underlying continuum, which means the categories cannot overlap (Tokunaga, 2016). For example, agree, somewhat agree, neutral, somewhat disagree, and disagree. To gain information about how many instructional hours first-years attend per week, a

ratio level of measurement was intended to be used. Ratio levels of measurement allow for a true

zero variable, which accounts for those that did not engage in PA at all (Tokunaga, 2016).

However, due to an error in the questions' wording, accurate data could not retrieve. Finally, the

three open-ended questions examined students' motivations toward PA, how they feel about

proposed interventions like MMLM programs, as well as any feedback pertaining to PA in the

first year of university.

Data Analysis

Analyzing data entails descriptive statistics, organizing, summarizing and describing the

collected data, and drawing conclusions about the research question (Tokunaga, 2016).

Following the Qualtrics survey tool's data collection, the data was analyzed and organized using

Microsoft Excel SpreadSheets. Using Excel, figures were created to visually display data results

that allow complex information to be communicated more easily (Tokunaga, 2016). Descriptive

statistical data trends are displayed in the form of bar charts and pie charts. Bar charts and pie

charts are a visual way to represent nominal and ordinal data; each bar or section represents the

frequency or percentage of the sample corresponding to each value of the variable (Tokunaga,

2016). The study aimed to investigate differences across UF; therefore, this analysis method was

the most optimal strategy to communicate and compare the survey results.

To analyze the three open-ended questions, the responses were organized based on words

or phrases used and then grouped based on the participant's UF to examine if any themes

emerge. Each response was read over and analyzed, making notes about the first impression.

Then words and phrases that were repetitive or relevant to the literature were recorded; this

process is known as coding or indexing the transcripts (Sandelowski, 2000). With this, wired

clouds and frequency tables were made with the repeated words identified in the responses.

Results

Quantitative Findings

At the end of survey collection, 43 valid surveys (N=43) were included in the analyzed

data. Due to a glitch in Qualtrics, 11 participants' surveys were not valid, and three surveys were

done by students not in their first or second year. Breaking down the valid surveys by university

year level, 24 (55%) second-year students (22 graduated in 2019; 2 graduated in 2018), and 19

(44%) first-year students (1 graduated in 2019; 18 graduated in 2020) completed the survey.

Breaking down students (N=43) into their faculties, there were 18 (41%) from the Faculty of

Education's School of Kinesiology (KIN), 8 (18%) from the Faculty of Science, 8 (18%) from

the Faculty of Arts, 4 (9%) from Faculty of Applied Science, 4 (9%) from Sauder School of

Business, and 1 (2%) from the Faculty of Forestry (See Appendix D, Table D.1).

The data revealed that approximately 88% of students (N=43) reported they participate in

less than 150 minutes per week of PA (See Appendix D, Figure D.1). When comparing PA

behaviours between KIN students and combining all other faculties into a category of other

Faculties (OF), KIN students reported slightly less PA than the OF (See Appendix D, Figure

D.2). Those who participated in More than 150 minutes (KIN [n=0], OF [n=5]) were not in KIN.

When all participants were asked, 'what type of activity do you enjoy most?', 35% said

endurance activities, 28% said fitness activities and 37% said team activities, no one selected

'other' as an option (See Appendix D, Figure D.3). When asked, 'have you heard of Move More,

Learn More UBC?', 93% of students responded that they had not, and 7% said they had (See

Appendix D, Figure D.7). In response to the question 'would you have been interested in a

similar MMLM program catered to first-year students if it had been offered when you were in

the first year?', 48% of participants responded yes (See Appendix D, Figure D.6).

The survey asked students how much they agree with the statement 'I was happy with

how much physical activity I did per week during my first year?' 37% of participants

agreed/somewhat agreed, 63% disagree/somewhat disagree (See Appendix D, Figure D.4). Of

the group participants, 81% agreed/somewhat agreed that school work took them away from

being more physically active in their first year (5% neither agree nor disagree, 14%

disagree/somewhat disagree) (See Appendix D, Figure D.4). Also, 91% of participants

agreed/somewhat agreed that they would have been more physically active during my first year

if they had more time (See Appendix D, Figure D.4). When asked if one's faculty/program

encouraged/enabled them to engage in PA during their first year, there were no significant results

comparing individuals (See Appendix D, Figure D.4). However, KIN students believed their

faculty were more encouraging toward PA in comparison to the students from OF (See Appendix

D, Figure D.5). In response to the statement, 'I would have been more comfortable/confident in

attending a physical activity program at UBC during my first year if I had a friend or peers from

my program to attend with me?' 79% of people agreed/somewhat agreed with this statement,

14% said Neither agree nor disagree, and 7% said somewhat disagree/ disagree (See Appendix

D, Figure D.4).

