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# Improving the Online Physical Activity Experience: An Evaluation on the UBC Get Active at Home Webpage

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**Improving the Online Physical Activity Experience:  
An Evaluation on the UBC Get Active at Home Webpage**

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## Executive Summary

*Literature Review:* The COVID-19 lockdown has produced a significant rise in rates of depression, anxiety, low self-esteem, substance abuse, eating disorders, and suicide (Ammar et al., 2020). Despite the fact that individuals tend to value the positive effects of exercise, low energy and a lack of motivation, as commonly reported, remains a barrier in the participation of daily physical activity. In a study conducted by Ammar et al. (2020), the COVID-19 lockdown has negatively impacted global physical activity participation and sedentary behaviour trends. Additionally, the closure of many public recreation facilities and cessation of social gatherings has promoted individuals to seek elsewhere for physical activity-related resources. Given its already far-reaching nature and ease of use in 2021, the internet has become a key resource for such matters. Although easily accessible, the risks of information overload are commonly cited as its drawback, which may lead to the impairment of cognition (Cavallo et al. 2020; Marcus et al., 2008).

*Methods:* This study utilized a cross-sectional design. A self-assessment survey was designed and conducted using the Qualtrics web survey platform to reach students at UBC with first-year standing. The survey was developed around three themes: levels of engagement of physical activity before and during COVID-19 lockdown, engagement patterns in online physical activity, and perceptions of the UBC Get Active at Home page. A link to the survey was distributed through several first year UBC Facebook, UBC Buy/Sell page, and word-of-mouth.

*Results:* Data from 22 participants collected and analyzed. 50.0% of participants reported a decrease in physical activity over COVID-19 lockdown. With regard to the perceived benefits of physical activity, 95.0% of participants selected improved mental health. Conversely, 59.1% of participants highlighted lack of motivation as a barrier to their participation. For engagement in online physical activity, 77.3% of participants reported that they had accessed online physical activity resources at least once. However, 27.3% of participants reported having heard of the UBC Get Active at Home page. 45.5% of participants reported information overload a barrier to participating in online physical activity. Lastly, 72.3% of participants reported video to be their most favoured medium for learning and participating in physical activity online.

*Discussion:* This study provides important insights to the participation patterns in physical activity, within the unique context of the COVID-19 lockdown. Through the identification of perceived online and offline physical activity barriers from first year UBC students, interventions can be developed to address these barriers to increase student engagement on the webpage and at home. Improving mental health is a large motivation behind people's incentive to exercise and is an important issue globally. Additionally, some of the perceived barriers to being physically active at home during COVID-19 is the lack of space and equipment. As such, the design and planning of future materials for the UBC Get Active at Home page should key consideration of user's environments when providing resources.

## Introduction

The evidence for the health benefits of physical activity (PA) is irrefutable (Füzéki et al., 2020). Individuals who engage in regular PA have increased cardiovascular fitness, an enhanced immune system, improved muscular strength, and an improved quality of life, which overall contributes to a decreased risk of chronic illness and mortality (Füzéki et al., 2020). Currently, the Canadian Society for Exercise Physiology recommends adults aged 18-64 years engage in 150 minutes of moderate to vigorous aerobic PA per week (CSEP, 2020). Aerobic activity relates to movement that creates a small, medium or large stress on the cardiovascular system (Hammami et al., 2020). Additionally, it is also advised to participate in two bouts of strength exercise and reduce sedentary activities wherever possible (CSEP, 2020). Although variabilities exist between individuals, this threshold provides a clear and simplified guide for the general population (Tremblay et al., 2017). In addition to its physiological benefits, regular PA has the potential to elicit positive psychological changes such as enhancing self-efficacy and decreasing stress and anxiety levels (Füzéki et al., 2020).

Although the importance of PA is understood across academic disciplines and the general population, rising levels of inactivity and sedentary behaviours suggest significant barriers exist (Lesser & Nienhuis, 2020; ParticipACTION, 2020). According to a 2016-2017 Statistics Canada report on PA, only 16% of adults aged 18-64 years are adhering to Canada's PA recommendations (Participaction, 2020; Statistics Canada, 2019). Although ParticipACTION and other health promotion agencies have existed for decades, these figures highlight the complexity of promoting behavioural change in a system influenced by physiological, sociological, and psychological factors (Kelly & Barker, 2016; Tremblay et al., 2017). However, the emergence of the SARA-CoV-2 coronavirus in Winter 2020, and subsequently, the COVID-

19 pandemic, introduced new complexities and challenges for the discipline of health promotion (Füzéki et al., 2020). With the absence of a vaccine and pharmacological interventions, the world adopted strict systems of quarantine, such as business closures, including that of gyms and recreation facilities, travel bans, and stay-at-home orders (Füzéki et al., 2020). In only a short period of time, the manner in which individuals worked, studied, and participated in leisure adapted to support public health initiatives (Ammar et al., 2020; Füzéki et al., 2020; Hammami et al., 2020). It has been reported in a study that PA levels amongst the participants decreased by 33.5% in comparison to before the pandemic and that there was 28.6% increase in time spent sitting (Ammar et al., 2020).

