

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Assessing Student Perspectives of UBC's 'Movement Breaks' Service in the Classroom

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University of British Columbia

KIN 464 001: Health Promotion and Physical Activity

Dr. Negin Riazi PhD

April 12, 2022

Group 14 - Project G

Assessing Student Perspectives of UBC's 'Movement Breaks' Service in the Classroom

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Executive Summary

Our group studied and gathered data assessing the awareness of UBC undergraduate students on the 'Movement Breaks' service offered on campus. Our purpose was to gather data on the current engagement and use of UBC's 'Movement Breaks' service to answer our main research question - how do we increase the awareness of the importance of UBC's 'Movement Breaks' service? Other research questions we created included; have UBC undergraduate students heard of and/or participated in 'Movement Breaks', what faculties are engaging in 'Movement Breaks', and would UBC undergraduate students advocate for 'Movement Breaks', to be implemented across campus? Our research was important in understanding what faculties and year levels were/were not engaging in 'Movement Breaks' to grasp a stronger discernment as to how it's delivered and to who it should be delivered to. Through an online Qualtrics survey, we asked quantitative and qualitative questions that pondered 74 participants' awareness, engagement and satisfaction level of the 'Movement Breaks' service on campus. From the data collected using the online survey, we utilized descriptive statistics to analyze and present our quantitative data. Additionally, we utilized inferential statistics for our qualitative data to draw conclusions from the participant responses. After examining the data, we arrived at our findings which informed us of the awareness and engagement levels of the 'Movement Breaks' service in classrooms on campus. To elaborate, the majority of respondents noted they had neither heard of nor engaged in a 'Movement Break' in class, with the percent of those who had heard of the service being 31% and those who had engaged being 35%. Of the participants who engaged in a 'Movement Break', 70% enjoyed them and when asked if they would advocate to have them implemented across campus, 91% said yes. In addition, the majority of people (91%) who responded to our survey - whether they engaged in the service or not - noted that they liked the idea of a brief 'Movement Break'. In regards to those who hadn't engaged in a 'Movement Break', the majority said they would want to in the future. When questioned about the quality of the 'Movement Breaks' service currently offered, majority of participants chose 'okay' and when asked about the services' accessibility, 47% said it was inaccessible. This led us to our recommendations to which we suggested changing the current 'Movement Breaks' service to be sufficient for those with physical disabilities and who may be in wheelchairs. Through ideas such as seated stretches, meditation, and breathing exercises, the 'Movement Breaks' service could be accessible for people of all abilities. We also suggested making 'Movement Breaks' mandatory in lower level classes to encourage the building of good movement habits as supported by our findings of them being predominantly engaged in upper level classes. Although, our research could be limited here as we are all upper year varsity athletes and sent it to our social groups which comprise mostly of other upper level athletes or non-athletes, meaning our data could be biased in that sense. Despite this, the overall consensus with our data was that most participants had not heard of or engaged in a 'Movement Break', but would advocate for having them implemented across campus.

Introduction

The Move U Crew is committed to optimizing campus wellbeing for all students. One of the approaches they offer to students is ‘Movement Breaks’ in the classroom (Move U Crew, 2022). UBC’s ‘Movement Breaks’ are used as a way to reduce prolonged periods spent sitting down in the classroom or at home by implementing small bouts of movement into the day. Engaging in ‘Movement Breaks’ to avoid long periods of sedentary time has many benefits ranging from improved cognitive capacity and improved academic performance in university students (Peiris et al., 2021). Part of the challenge that we face is the lack of awareness surrounding ‘Movement Breaks’ in undergraduate students on campus. The purpose of our research study was to analyze UBC undergraduate students’ awareness and engagement of the ‘Movement Break’ service to be able to increase the use of this service across campus. Through our research questions - have UBC undergraduate students heard of and/or participated in ‘Movement Breaks’, what faculties are engaging in ‘Movement Breaks’, and would UBC undergraduate students advocate for ‘Movement Breaks’, to be implemented across campus? - we hoped to accomplish this task. By gathering an enhanced understanding of the current literature on movement breaks, we were able to advocate for why their implementation is necessary.