The survey had participants share the number of classes they took in the first semester of

their first year, and these numbers were compared to levels of MVPA per week (See Appendix

D, Figure D.8). The highest reported levels of MVPA were that (n=10) completed 30-60 minutes

per week, (n=6) completed 60-120 minutes per week, and (n=4) completed more than 150

minutes per week were reported only by those who were in five classes.

Qualitative Findings

In response to the survey's open-ended question, 'What motivates you to engage in

physical activity?', the top three most common motivational reasons to engage in PA were

'health/mental health,' 'friends/peers' and 'fitness/physique' (See Appendix D, Table D.2 &

Figure D.9). When asked, 'What were some barriers preventing you from engaging in physical

activity during your first year?', the three most frequently reported barriers were 'time',

'schoolwork' and 'lack of motivation'(See Appendix D, Table D.3 & Figure D.10). In the third

open-ended question, which asked about additional comments or feedback that participants had

regarding their PA involvement at UBC, 'lack of time' was among the top reported answers.

Discussion

Differences in Physical Literacy between Faculties

Current research on first-year university students focuses much on the effects of PL on

PA behaviours; however, there has been limited research looking into how what students are

studying in school may affect their PA behaviours. The study's primary research question aimed

to compare the PA behaviours between UF and further understand which UF would benefit most

from a unique PL-focused MMLM program. By collecting data on first-year students' MVPA

levels per week and then grouping them based on their UF, it was assumed that PA increase

would be seen in the UF that has PL integrated into their course-based material. When

conducting the surveys, one limitation encountered was recruiting enough participants from UF

other than KIN. Of the 43 survey responses, 18 were from KIN, and the next highest was eight

from the Faculty of Science and eight from the Faculty of Art; therefore, comparisons between

individual UF and MVPA was limited.

Literature shows that science-based knowledge of PA's health benefits as well as

studying kinesiology in undergrad can positively impact MVPA levels and exercise adherence,

and therefore, it was assumed that students from KIN would have higher MVPA levels per week

(Sukys et al., 2019; Thomas et al., 2019). Based on the study results, it was surprising that the

KIN students had lower reported MVPA levels than the OF per week. This suggests that

exposure to health education through university content or one's interest may not necessarily

translate to higher PA engagement. Another limitation is that the survey did not ask whether a

student was a varsity or elite athlete. Asking this question may have led to a more in-depth

understanding of why some students exceeded 150 minutes per week; for example, if it was due

to training and competition, this may have skewed the data. Additionally, MVPA was not

defined in the survey; therefore, there is a possibility that participants may have under-reported

or over-reported their MVPA per week.

Relationship between Physical Literacy and Confidence

The survey findings support the literature that university students' PA most commonly

decreases in their first year, as only 12% of the participants met the PA guidelines (Sukys et al.,

2019). According to Kwan et al. (2019), PL encompasses five domains, one of which is

confidence in engaging in activities. It was suggested that for students to maintain PA, they must

have confidence in their ability to be active and participate in activities (Kwan et al., 2019).

Based on the findings, confidence may not be as significant of a factor after all, as it seems to

have a minimal impact on PA among first-year students. In the survey, participants were asked how they felt about the amount of PA they did per week, and more than half of the participants disagreed or somewhat disagreed with the statement (See Appendix D, Figure D.4). However, most participants also reported being comfortable and confident using exercise facilities and attending UBC programs in their first year (See Appendix D, Figure D.4). On top of the reported low levels of PA, these findings indicate that participants are aware of the decline in their PA level and most of them have enough competence to participate in PA, but other barriers remain a concern for preventing students from taking action. Thomas et al. (2019) stated that structural and external barriers are more difficult to control and thus have a stronger association to PA decline than interpersonal and intrapersonal barriers. Even though self-confidence, self-efficacy, and perceived self-skill are essential determinants of PA engagement, other barriers may be more prominent to maintaining a physically active lifestyle (Thomas et al., 2019).

Barrier of Time

The research findings and literature highlight that time was the most significant barrier for university students to participate in PA (Silver et al., 2019). Silver et al. (2019) states that once individuals graduate high school and move on to post-secondary, they experience a decrease in personal time, affecting their ability to participate in PA due to constraints such as work, university academics and more. Thomas et al. (2019) further suggest that lack of time arises from external factors that affect PA involvement. In one of the survey questions, the participants were asked if they had more time would they be more active, and almost all participants agreed with this statement. As well, in the qualitative data, most people identified that time was the most significant barrier. However, differences between PA levels and time

(number of classes) were not significant (See Appendix D, Figure D.8). Due to misworking two

of the questions (See Appendix B, Survey Questions 4 and 6), collecting data on time explicitly

spent in class and studying was not accurately collected. There was no specificity in the question

with regards to time (week, day or month) when students reported in the survey. Therefore, the

responses were skewed and invalid for analysis, which is a limitation to the study. The number of

classes students reported taking was therefore used as the variable to determine the time taken up

by school as a whole. The results suggest that time may not be the most critical barrier, but

instead, it may be the individual's attitudes towards perceived time. Another limitation in this

study is participants who spent less time doing school did not necessarily spend more time doing

exercise; however, a question was not asked regarding out-of-school commitments such as work

and volunteering.