## **Literature Review**

### **Impact of COVID-19 Lockdown on Physical Activity and Mental Health**

With the introduction of mandatory stay-at-home orders, numerous studies have been conducted to understand how individuals cope with abrupt routine changes and how home confinement influences this. Most dramatically, a significant rise in mental illness has been noted, such as increased rates of depression, anxiety, low self-esteem, substance abuse, eating disorders, and suicide (Ammar et al., 2020). A study conducted by Firth et al. (2016) found that although individuals with psychological-related illnesses identified and valued the positive effects of exercise, their reported low energy and a lack of motivation imposed a steep barrier. These findings are reinforced in a study conducted by Ammar et al. (2020), in which they noted an overall decline in global PA participation. Congruent with the aforementioned study, they argue that these trends are most likely linked to negative psychological effects related to the COVID-19 pandemic and abrupt shift in daily routines. Notably, these trends continue despite

the fact that the majority of individuals have had more time for leisure and more online and social media offerings exist for PA guidance and socially distant recreation (Ammar et al., 2020). Forthwith, the daily routine of pandemic-influenced life has become defined by sedentary behaviour, with jobs and academics transitioning online, leisure time consisting of excessive screen-use and sitting, and an overall lack of participation in PA.

### **Digital Health Promotion**

As outlined in Ammar et al.'s (2020) study, the internet and social media have become a crucial medium for health promotion during COVID-19 as it supports public health endeavours, is easily accessible, and has the potential to be far reaching. Despite its positives, the internet has greatly increased the risks of information overload, in which an individual becomes overwhelmed with the immense library of available resources, thus impairing cognition (Cavallo, et al. 2012; Marcus et al., 2008). With this problem, the study of user experiences enrolls the disciplines of psychology, sociology, the cognitive sciences, marketing, and computer science (Heffernan et al., 2016). Chen et al.'s (2019) study highlights that this is most likely due to the complexity of health-related behaviour interventions and the fact that the study of user experience is relatively new. However, they note a key difference between online interventions and more 'traditional' methods, such as in-person events: personalization (Chen et al., 2019). These narratives are reinforced in Firth et al.'s (2016) aforementioned study, in which participants reported a key barrier to their participation in PA was a 'lack of support'. However, Chen et al. (2019) argues that online interventions are limited in their ability to personalize as they lack critical elements of socialization. As of now, it is unknown if online media have the

potential to personalize interventions to the same degree of in-person styles as the literature is extremely limited.

### **The Get Active at Home Webpage**

In response to the new lifestyle restrictions imposed, the University of British Columbia's department of recreation launched the website 'UBC Get Active at Home' to continue its commitment of providing welcoming, accessible, and enjoyable PA opportunities to individuals at home (UBC Recreation, 2021). The presented goal of improving the UBC Get Active at Home webpage to enhance participation in physical activity at home is undeniably important in order to attempt to counteract an expected increase in sedentary behaviour and inadequate mental health, which are both mechanisms for serious health conditions (Ammar et al., 2020). Therefore, the purpose of this study is to conduct a self-assessment survey that will be completed by first-year UBC students with the intent to acquire feedback on how to eliminate barriers to increase the likelihood of participating in the physical activity resources provided on the UBC Get Active at Home page. The underlying limitation in existing knowledge regarding engagement in at-home physical activity pertains to what barriers are restricting further participation and how they can be altered. One research question that is being posed relates to what forms of at-home activities are seen to be the most enjoyable to create maximum sustainability? This ultimately correlates to the previously mentioned question regarding the barriers to engaging in at-home physical activity. Conducting research to address these questions will aid in the goal of increasing student engagement on the UBC Get Active at Home page by meeting individual needs.

### **Motivates of being Physically Active Amidst COVID-19 Lockdown**

Another question that this study intends to address is what motivates individuals to participate in physical activity, particularly at home given the circumstances. It is important to understand the motivating factors behind physical activity during lockdown in order to streamline the user experience when browsing the UBC Get Active at Home page. Knowing the factors behind this could potentially increase website traffic and conversion rate of first-time site visitors into regular visitors. Due to the reported drop in mental health adequacy, it is additionally significant to report on the rate-limiting factors to achieving positive mental health. Therefore, this study will report on barriers in relation to the aforementioned research questions in order to achieve the goal of increasing physical activity engagement at home through the UBC Get Active at Home page.

## **Methods**

### **Study Design and Population**

This study reports on the findings of a retrospective cross-sectional online questionnaire conducted using the Qualtrics web survey platform (Qualtrics, Provo, UT). The survey aimed to continue data collection until the goal of obtaining a minimum of 40 completed surveys and a maximum of 80 completed surveys was met. The inclusion criteria would be, as already stated; a first-year standing at UBC or a first-term transfer student at UBC. Anyone not fulfilling these requirements was deemed ineligible for participation.