Literature Review

Although physical activity levels have recently increased post pandemic, there is now emerging evidence that physical inactivity and sedentary behaviour, such as prolonged sitting time, are independent of one another (Gilson et al., 2011). Meaning that even if you have an active lifestyle, prolonged occupational sitting during online learning and studying can be associated with poor health. Additionally, prolonged periods of sitting can be associated with

health risks, such as obesity, metabolic syndrome, diabetes and mortality (Gilson et al., 2011). Voss et al. 's (2014) article also supports the notion aforementioned that large amounts of sitting can increase all-cause mortality and the risk of chronic diseases like dementia and obesity.

Research by Alicia Thorp and colleagues (2011), outlines the existing evidence proving the distinct risk that sedentary behaviour has regarding adverse health outcomes. It was observed that higher sedentary time, independent of physical activity, results in a great increase in risks threatening overall and specific health outcomes (Thorp et al., 2011). This claim is further supported by the studies of Oscar Castro and colleagues (2020) who focused directly on the amount and effects of sedentary time in university students. University students are vulnerable to being exposed to high amounts of sedentary behaviour and lower amounts of physical activity in their daily lives (Castro et al., 2020). This increased sedentary time and poor physical activity greatly increased the risk for this population to develop negative health outcomes in the present and future (Castro et al., 2020).

In addition to the negative health outcomes linked to sedentary behaviour previously discussed, there is also a direct link to academic performance (Felez-Nobrega et al., 2018). Majority of university settings are related to prolonged sitting which is how most students spend their work day. When these long periods of sitting are broken up and interrupted by breaks of physical activity, we observe increases in cognitive functioning (Felez-Nobrega et al., 2018). These short breaks optimize cognitive operations which lead to increased academic achievement and focus in the classroom (Felez-Nobrega et al., 2018). Furthermore, simply implementing a standing break in class can greatly improve concentration and levels of alertness so providing students time to move around and be active in 'Movement Breaks' will have benefits greater or equal to this (Paulus et al., 2021).

Furthermore, due to the findings from the aforementioned literature, “A four-minute movement break conducted once in a 2-h lecture was perceived to be feasible and acceptable to students” (Peiris et al., 2021, p.2). This indicates that the implementation of a ‘Movement Break’ service across campus for all classrooms would be beneficial physically and mentally for students. Although, “there is limited research on classroom movement breaks in the university setting” (Peiris et al., 2021, p.2). This gap in the research creates an issue when attempting to advocate for implementation of the ‘Movement Break’ service as there is no evidence in support of the initiative. To fill the gap in the research, a UBC wide approach to support teachers in the implementation of the ‘Movement Break’ service across campus would be beneficial (Routen et al., 2018).

Methods

Our research process incorporated a qualtrics survey aimed at discovering the current awareness of UBC students surrounding UBC’s ‘Movement Breaks’ Service. 74 participants from UBC sports teams, and our respective friend groups responded to our survey to which they were recruited through social media and text messaging. Our survey asked participants for their year of study and current faculty then questioned if the participants had ever engaged in a ‘Movement Break’ or had heard of the service and what their thoughts on it were. They were subsequently questioned about who they would like leading ‘Movement Breaks’ and what would be most welcome in regards to the ‘Movement Break’ activity. Furthermore, questions were asked in regards to physical activity levels of the participants and if they were currently satisfied with their level of physical activity. Our research design took advantage of an online Qualtrics' survey tool that is easily accessible and available to everyone. Our study’s design gathered qualitative data, which are open-ended questions that allowed our team to produce a pragmatic

and descriptive summary of what was expressed by the participants (Riazi, 2022). According to Löfgren (2013) by using a qualitative research design, we were able to qualitatively analyze our data by labelling the amount of physical activity of each participant, their awareness about our research and the differences between which faculties promote 'Movement Breaks'. Using an online Qualtrics Survey also aided in creating categories by combining and conceptualizing our results, which enabled us to understand how the results are interrelated. In addition to our research design, we also utilized descriptive statistics to analyze and present our quantitative questions. This helped present the demographics like the undergraduate students, their faculty and their level of physical activity. According to The Organic Chemistry Tutor (2019), the use of quantitative research also helped describe our statistics as we organized and summarized data using bar graphs, and measures of central tendency. Inferential statistics were also utilized, which is when we take our sample data and draw a conclusion (The Organic Chemistry Tutor, 2019). Moreover, the reason for a survey tool such as this one, is because the majority of undergraduate students have access to an electronic device so it was easily accessible to most people and by it being online, the survey was able to be taken at any time and place. Even on the backend of the pandemic, it was important to respect everyone's differing anxiety levels and provide a survey tool that did not require human contact to adhere to all comfort levels. It also allowed for people who may be sick to still be involved in our study because they were able to complete it in their isolation.