MMLM Low Awareness

The survey revealed that 93% of the research participants have not heard of the MMLM

program before completing the survey (See Appendix D, Figure D.7). Therefore, it can be

concluded that the awareness of the MMLM program is very low. On the other hand, when asked

if they would have been interested in an MMLM program for first-years, nearly half of the

survey respondents expressed interest (See Appendix D, Figure D.6). These results demonstrate

a potential solution to increase participation in the MMLM program by increasing awareness.

Insufficient advertising can act as a structural barrier towards engaging in PA (Thomas et al.,

2019). Thus, it stresses the need for sufficient advertising in order to make the MMLM program

known and accessible to all first-year students. The survey revealed that the few students who

had heard of the program did so through the UBC newsletters. Hence, this could indicate that the

UBC newsletter may be a good platform that MMLM should utilize in the future. An example by Bray et al. (2011) suggests the efficacy of increasing print-mediated interventions such as the distribution of pamphlets or posters. This intervention is relatively low-cost, which has been shown to be reasonably effective (Bray et al., 2011).

Limitation of COVID-19

It is important to note the current circumstances regarding COVID-19 and its role in the study's research findings. COVID-19 has acted as a noteworthy barrier for many of the 2020-2021 first-year classes as they have been introduced to a very different academic setting with online learning. The global pandemic and the resulting uncertain circumstances may have altered reported MVPA compared to other years (Rhodes et al., 2020). Additionally, this likely influenced the awareness of UBC-associated recreational programs like MMLM. Without in-person sessions on campus, students are only exposed to advertisements and promotion of programs online via social media groups, newsletters and canvas. This limited the ability to recruit first and second-year students to participate in the study as recruitment was limited to online platforms.

Furthermore, many programs have been on pause to meet provincial health guidelines, which has limited what students can and want to engage in actively. The attempt made to offset the impact COVID on the results was made by including the perspectives of second-year students, who would have experienced regular in-person learning during their first year, were included. Despite this, COVID-19 still acted as a limitation in this study that should be recognized.

Recommendations

Control Beliefs

Time was indicated in both the quantitative and qualitative findings as the most common

barrier for not engaging in PA. As well, the literature also states time as the number one barrier

stopping first-year students from being PA (Silver et al., 2019; Thomas et al., 2019). However,

the survey showed that those who had the lowest PA levels did not spend the most time doing

schoolwork or attending classroom instruction. In other words, students who spent less time

doing schoolwork did not necessarily spend more time doing exercise. Therefore, the

recommendation for using the Theory of Planned Behaviour makes sense as time is a perceived

barrier and a factor of the antecedent 'control beliefs' (Crocker, 2016). Control beliefs can be

perceived barriers such as lack of time or opportunities such as self-efficacy, where both

influences perceived behavioural control (Crocker, 2016). Perceived behavioural control is the

degree to which control beliefs impact behaviour and intention (Crocker, 2016). Therefore the

following research proposes incorporating a skills development portion that teaches time

management into the first-year MMLM program—implementing an opportunity for students to

engage in PA to create habits around making time for PA in and among their schoolwork and

other time commitments.

Increase awareness

As the survey data shows, MMLM has very low awareness among UBC first-year

students (See Appendix D, Figure D.7). Since there are many activities catered to first-years at

the beginning of the school year with events like Imagine Day, the AMS First week, and UBC

Recreation's Free Week, it could be beneficial to take advantage of these events when promoting

the MMLM program for first-years. An example can be done by creating visible booths at these events on campus to provide information on the first-year MMLM program. As well, over 12,00 students are living in UBC Residences throughout the school year, many of which are first-year students (UBC Student Housing and COVID-19, 2021). Advertising can also be done in the first-year residency, where there are a concentrated number of first-year students, allowing many to grasp the attention of the advertisements.

 Literature by Silver et al. (2019) highlights that the habits formed early in university are vital to lifelong PA engagement. The transition to university is a critical time to initiate interventions, and the promotion is crucial to ensuring habits are attained throughout university (Bray et al., 2011). Therefore, promoting and running the program in September rather than February might help students create habits early and adjust to university life with tools that MMLM can teach them.