### **Survey Development and Promotion**

Following a review of the literature, a self-assessment survey was designed around three themes: engagement of PA, engagement in online PA, and perceptions of the UBC Get Active at Home webpage. As the questionnaire was administered only once, questions for both conditions (before and during COVID-19) were assessed at the same time.

A link to the online survey was distributed on the Facebook groups ‘UBC Grads of 2024’, ‘UBC Buy/Sell’, and ‘UBC Kinesiology Class of 2024’. The survey was posted once on March 23, 2021 after acquiring permission from the moderators of each respective group. Additionally, the survey was promoted through word-of-mouth for further dispersal to our target population.

### **Data Privacy and Consent to Participation**

Prior to the start of the survey questionnaire, the consent form comprised a brief description of the KIN 464 course, the purpose of the study, and the declarations of anonymity and confidentiality (see Appendix A). Additionally, participants were able to stop study participation and leave the questionnaire at any time; if doing so; their responses would not be validated. By clicking the ‘yes’ button at the end of the form, participants acknowledged their voluntary consent and could proceed.

### **Survey Questionnaire**

The online survey consists of ten questions organized into three themes, as mentioned prior. The first part of the questionnaire contains questions one to three (see Appendix B). They seek to identify how the COVID-19 pandemic has impacted one’s engagement in PA. This

section of the questionnaire will also attempt to identify how individuals internalize the benefits of exercise. Lastly, question three identifies a baseline measure of what individuals perceive to be a barrier to engaging in PA from home. This question differentiates the broader idea of exercising at home from the more specific objective of the research study. The question's response values best reflect the identified barriers to engaging in PA during COVID-19 from current research. These include, but are not limited to lack of space, lack of motivation, and limited knowledge or direction (Ammar et al., 2020; Füzéki et al., 2020; Hammami et al., 2020; Ng, 2020).

The second part of the questionnaire contains questions four to seven (see Appendix B). These questions seek to identify how an individual perceives the effectiveness of online PA in their engagement, and to what degree they currently use it. This section does not ask any question specifically about the UBC Get Active at Home page as it intends to understand an individual's broader perception of online resources. As online PA is a broad term, question four highlights our definition: anything that is accessed within a browser, such as chrome. Next, the perceived barriers to accessing online PA resources will be explored. Given the fact that COVID-19 remains a relatively new issue, research regarding online resources in the context of COVID-19's restrictions is highly limited. As such, this study has designed the options to best reflect current evidence, given the current situation. Teixeira et al.'s (2012) study illustrates the importance of motivation in an individual's sustainable engagement in PA. To also compare the current offerings of the UBC Get Active at Home page, common online PA resources will be listed, such as nutrition, mental health, and behavioural change strategies. Additionally, we will examine the participants' most favoured medium to engage in online resources.

The final part of the questionnaire contains questions eight to ten (see Appendix B). This section of the questionnaire seeks to identify an individual's current knowledge and perceptions of the UBC Get Active at Home page. As such, question eight asks if participants had ever heard of the page prior to the survey. If so, they will also provide insight to if they have accessed it multiple times, once, or have only heard of it. Next, question nine infers upon participants' satisfaction with UBC's PA offerings during COVID-19.

For questions that allow multiple selections, participants will also be able to select 'other' to provide a text response (see Appendix B).

### **Statistical Analysis**

The data within the survey was assessed through descriptive quantitative statistical analysis. Descriptive quantitative analysis uses both numerical and illustrative techniques to examine reported data from a sample (Fisher & Marshall, 2009). Quantitative surveys create opportunities to look at possible relationships between beliefs or behaviours, which in this case would revolve around barriers to physical activity at home or online (National Business Research Institute [NBRI], 2021). Although causal inferences cannot be made, it enabled us to formulate suggestions for improvement on the page to create increased PA engagement by pinpointing the reported major barriers (Fisher & Marshall, 2009). Descriptive quantitative analysis can be expressed through measures of central tendency; therefore, it allows one to depict the most probable or central point within the sample data, as well as potential variability amongst the data (Fisher & Marshall, 2009).

As this study intends to analyze the barriers of engaging in physical activity at home, particularly through the UBC Get Active at Home Page, it is important to depict the frequency of

responses. This is best done through a numerical approach as it creates a better opportunity to take notice of any patterns in responses related to the research questions (Fisher & Marshall, 2009). In terms of the levels of measurement on the survey, nominal and ordinal scales were implemented.

An ordinal level of measurement is when the response values can be ranked relative to each other (Fisher & Marshall, 2009). This was used in questions one, eight and nine due to the fact that the variables cannot be directly measured (Fisher & Marshall, 2009) (see Appendix B). Since research studies have suggested that physical activity levels have been negatively affected since the COVID-19 pandemic, it was significant to measure this within the sample (Füzéki et al., 2020).