Results & Discussion

Findings

Our study targeted UBC undergraduate students in varying faculties and years of study. This was important in our sample selection to validate our knowledge of which faculty requires more awareness in regard to the ‘Movement Break’ service. We collected data from a total of 74 participants; 30 students identified as male, 43 identified as female, and 1 preferred not to share. We collected data from a variety of faculties including; 15 students in Kinesiology, 24 in Arts, 12 in Sciences, 10 in Sauder, five in Land and Food Systems, four in Forestry, two in Engineering, and one in the faculty of Education (Appendix D, Figure 7). Data was also collected from nine students in their first year, 13 in their second year, 12 in their third year, 26 in fourth year, 11 in fifth year, and four that have surpassed their fifth year (Appendix D, Figure 1). Hence, the majority of students who participated in our study were in their fourth year or higher of study and attended the faculty of Arts or Kinesiology. This distribution is likely a result of the fact that our group members are all in their fourth or fifth year of study and are a part of the faculty of Kinesiology.

Once our data was collected, we analysed it by compiling all participant responses and comparing central tendencies and any similarities or differences within them. Our data was analyzed using descriptive and inferential statistics to draw conclusions from our results and highlight any trends. Our first research question was, “Have UBC undergraduate students heard of and/or participated in ‘Movement Breaks’?”. Out of a total of 77 responses, 18 people said yes (Appendix D, Figure 2), they had heard of UBC’s ‘Movement Break’ service and a total of 20 had engaged in them (Appendix D, Figure 3). Therefore, two participants unknowingly participated in ‘Movement Breaks’. Our next research question was, “What faculties are engaging in ‘Movement Breaks’?”. Our data illustrated that of the 20 students who had

participated in the ‘Movement Breaks’ service, nine were Kinesiology students, eight were in the Faculty of Arts, one in Land and Food Systems, one from Law, and one in Sauder (Appendix D, Figure 4). Our final research question was, “Would UBC undergraduate students advocate for ‘Movement Breaks’ to be implemented across campus?.” We asked students to what extent ‘Movement Breaks’ made them feel better with results revealing that 13 people said they experienced some level of improvement in how they felt (Appendix D, Figure 5). Based on a total of 35 responses from students who said the ‘Movement Breaks’ made them feel good, 32 said they would advocate for ‘Movement Breaks’ to be implemented in the classroom (Appendix D, Figure 6).

Connections to Campus Partner and Literature

UBCs campus partners expressed concern with the UBC ‘Movement Break’ service, outlining that the purpose of this study, was aiming to assess this program in order to find ways to increase physical activity in the classroom. Our study explored the thoughts and perspectives of UBC undergraduate students to address the goal outlined by the campus partners. Our research portrayed that undergraduate students are not reaching their daily physical activity requirements and that ‘Movement Breaks’ could help them take a break from sedentary behaviours in the classroom. The Physical Activity Guidelines for Americans suggest that adults should fulfill at least 150-300 minutes of exercise per week (Piercy et al., 2018). This means that students should engage in at least five 30 minute sessions of moderate to vigorous activity during the week to reach the requirements. Our survey revealed that 39 participants were engaging in sufficient physical activity during the week and that 40 were satisfied with how physically active they are. Although over 50% of our participants were satisfied with their levels of physical activity, there is now emerging evidence that physical inactivity and sedentary behaviour, such as prolonged

sitting time, are independent of one another (Gilson et al., 2011). Meaning that even if you have an active lifestyle, prolonged occupational sitting during online learning and studying can be associated with poor health. Additionally, prolonged periods of sitting can be associated with health risks, such as obesity, metabolic syndrome, diabetes and mortality (Gilson et al., 2011). Voss et al. 's (2014) article also supports the aforementioned notion that large amounts of sitting can increase all-cause mortality and the risk of chronic diseases like dementia and obesity.