Partnering with other UBC organizations on campus may also open up opportunities for the first-year MMLM program to gain more recognition. In the open-ended question that asked about motivation towards being physically active, mental health was reported as well as having a gym facility in their dorm building. Two recommendations come from this that may increase awareness: partnering with UBC Wellbeing for Thrive Month (which focuses on student's mental health) as well as advertising in UBC's dorm gym facilities. MMLM should focus on increasing advertisements and making the programs more well known.

Socialization

One of the top three motivations towards engaging in PA the survey found was that including friends/peers would help their motivation. Crocker (2016) states that common

behavioural beliefs are "exercise is fun" and "promotes social interaction" (p.60). Behavioural

beliefs are another antecedent of the Theory of Planned Behaviour, which considers how

engaging in a certain behaviour will impact one's life (Crocker, 2016). It also directly influences

attitudes, which then impacts intention and behaviour. The survey's open-ended question found

that students reported that the words 'fun' and 'friends' often motivate them to be physically

active. The self-determination theory (SDT) focuses on human motivation, believing that

humans have three innate needs: competence, autonomy, and relatedness (Fletcher, 2016). When

these innate needs are fulfilled, they increase one's motivation levels (Fletcher, 2016). The SDT

uses social contexts as a stimulant for motivation as communication can cause increases in

motivation, and therefore, researchers should use communication as a catalyst for more student

participation in PA (Fletcher, 2016). A study by Biddle and Nigg (2000) agrees that the SDT is

an applicable theory for increased PA participation. As students feel more comfortable being in

PA with a friend, creating a part of the first-year MMLM program where a person can bring a

friend to any week of the MMLM program may positively change PA behaviour.

Students also reported enjoying a variety of activities equally: When answering what type

of activity students enjoyed the most, the survey indicated that team activity, endurance

activities, and fitness activities to be equally popular. The current MMLM program already

includes a variety of activities but does not include any team activities. For example, one answer

from the open-ended question was:

> "The things that encouraged me to be active on campus the most were the unique group
>
> activities (like Day of the Longboat, storm the wall, etc.) rather than group fitness classes
>
> or programs. These events brought me closer to people I didn't know very well before
>
> and I enjoyed that anyone/everyone could participate in them."

Perhaps one of the MMLM weeks could be signing up for a campus group activity (like Day of the LongBoat or Storm the Wall), and every participant brings a friend that week.

Conclusion

This research project further explored why there is a decline in PA among first-year university students at UBC. The literature suggested that students who study PA-related content have higher PA adherence, yet the survey data does not show consistency. Additionally, the research question aimed to identify a difference in PA behaviours and MVPA levels per week between UF so that UBC Recreation could create a program to address and target programming to the faculty that had the lowest MVPA. As the survey data revealed that low PA adherence does not discriminate between UF, UBC Recreation should not focus on that recommendation. Alternatively, focus on creating programming earlier in the school year, addressing the most significant barrier of perceived lack of time, implementing time management as a component of the MMLM, creating a social aspect to introduce participants to a team activity, and overall increased awareness of the program.

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Appendix A

Consent Form

CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)

Participant Consent Form

Move More, Learn More Tailored to First-year Students' Undergraduate Programs UBC KIN 464 Group 7: Project D

Principal Investigator:
Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)

The purpose of the class project:
To gather knowledge and expertise from community members in their first year at UBC to examine whether there is a difference in physical activity behaviours across different undergraduate faculties. In preparation to create a Move More, Learn More program tailored to the faculty that would benefit from it the most.

Study Procedures:
With your permission, we are asking you to participate in a survey consisting of questions regarding your physical activity experience as a first-year university student at UBC. You may only complete the survey once and must be over the age of 18.

With the information gathered, students will critically examine how different individuals understand or engage in health-promoting activities or health promotion initiatives.

Project outcomes:
The information gathered will be part of a written report for the class project. The written report will be shared with campus partners involved in the project. Summaries of findings will also be posted on the following websites. ***No personal information/information that could identify participants will be included in these reports or shared with campus partners.***

UBC SEEDS Program Library:
https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library

Potential benefits of the class project:
There are no explicit benefits to you by taking part in this class project. However, the interview will provide you with the opportunity to voice your opinion on your experiences with health-promoting activities or initiatives in a broad sense and will provide the students with an opportunity to learn from your experiences.

Confidentiality:
Maintaining the confidentiality of the participants involved in the research is paramount, and no names of participants will be collected.

At the completion of the course, all data (i.e. notes) and signed consent forms will be stored on a secure electronic drive by Dr. Bundon. All data and consent forms will be destroyed 1 year after completion of the course.

Risks:
The risks associated with participating in this research are minimal. There are no known physical, economic, or social risks associated with participation in this study. You should know that your participation is completely voluntary and you are free to **withdraw from the study** and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study:
If you have any questions about this class project, you can contact Andrea Bundon by phone at 604-822-9168 or by email at andrea.bundon@ubc.ca

Research ethics complaints:
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or e-mail RSIL@ors.ubc.ca . or call toll free 1-877-822-8598.