A nominal level of measurement in this study refers to using a response scale in a categorical manner without any quantitative value or order (Fisher & Marshall, 2009). This allowed for simplified data analysis regarding the score values so that findings and themes can be formulated efficiently; therefore, close-ended questions have been justifiably implemented (Fisher & Marshall, 2009). However, there were 'other' or 'none' options listed for questions when applicable, to allow for variables that have not been provided in the response thread. In this study, the process of using quantitative analysis can also limit response bias due to the limitation of open-ended questions (Fisher & Marshall, 2009). In terms of analyzing the data, the mode will be the central tendency measure utilized for the survey questions measured at a nominal level (Fisher & Marshall, 2009). This determines what response values were selected the most amount of times and it is a commonly used measure when it comes to nominal scales (Fisher & Marshall, 2009). Therefore, a frequency distribution table will be the measure of dispersion to illustrate the most frequently occurring values (Fisher & Marshall, 2009). A frequency distribution table will

additionally be the measure of dispersion for questions using an ordinal scale, however the measure of central tendency will be the mode (Fisher & Marshall, 2009). This depicts the middle score within the data when the values are ordered from lowest to highest (Fisher & Marshall, 2009). Since response values are ranked relative to each other when using ordinal scales, this level of measurement and dispersion is appropriate (Fisher & Marshall, 2009).

## **Results**

### **Study Participants**

Data from 22 participants was included in this study. Enrollment was 55% below our minimum collection target of 40. Within the survey conduction period (March 23, 2021 to April 5, 2021), 37 responses were collected. 6 participants were deemed ineligible as they did not meet the inclusion criteria. Additionally, 9 responses were not included as questionnaires were incomplete. Descriptive for participant validity are reported in table 1 (see Appendix C).

### **Survey Questionnaire Responses**

This section reports on the collected responses from the UBC Get Active at Home Evaluation Survey Questionnaire. The presentation of results is organized into the three aforementioned themes: engagement in PA, engagement in online PA, and perceptions of the UBC Get Active at Home page.

#### ***(Q1-Q3): Engagement Patterns in Physical Activity***

Responses for question one (engagement in PA before and after COVID-19) are presented in figure 1 (see Appendix D). 31.8% of participants reported an increase in physical

activity, with 3 (13.6%) and 4 (18.2%) reporting a significant and slight increase respectively. 50.0% of participants reported a decrease, with 4 (18.2%) and 7 (31.8%) reporting a significant and slight decrease respectively. 4 (18.2%) respondents reported no change in physical activity levels.

Responses for question two (perceptions of personal gains from PA) are presented in figure 2 (see Appendix D). As multiple selection was possible, a total of 95 choices were collected. Choices ranged between 1 and 5 (*Mean* = 4.3; *Median* = 5.0). Choice selection was very high for almost all the options. The top three options of 'improved mental health', 'improved self-image', and 'improved cardiovascular fitness' were selected by 21 (95.0%), 20 (91.0%), and 20 (91.0%) participants respectively. 1 participant selected 'other', in which 'greater cognitive function' was entered by text. No participants selected 'none of the above'.

Responses for question three (perceived barriers to participating in PA from home) are presented in figure 3 (see Appendix D). Firstly, 2 participants reported no perceived barriers. As such, 55 total selections were made by 20 participants in which selections ranged between 1 and 6 (*Mean* = 2.6; *Median* = 2.5). The top three choices of 'lack of motivation', 'no equipment', and 'limited space' were selected by 13 (59.1%), 12 (54.6%), and 11 (50.0%) respectively. 1 participant selected 'other', in which the text field was entered as 'Nobody to do it with'.

#### ***(Q4-Q7): Engagement in Online Physical Activity***

Responses for question four (have you sought out online PA resources) are presented in figure 4 (see Appendix D). A total of 17 (77.3%) participants reported that they had accessed online PA resources at least once. Within this group, 11 (50.0%) continue to use them and 6 (27.3%) no longer. 5 (22.7%) participants reported that they had never accessed online resources.

Responses for question five (perceived barriers to accessing online PA resources) are presented in figure 5 (see Appendix D). Firstly, 5 (22.7%) participants reported no perceived barriers to accessing online PA resources. As such, 32 total selections were made by 17 participants in which selections ranged between 1 and 3 (*Mean = 1.8; Median = 2.0*). The top choice ‘overwhelmed with information’ was selected by 10 (45.5%) participants.

Responses for question six (most engaging and beneficial topics) are presented in figure 6 (see Appendix D). Firstly, 1 participant reported that they would not utilize online PA resources. As such, 49 total selections were made by 21 participants in which selections ranged between 1 and 5 (*Mean = 2.3; Median = 2.0*). The top three choices of ‘nutrition’, ‘stretching/yoga exercises’, and ‘behavioural change strategies’ were selected by 14 (63.6%), 11 (50.0%), and 9 (40.91%) participants respectively. 1 participant selected ‘other’, in which the text field was entered as ‘muscle training programs’.

Responses for question seven (which medium do you most prefer) are presented in figure 7 (see Appendix D). 16 (72.3%) participants selected ‘video’ as their most favoured medium to learn about PA. As follows, ‘reading’, ‘podcast’, and ‘live seminar’ were reported by 2 (9.1%), 2 (9.1%), and 1 (4.6%) participants respectively. 1 participant selected ‘other’, in which the text field was entered as ‘learn by experience’.