It is well accepted that regular moderate to vigorous physical activity (MVPA) is beneficial to one's overall health (Sebastiano et al., 2020). However, one's health can also be impacted by sedentary behavior, which is described as any behaviour characterized by a low energy expenditure created when sitting (Voss et al., 2014). Sedentary behavior, like physical activity, can also be divided into different categories: transformative (sitting while driving or riding), occupational (sitting while using a computer), and leisure (sitting or lying down while watching television). Voss et al. (2014) also illustrated that prolonged sitting has been shown to raise all-cause mortality and the risk of chronic disorders like dementia, which was indicated in a randomized trial on the effects of exercise on the brain and its risk for dementia. Due to evidence supporting that MVPA declines with age while sedentary behaviour increases with age, it is possible that these factors influence overlapping pathways that affect the brain's structure and function (Voss et al., 2014). Evidence suggests that frequent MVPA may not be enough to counteract the adverse effects of sedentary behavior on systemic risk factors, therefore, it is recommended that people alternate between sedentary and physical activity for optimal health (Voss et al., 2014). The 'Movement Break' service can help students increase physical activity levels and aid in counteracting habits of prolonged sitting that occur throughout the school day. These challenges relate back to the initial problems outlined by our campus partners.

Challenges & Limitations

Although our target audience was undergrad students in various years, the majority of our data came from participants in upper years. Only 22 lower year students completed the survey and an even more surprising statistic acquired was that only two lower year students had ever participated in a ‘Movement Break’. This is a limitation because there were not enough participants from lower years to accurately draw conclusions about this population. This also demonstrates that our survey was not evenly distributed to UBC undergraduate students and instead focused more on the thoughts and perspectives of upper year students.

Another challenge related to our target population is the fact that we primarily shared our data with our respective athletic teams. Due to this, most of the data collected came from varsity athletes and limited our data to this specific population rather than reaching all undergraduate students. This may have had an impact on our results, since athletes are most likely doing more than the recommended amount of physical activity in a day and may not need or want a ‘Movement Break’ in the classroom after completing a vigorous practice or workout.

Finally, because each faculty has varying streams, it is difficult to target where exactly in each department ‘Movement Breaks’ are being engaged in. This was a limitation in our study as the scope of the data was too large and did not focus on which streams in faculties attention was required in regards to improving awareness and engagement of ‘Movement Breaks’. Future studies should identify the stream within the faculty to illustrate which department and courses participate in ‘Movement Breaks’.

Enhancing Our Understanding and Addressing Research Questions

Through our data collection and review of our findings, it is evident that the UBC ‘Movement Breaks’ service needs to be further studied and improved so it can reach more of

UBC's population. The specific questions we asked in our Qualtrics survey aimed to collect information to form well supported answers to our research questions. From analyzing the various perspectives of UBC undergrad students, we can create inferences about the need for more resources and strategies to increase the outreach of the UBC 'Movement Break' service. This is crucial to providing students with increased movement time which would offset some of the aforementioned negative impacts associated with prolonged periods of sitting or insufficient physical activity within a day.

Recommendations

Our first recommendation is in regards to future studies on this topic as we feel this is necessary to know first in case the studies currently are not sufficient to implement change. Based on our findings, our first recommendation for future studies is to ensure there is a plentiful amount of questions for those who have not participated in a 'Movement Break'. We had multiple recommendation responses at the end of our survey for us to consider adding more questions as aforementioned. We agree that those responses should be taken seriously due to the 74 participants we had in our survey; only 20 of them had ever engaged in a 'Movement Break'. Many of our questions were heavily focused on those who had engaged and thus, our response quantity for those questions were minimal compared to our total number of participants. Had we had questions that allowed for those who hadn't engaged in 'Movement Breaks' we may have had more useful data to reinforce our recommendations for implementation of 'Movement Breaks' across campus.

Our next recommendation is a change for the existing service, which would focus on the accessibility of the 'Movement Breaks' service when conducted in classrooms. We had a couple participants respond to our question of recommendations for us by saying that the 'Movement

Breaks' service should be more accessible for those of all physical ability. Our findings support this recommendation as the majority of the activities engaged in during the 'Movement Breaks' as reported by our participants were stretching, dancing, and walking. These types of activities are not accessible to those with physical disabilities that may impact their gait and physical movement in differing ways, especially those who may be in wheelchairs. Our recommendation based on these findings is for 'Movement Breaks' to offer stretches that can be done sitting down so those in a wheelchair can participate. In addition, including activities like meditation and breathing exercises, so those in wheelchairs, those with gait compromises, and differing physical movement abilities can participate. In this way, the 'Movement Break' service becomes accessible for people of all abilities and provides a multitude of ways for people to move. Something that could also be considered in regards to this recommendation, is providing choices for students as to what they would like to engage in so if one is able to stand up and stretch they may do so but if they're not able to, an alternative is available.