Consent:
Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time.

By selecting "I agree," you are consenting to the conditions described above.

- ❏ I agree
- ❏ I disagree

Appendix B

Survey Question

1. What year are you in?
   - ○ Second Year
   - ○ First Year
   - ○ Other

2. What year did you graduate highschool?
   - ○ 2020
   - ○ 2019
   - ○ 2018
   - ○ Other: _____

3. Which UBC undergraduate faculty were you enrolled in during the first semester of your first year?
   - ○ Applied Science (specify program) _____
   - ○ Arts (specify program) _____
   - ○ Sauder School of Business (specify program) _____
   - ○ Dentistry (specify program) _____
   - ○ Education (specify program) _____
   - ○ Forestry (specify program) _____
   - ○ Land and Food Systems (specify program) _____
   - ○ Science (specify program) _____
   - ○ Other (if not listed, or unsure) _____

4. How many instructional hours of class did you attend on average during the first semester of your first year (including labs)?

   0 -------------------------------- 7 --------------------------------- 13
   Hours →

5. How many courses were you registered in during the first semester of your first year?
   - ○ 3
   - ○ 4
   - ○ 5
   - ○ 6+

6. How many hours did you spend on average doing school work during the first semester of your first year?
   - ○ Less than 5hrs
   - ○ 5-10hrs
   - ○ 10-15hrs
   - ○ More than 15hrs

7. How many moderate-to-vigorous intensity physical activity minutes did you do in a week on average during the first-semester of your first year?
   ○ Less than 30 minutes
   ○ 30-60 minutes
   ○ 60-120 minutes
   ○ 120-150 minutes
   ○ More than 150 minutes
8. How much do you agree with the statement "I was happy with how much physical activity I did per week during my first year"?
   ○ Agree
   ○ Somewhat agree
   ○ Neither agree nor disagree
   ○ Somewhat Disagree
   ○ Disagree
9. How much do you agree with the statement "My school work took me away from being more physically active during my first year"?
   ○ Agree
   ○ Somewhat agree
   ○ Neither agree nor disagree
   ○ Somewhat Disagree
   ○ Disagree
10. How much do you agree with the statement "I would have been more physically active during my first year if I had more time."
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree
11. How much do you agree with the statement "Students in other faculties/programs had more time to engage in physical activity during their first year?"
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree
12. How much do you agree with the statement "My faculty/program encouraged/enabled me to engage in physical activity during my first year?"
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree

13. How much do you agree with the statement "I would have been comfortable/confident in attending a physical activity program at UBC during my first year?"
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree
14. How much do you agree with the statement "I would have been comfortable/confident using the exercise facilities at UBC during my first year?"
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree
15. How much do you agree with the statement "I would have been more comfortable/confident in attending a physical activity program at UBC during my first year if I had a friend or peers from my program to attend with me?"
    ○ Agree
    ○ Somewhat agree
    ○ Neither agree nor disagree
    ○ Somewhat Disagree
    ○ Disagree
16. What type of physical activity do you most enjoy?
    ○ Endurance Activities (e.g. biking, cross-country skiing, jogging/running, ice skating, skipping, skateboarding, tag, walking for exercise, etc.)
    ○ Team Activities (e.g. badminton, baseball, basketball, football, ice hockey, rowing, swimming, soccer, volleyball, etc.)
    ○ Fitness Activities (e.g. aerobics, strength training, dance, martial arts, and yoga)
17. Has your physical activity level changed since starting your first year at UBC?
    ○ Increases
    ○ Somewhat Increased
    ○ Neither increased nor decreased
    ○ Somewhat decreased
    ○ Decreased

18. What are you doing to engage in physical activity currently? (If none, write none)
    _____

19. Move More, Learn More (MMLM) Program Description:

"Move More, Learn More is a 7-week interactive health education program designed for self-identified Asian Women students, a group on average with the lowest reported physical activity rates on campus, however all self-identified women are welcome to participate. This specialized program includes a variety of health learning topics and private group physical activity sessions so that participants can try out new ways to move. Start your journey in health and fitness to find out what suits your lifestyle!"
Have you heard of Move More, Learn More UBC?
  ○ Yes
  ○ No

20. If yes, from where have you heard of MMLM?
  ○ Your faculty (e.g. faculty newsletter, Professor)
  ○ Your friends
  ○ UBC general newsletter
  ○ Other _____
21. Would you have been interested in a similar MMKM program catered to first-year students if it had been offered when you were in first year?
  ○ Yes, explain why _____
  ○ No, explain why not _____
22. In a few words, what motivates you to engage in physical activity?