### ***(Q8-Q10): Engagement in Online Physical Activity***

Responses for question eight (Recall of the Get Active at Home page) are presented in figure 8 (see Appendix D). A total of 6 (27.3%) participants reported that they had heard of the UBC Get Active at Home page. Within this group, 1 (4.6%) participant reported accessing it

multiple times, 5 (22.7%) reported that they had never accessed it. As such, 16 (72.7%) participants had never heard of the webpage.

Responses for question nine (satisfaction with UBC's online PA offerings) are presented in figure 9 (see Appendix D). A total of 16 (72.7%) participants selected 'indifferent' for UBC's PA offerings. 3 (13.6%) participants selected 'slightly satisfied' and 3 (13.6%) selected 'slightly dissatisfied'.

Lastly, question 10 (what PA resources do you feel are missing at UBC) had 9 (40.9%) participants enter a text entry. 5 entries contained 'yoga classes' with one specifically reported as 'yoga for women only'. The 4 other entries were 'my fitness pal', 'recreational sports', 'Pilates', and 'spin classes'.

### **Calculations of Central Tendencies**

This section reports on central tendencies calculated from survey data. The presentation of results is organized into ordinal and nominal data sets. The ordinal data sets, as mentioned prior, include questions one, eight, and nine. The calculated medians are reported in table 2 (see Appendix C). Question one allowed for one choice from five options. Choice A ('significant increase') was assigned a numerical value of 1 and choices B to E followed in an ascending manner. When distributed, the median was calculated at 3.5. Question eight allowed for one choice from four options. Choice A ('yes, I accessed it many times') was assigned a numerical value of 1 and choices B to D followed in an ascending manner. When distributed, the median was calculated at 3.0. Question nine allowed for one choice from five options. Choice A ('highly satisfied') was assigned a numerical value of 1 and choices B to D followed in an ascending manner. When distributed, the median was calculated at 3.0. The nominal data sets, as mentioned



prior, include questions two to seven. The calculated modes are reported in table 3 (see Appendix C).

### **Discussion**

The goal of our study was to acquire information from first-year UBC students of potential barriers to participating in PA. Moreover, given the highlighted negative PA trends as a result of the COVID-19 lockdown, these findings provide important insights to PA barriers specifically to PA resources, like that of the UBC Get Active at Home page.

### **Engagement in PA**

Half of the participating students reported a decrease in PA levels, while approximately one third reported an increase and one-fifth reported no change. This suggests that previous findings in studies regarding individual's exercise levels before and during the pandemic may be applied to our target population, as many have reported lowered levels (Ammar et al., 2020). In terms of what the participants were aiming to benefit from when it comes to physical activity, almost all participants each provided option, with improved mental health, improved self-image, and improved cardiovascular fitness being among the top three. As such, it could be beneficial for the UBC Get Active at Home page to further introduce resources that include both physical and mental fitness subject-matter. Moreover, studies examining physical activity have almost universally highlighted its potential to improve mental health at both an individual and population level (Ammar et al., 2020). As such, this is an area that is important to focus upon for online campaigns and resources (Ammar et al., 2020). With regards to more direct barriers, limited space, lack of equipment, and lack of motivation were among the top three reported.

Notably, the perception of barriers for at-home PA was especially prominent, with only four students reported no perceived barriers. In summary, as there is limited research examining PA barriers within the context of COVID-19 lockdown, this data provides important insight to online PA materials. Moreover, this information allows the UBC Get Active at Home page to better tailor resources and reduce current gaps. As previous literature also highlighted a lack of support and motivation as barriers, the implementation of motivational tools would thus be beneficial as a precursor to one's participation in the provided materials on the core page (Firth et al., 2016).

### **Engagement in Online PA**

In relation to participants' engagement with online PA resources, half of the student participants reported using them. Further, the most frequently reported barriers to accessing these online resources pertained to a lack of knowledge of where to look, as well as feelings of being overwhelmed. Although current evidence has demonstrated that there has been an increase in the number of PA resources provided online since the beginning of COVID-19 lockdown, numerous studies have suggested that the internet elicits information overload that can impair cognitive processes (Cavallo, et al. 2012; Marcus et al., 2008). As the UBC Get Active at Home page often relies on written information, it may be beneficial to implement less cognitively demanding mediums, such as video, in order to enhance user experience and engagement. Advertising the page by expanding the dynamism of exposure may also address the barrier related to not knowing where to look, whether that means posting in individual faculty pages or increasing media exposure frequencies. In regard to topics of interest for online resources, the most common responses were nutrition, mobility and yoga exercises, and behavior change strategies. Although the Get Active at Home page offers some nutritional resources, this could be further

emphasized and expanded to address these reported interests. To incorporate the aforementioned findings, providing more videos on easy-to-make recipes could increase interactive and applicable knowledge among users. Due to the major shift in daily routines elicited by the COVID-19 lockdown, behavior change strategies tailored to relative struggles individuals may be facing right now prove necessary (Amar et al., 2020). This may include videos on how to create new routines, how to appropriately ease back into a physically active lifestyle and how to make SMART goals relative to COVID. Flexible pre-recorded mobility or yoga classes would be the most appropriate resource to implement so that students can maintain their current routines, without the risks related to introducing new stressors or anxieties. To further validate these findings, almost three-quarters of the participants selected that videos were the most preferred medium to learn about physical activity. As previously mentioned, this preference is likely linked to the decrease cognitive efforts required with more passive forms of media (Cavallo, et al. 2012; Marcus et al., 2008).