Our third recommendation is a change for the existing service in regards to what year level the 'Movement Breaks' are being implemented in. Our recommendation would be to implement the 'Movement Breaks' service in all classrooms for lower level students in their undergrad. We advise this because building good movement habits in the lower levels of one's undergrad degree could be instrumental in creating habits that last for their whole university life and hopefully further into their professional career. Our results portray that of the 20 participants who engaged in 'Movement Breaks', only two of them were lower years. Although, this may be because all our group members are in their fourth or fifth year. Due to our current year level standings and that we shared our survey with our social groups, those who filled the survey may have predominantly been in upper years. This limitation may impact our findings and make this

recommendation ill-informed but we believe it is still useful based on our aforementioned results.

Our final recommendation, which leans towards the aspirational side, would be to have 'Movement Breaks' implemented in all undergraduate and masters classrooms. We advise this recommendation based on the 35 people who responded to our question of if they would advocate for 'Movement Breaks' to be implemented across campus - 32 said yes. With those results we know our participants would advocate for 'Movement Breaks' implementation and we would infer based on the 94% support rate of our participants that people on campus who didn't participate in our study would also advocate for the services' implementation. Physical activity and movement is essential at every age of life and is pivotal amongst a population who spends a large amount of time sedentary like students. Having 'Movement Breaks' implemented across campus for all students would be beneficial to improving their sedentary behaviours.

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Appendix A - Consent Form



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

Consent Form

Assessing Student Perspectives of UBC's 'Movement Breaks' Service in the Classroom

Group 14

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

Sessional Instructor: Dr. Negin Riazi (School of Kinesiology, Faculty of Education)

The purpose of the class project: To gather knowledge and expertise from undergraduate students perspectives of UBC's 'Movement Breaks' Service in the classroom.

Study Procedures: With your permission, we are asking you to participate in an online qualtrics survey. You may only complete the survey once.

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 with 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 class project: There are no explicit benefits to you by taking part in this class project. However, the survey 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 Drs. Riazi and 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 Negin Riazi by email at negin.riazi@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.

Appendix B - Qualtrics Survey

https://ubc.ca1.qualtrics.com/jfe/form/SV_dilDGLD69joMz78

Appendix C - Social Media Recruitment



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KIN 464: Health Promotion and Physical Activity Class-based Project

If you are a UBC undergraduate student, we would love for you to fill out our survey!

As part of a course-based research project (KIN 464), we are conducting a study on students awareness of UBC's 'Movement Breaks' Service in the classroom. If you are an undergraduate student we would love to hear from you/for you to complete a survey. More information https://ubc.ca1.qualtrics.com/jfe/form/SV_dilDGLD69joMz78.

Please note that this post is public and anyone who likes, comments or shares the link will, by doing so, be associated with the study. The Principal Investigator on this project is Dr. Andrea Bundon (andrea.bundon@ubc.ca) and Dr. Negin Riazi (negin.riazi@ubc.ca) is the sessional instructor for the course.

Appendix D - Figures

Figure 1 - Year Level of Participants

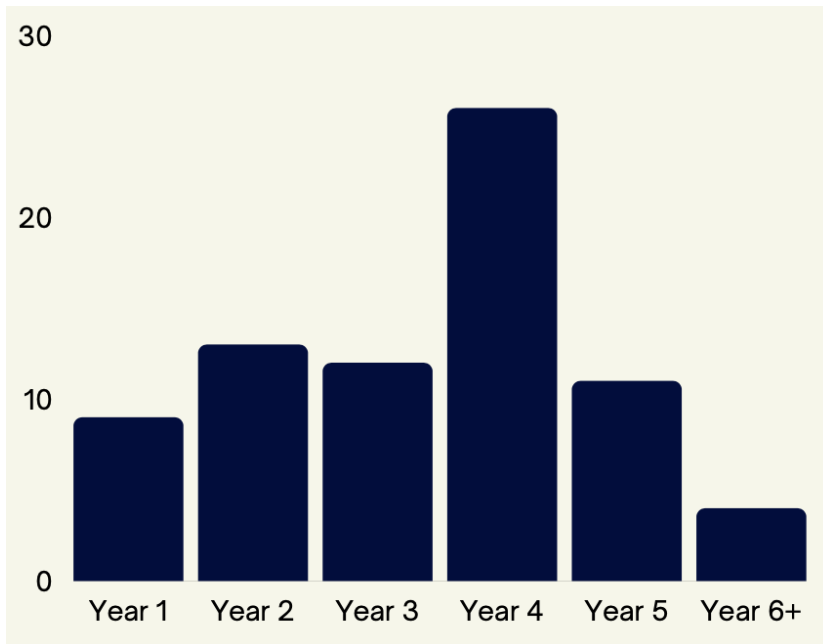


Figure 2 - Have you ever heard of the UBC movement breaks service?