   _____

23. What were some barriers preventing you from engaging in physical activity during your first year?

   _____

24. Do you have any other comments or feedback pertaining to your involvement in physical activity as a UBC student?

   _____

Appendix C

Recruitment Material

School of Kinesiology
210-6081 University Boulevard
Vancouver, BC Canada V6T 1Z1

Phone 604 822 9192
Fax 604 822 6842
www.kin.ubc.ca

THE UNIVERSITY OF BRITISH COLUMBIA

KIN 464: Health Promotion and Physical Activity Class-based <u>Project D</u>

If you are a First-Year UBC Undergraduate Student, we want to hear from you!

Photo by Inspired Horizons Digital Marketing on Unsplash

As part of a course-based research project (KIN 464), we are conducting a study on first-year students' Physical Activity behaviours from a range of undergraduate programs. If you are a first-year student in the entering class of 2020 and graduated from highschool not earlier than 2019, we would love you to complete a survey. More information https://ubc.ca1.qualtrics.com/jfe/form/SV_dbAO1DWGzx7qBSu

Individuals who complete this survey can be entered into a draw for a chance to win one of **2 $25 Gift cards** to the UBC Bookstore/Food Services OR a **FitBit!**

Use the QR code to be taken to the link (open the camera on your phone and click the link that pops up)

Appendix D

Tables and Figures

Table D.1

Participants Per Faculty

Faculty	Frequency	Percent	Valid Percent	Cumulative Percent
Applied Science	4	9.302	9.302	9.302
Arts	8	18.605	18.605	27.907
Education (Kinesiology)	18	41.860	41.860	69.767
Forestry	1	2.326	2.326	72.093
Sauder School of Business	4	9.302	9.302	81.395
Science	8	18.605	18.605	100.000
Missing	0	0.000		
Total	43	100.000		