### **Perceptions of The UBC Get Active at Home Webpage.**

Approximately three-quarters of the participating students reported never heard of the UBC Get Active at Home page. The aforementioned barriers of limited knowledge on where to look was assumed to be most directly linked to this figure. Therefore, this highlights the need for more diverse exposure, such as to groups that do not use popular social media platforms like Facebook and Instagram. By creating awareness of the page within new students at UBC, this can create a concrete foundation of exposure for future students to come. Next, almost three-quarters of the participants reported being indifferent in relation to personal satisfaction of UBC's online PA offerings during COVID-19. This may be due to the reported lack of

awareness and engagement of UBC's offerings, such as that of the UBC Get Active at Home page. Lastly, the final question, allowing for open entry, allowed students to report what PA resource they felt was missing. Within five out of the nine responses, yoga classes were highlighted. One response in particular requested yoga for women only, which provides the Get Active at Home page even more opportunity for diversification for popular subject-matter. Additional responses included, MyFitnessPal, recreational sports, Pilates, spin classes and workout programs. Given that some of these responses were vague, further research examining more specific subject-matter may prove useful. However, the variety in responses highlights the potential avenues for expansion.

### **Challenges and Limitations**

One of the challenges we faced during this study was meeting our minimum enrollment target of forty completed surveys. In an attempt to overcome this, we implemented word-of-mouth strategies by sending the survey to fellow peers that met our inclusion criteria. Another challenge that was encountered was students completing the survey who did not meet the inclusion criteria of being first-year or first-term UBC students. Therefore, we excluded the false data from our sample collection in order to maintain focus on our target population.

A limitation within this study is the lack of depth in terms of the answers provided due to the use of close-ended questions, excluding the final question. Using a survey questionnaire, in comparison to an interview, limited our ability to obtain elaborate feedback to help us further understand how to act efficiently on our study's findings. Very few participants selected the 'other' option and those who did either did not continue to reason in the drop-down box or did but with minor detail. By acquiring more in-depth responses within our data through additional

open-ended questions, the Get Active at Home page would have more opportunities to personalize our findings when in the process developing potential interventions. Another possible limitation of this study was that the survey was only distributed through an online platform, therefore potentially missing out on those within our target population who may not have online access. We did not reach our minimum target data collection goal of forty completed surveys, which reduces the generalizability of the findings. A larger sample could have significantly altered the findings and created a more convincing analysis of the data reported.

### **Implications for Future Research**

Future research on how to eliminate barriers to increase the likelihood of participating in the physical activity resources provided on the UBC Get Active at Home page should implement multiple methods of measurement. This may include personal interviews or questionnaires with open-ended questions in order to acquire more personal observations and experiences from the target population. By doing so, the potential perceived barriers may be better understood and addressed. A broader target population within UBC by including more faculties and students with varying year-standings will help make the findings more generalizable and consistent. This may also eliminate the target exposure limitation that we experienced by possibly acquiring a larger sample. More research on limiting factors that come with exercising at home, particularly during the pandemic, should also take place due to the world-wide shift in fitness routines that have come with the varying restrictions. This can help researchers understand how to help avoid the globally reported increase in negative health and decrease in physical activity levels, despite many individuals having more time to exercise (Amar et al., 2020).

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## Appendix A

### Participant Consent Form



THE UNIVERSITY OF BRITISH COLUMBIA

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Vancouver, BC Canada V6T 1Z1Phone 604 822 9192  
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#### CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)

#### Participant Consent Form

#### An Evaluation on The UBC Get Active Page Group #A1

**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 on the barriers that may be faced in regard to engaging in physical activity at home, particularly during the COVID-19 pandemic. The purpose of this project is to conduct a study that involves gathering data from either first-year UBC students or first-term transfer UBC students, with the intent to acquire feedback on how to eliminate barriers to increase the likelihood of physical activity engagement through the UBC "Get Active at Home" page.

**Study Procedures:**

With your permission, we are asking first-year and first-term transfer UBC students to participate in a self-assessment survey with the aim to examine any existing barriers pertaining to physical activity engagement at home. The survey link will be posted to the following Facebook pages: "UBC Buy and Sell - UBC Textbooks", "UBC Class Of 24", and "UBC Kinesiology Class Of 24". The survey contains a series of close-ended questions, along with opportunities to further express answers that may not be provided as an option.