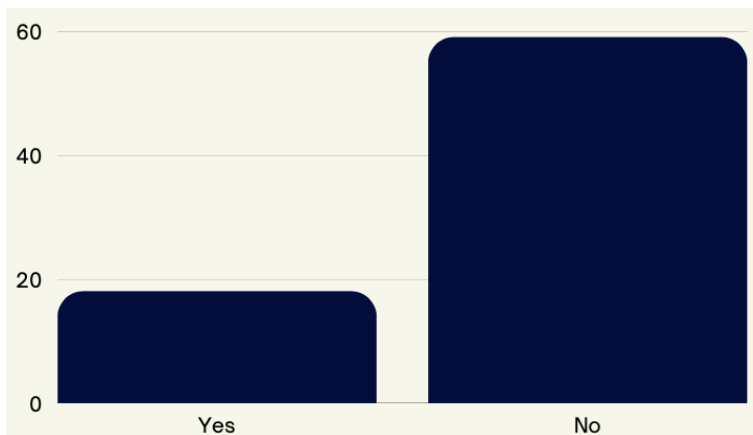


Figure 3 - Have you ever engaged in a movement break?

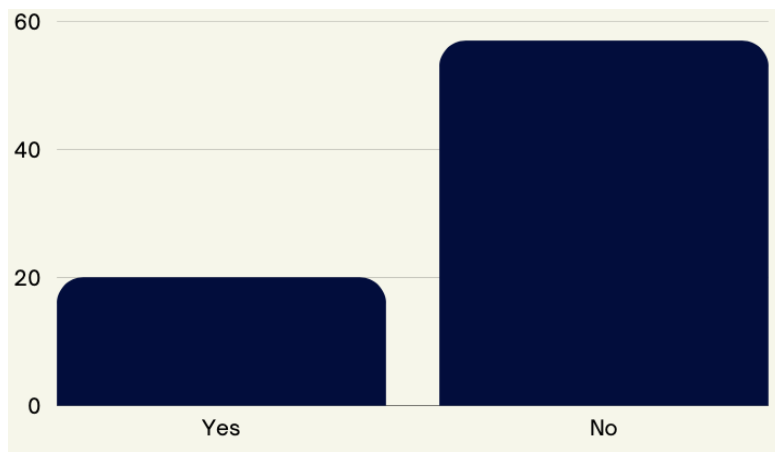


Figure 4 - Facilities of participants who have participated in a movement break

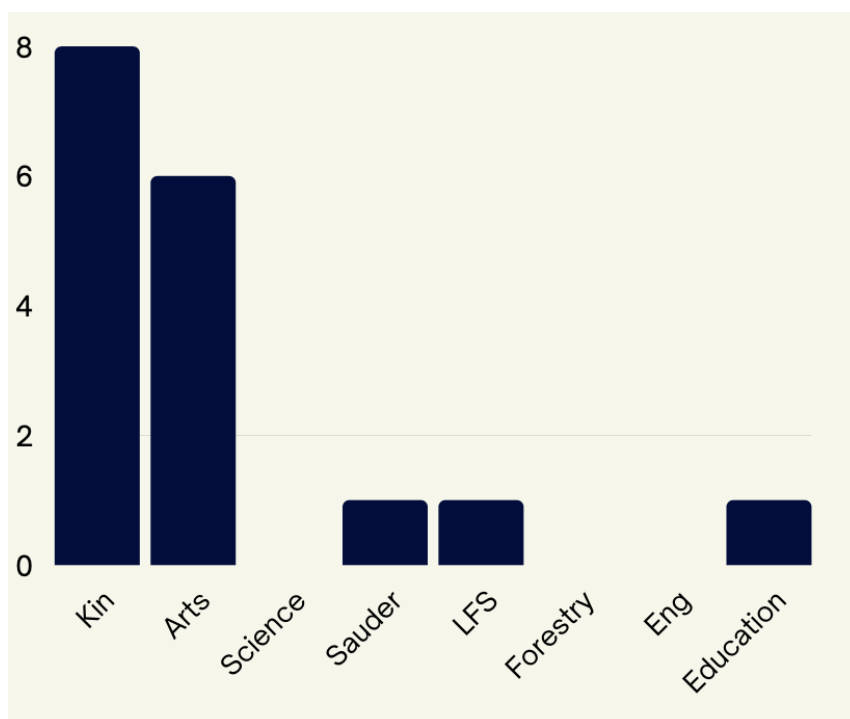


Figure 5 - To what extent do you like the idea of a brief 'Movement Break' during class