Figure D.1

MVPA LEVELS IN FIRST SEMSETER OF FIRST YEAR

- Less than 30 minutes: 14%
- 30-60 minutes: 32%
- 60-120 minutes: 26%
- 120-150 minutes: 16%
- More than 150 minutes: 12%
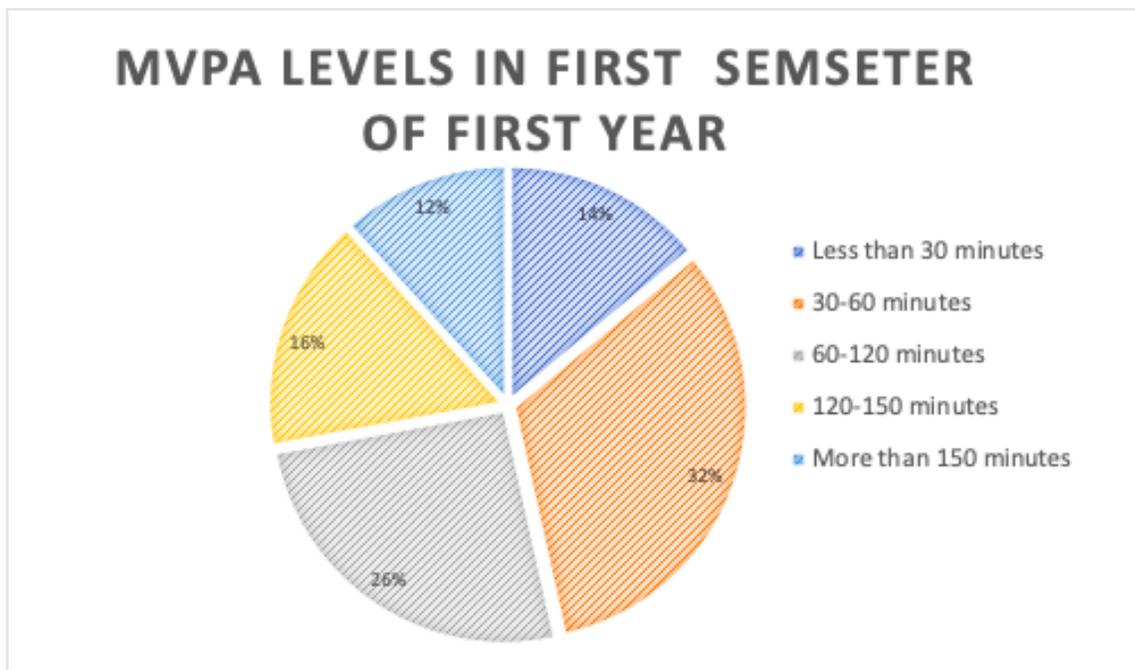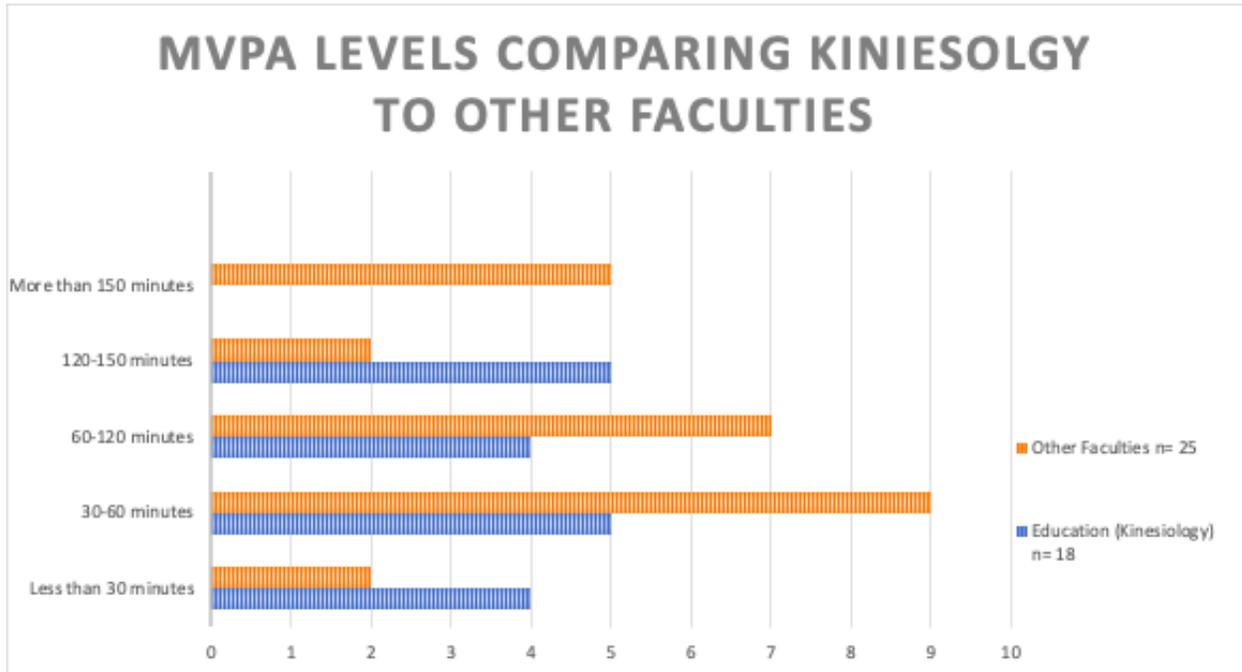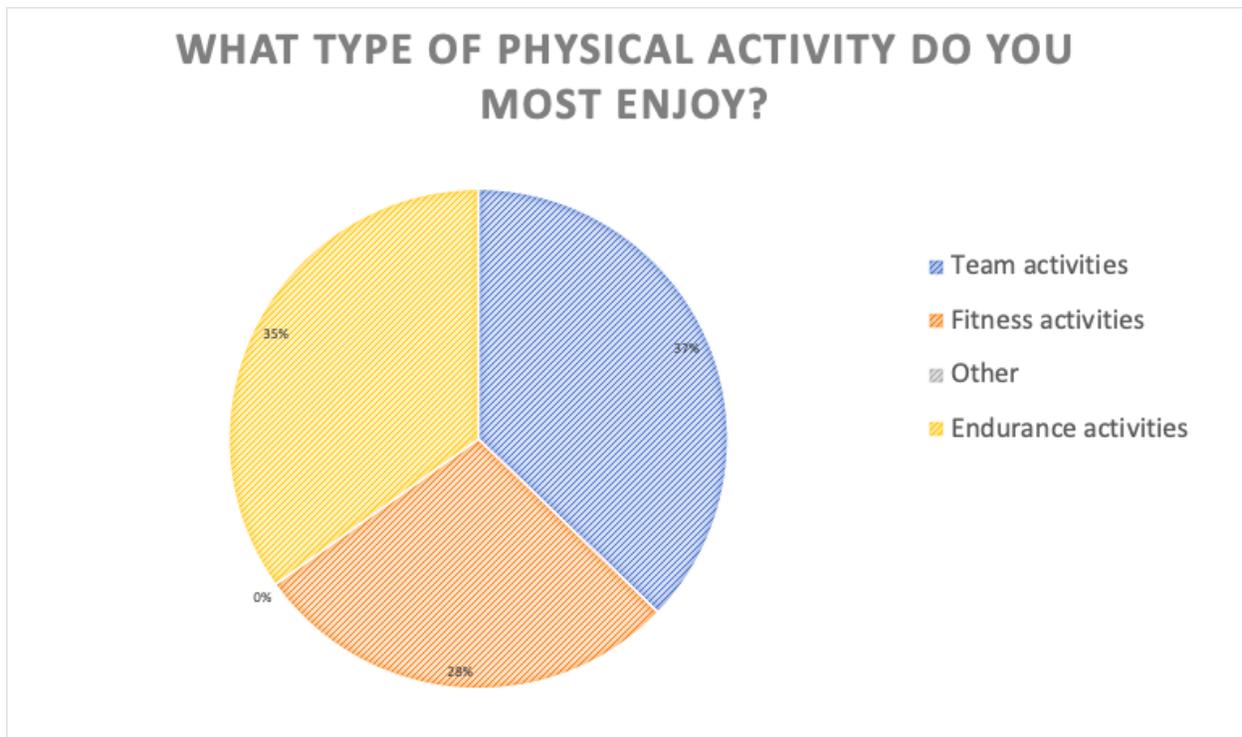
Figure D.2