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 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](mailto: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](mailto: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

### Survey Questionnaire

Question	Choice Count	Options
1	Single	a) Significant increase b) Slight increase c) No change d) Slight decrease e) Significant decrease
2	Multiple	a) Improved mental health b) Improved self-image c) Improved Cardio. Fitness d) Physical aesthetics e) Improved weight f) Other (text entry) g) None of the above
3	Multiple	a) Limited space b) Not enough time c) No equipment d) Lack of motivation e) Limited knowledge f) Lack of outdoor opp. g) Disability h) Other (text entry)
4	Single	a) Yes, I use them now b) Yes, but I don't use them c) No
5	Multiple	a) Unsure where to look b) Can't find any. enjoyable c) Overwhelmed with info d) Too time-consuming e) Not interested f) Other (text entry)

*Cont.*

	Question	Choice Count	Options
6	If you were to access an online resource, which topic would provide you the greatest benefit for engaging in physical activity?	Multiple	<ul style="list-style-type: none"> <li>a) Nutrition</li> <li>b) Mental health</li> <li>c) Behavioral change strats.</li> <li>d) Student break exercises</li> <li>e) Stretch/Yoga exercises</li> <li>f) None</li> <li>g) Other (text entry)</li> </ul>
7	Which medium would you most prefer to learn about physical activity?	Single	<ul style="list-style-type: none"> <li>a) Reading</li> <li>b) Video</li> <li>c) Podcast</li> <li>d) Live Seminar</li> <li>e) Other (text entry)</li> </ul>
8	Have you ever heard of UBC Recreation's Get Active at Home page?	Single	<ul style="list-style-type: none"> <li>a) Yes, many times</li> <li>b) Yes, once or twice</li> <li>c) Yes, only heard</li> <li>d) No</li> </ul>
9	Do you feel satisfied by UBC's online physical activity offerings during COVID-19?	Single	<ul style="list-style-type: none"> <li>a) Highly satisfied</li> <li>b) Slightly satisfied</li> <li>c) Indifferent</li> <li>d) Slightly dissatisfied</li> <li>e) Highly dissatisfied</li> </ul>
10	What is an online physical activity resource that you feel is missing at UBC? (eg. yoga classes, fitness challenges)	Text Entry	

### Appendix C

**Table 1**

*Description of Survey Participants*

Characteristic	Responses	%
Met Inclusion Criteria	22	59.5
Did not Meet Inclusion Criteria	6	16.2
Survey Incomplete	9	24.3
Total	37	

**Table 2**

*Means (Central Tendency) for Ordinal Data (Q1, Q8, Q9)*

Question	Max	Min.	Median
(Q1) Compared to before COVID-19, how has your level of physical activity changed?	1	5	3.5
(Q8) Have you ever heard of UBC Recreation's Get Active at Home page?	1	4	3.0
(Q9) Do you feel satisfied by UBC's online physical activity offerings during COVID-19?	2	4	3.0

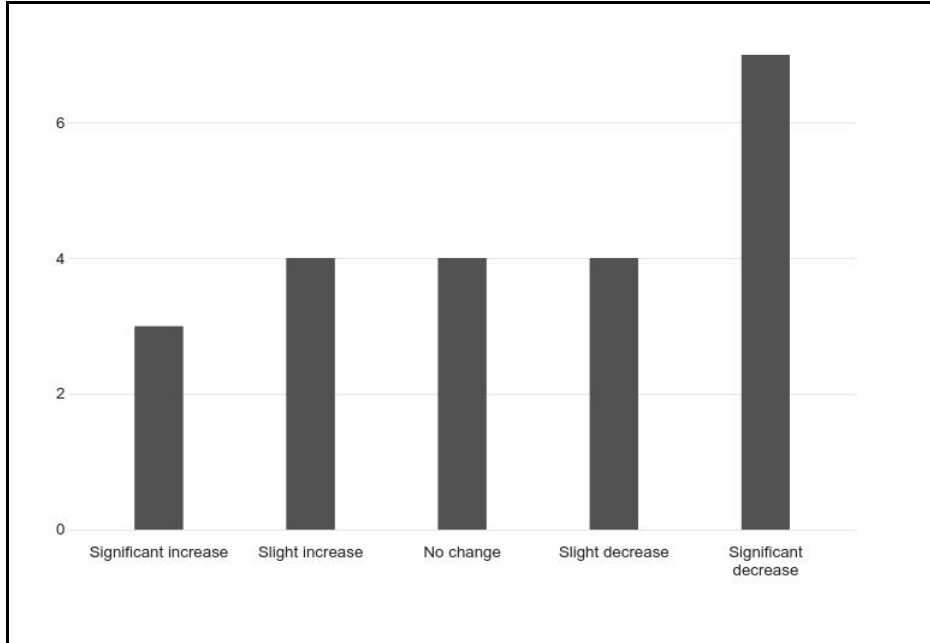
**Table 3***Modes (Central Tendency) for Nominal Data (Q2-Q7)*