to increase daily physical activity and reduce sedentary behaviour?

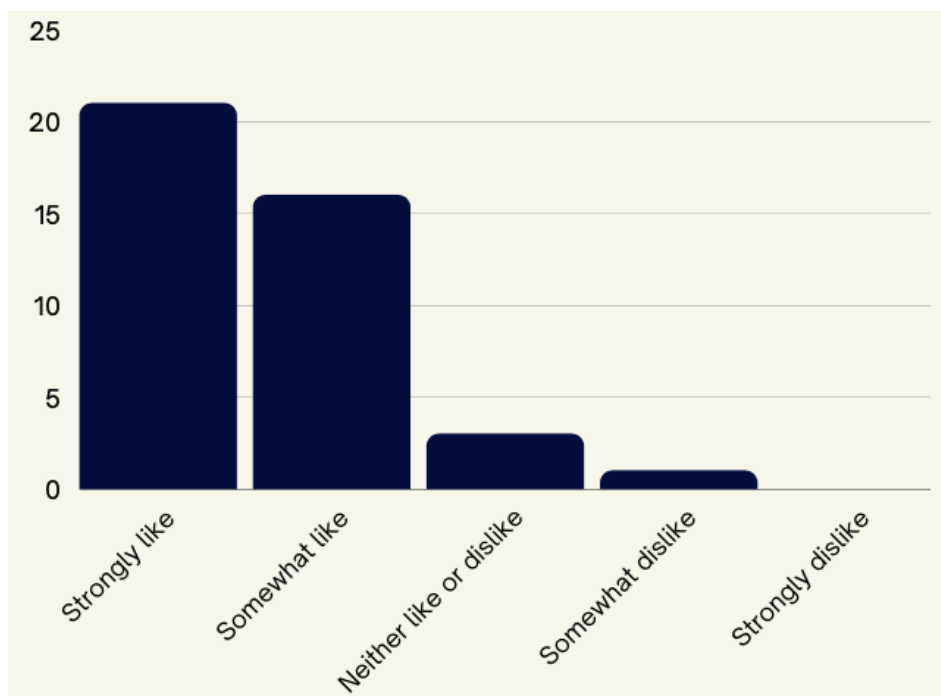


Figure 6 - If participating in the 'Movement Breaks' made you feel good (physically/mentally), would that inspire you to advocate for 'Movement Breaks' in class?

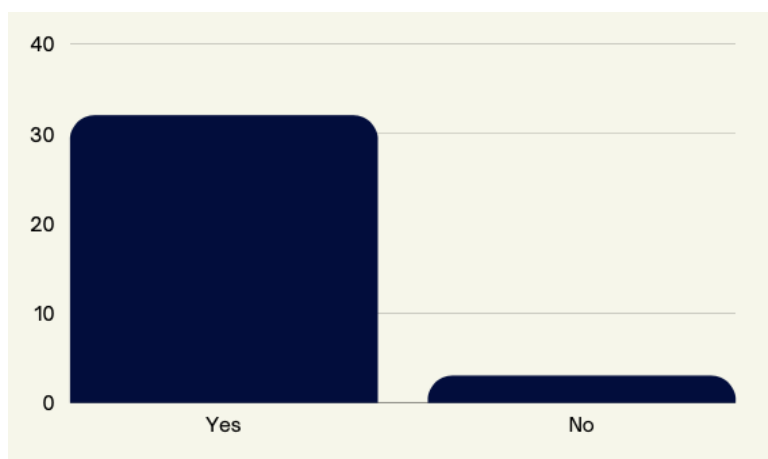


Figure 7 - Faculty of participants