Figure D.3

Figure D.4
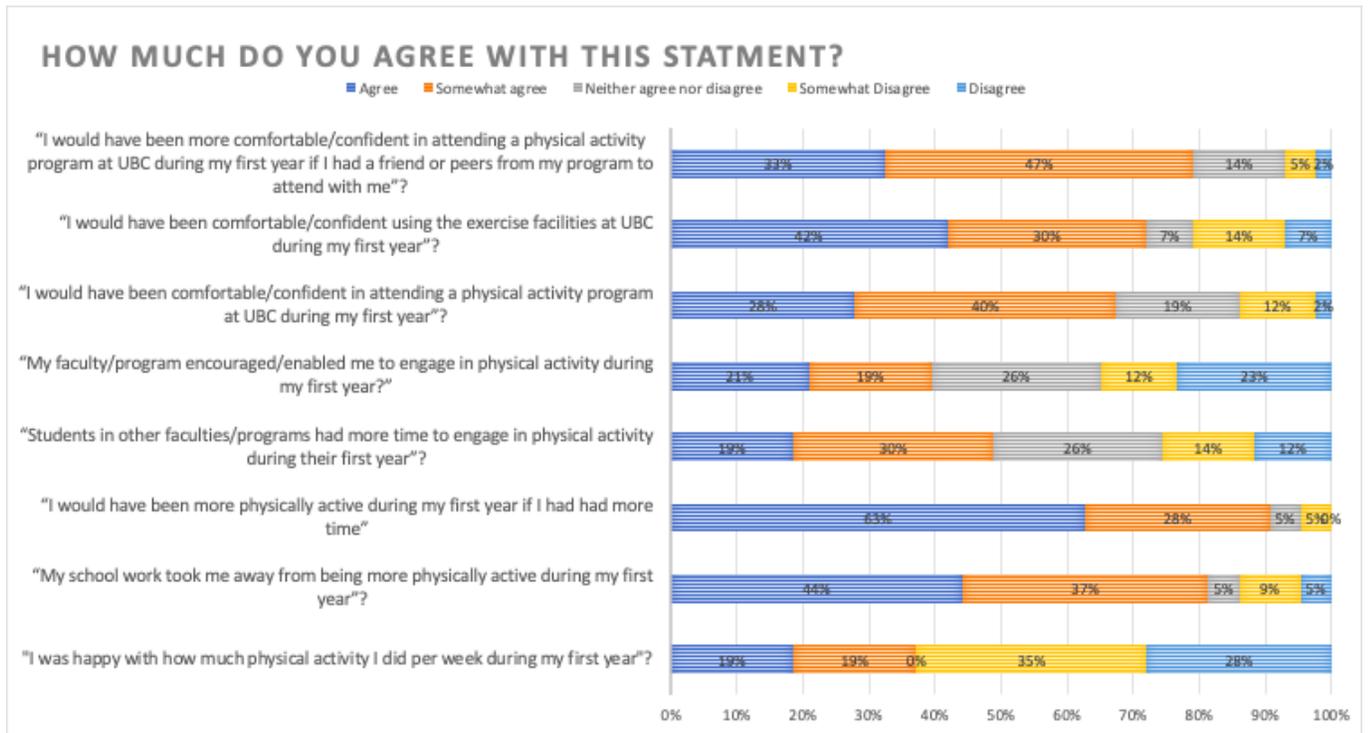
Figure D.5

Figure D.6

Figure D.7

Figure D.8

Table D.2

Motivators of Physical Activity	f
Health (Physical and Mental)	17
Feeling (Positive)	12
Fitness/ Physique	7
Fun	7
Friends	5
Happy	3

Figure D.9

Table D.3

Barriers To Physical Activity	f
Time	15
Motivation	6
School	5
Studying	6
Homework/ Workload	7

Figure D.10