Question	Max	Min.	Mode
(Q2) What do you think you can gain from living a more physically active lifestyle?	1	7	1.0
(Q3) Which of the following you personally see as barriers to exercising at home during COVID-19?	1	9	4.0
(Q4) Throughout COVID-19, have you sought out any online physical activity resources? In other words, have you searched for resources on a browser, like Chrome?	1	3	1.0
(Q5) In regard to the question above, what do you personally see as a barrier to accessing online physical activity resources?	1	5	3.0
(Q6) If you were to access an online resource, which topic would provide you the greatest benefit for engaging in physical activity?	1	7	1.0
(Q7) Which medium would you most prefer to learn about physical activity?	1	5	2.0

**Appendix D**

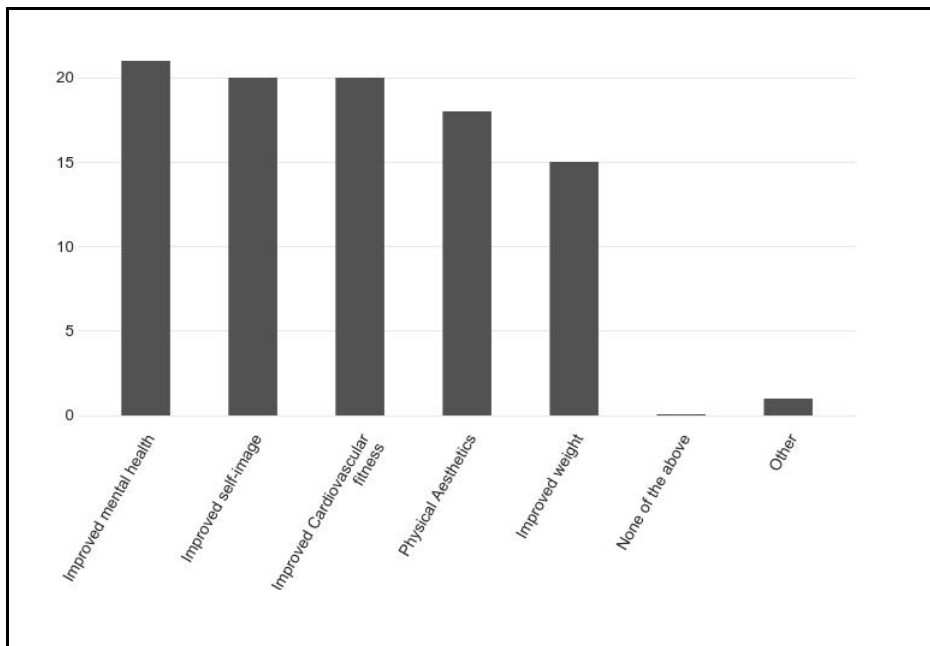
**Figure 1**

*(Q1) Compared to before COVID-19, how has your level of physical activity changed?*



**Figure 2**

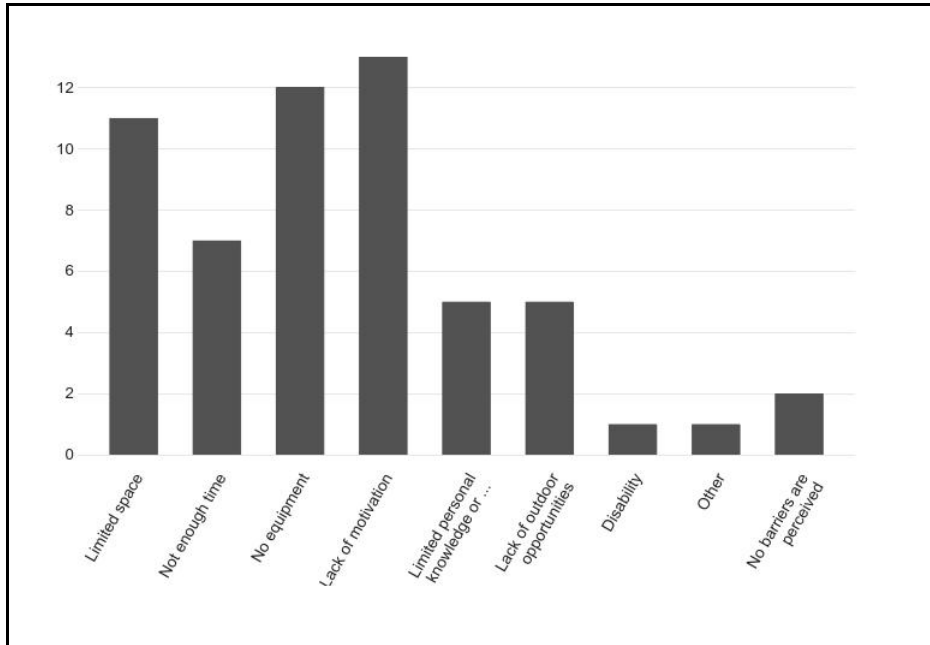
*(Q2) What do you think you can gain from living a more physically active lifestyle?*





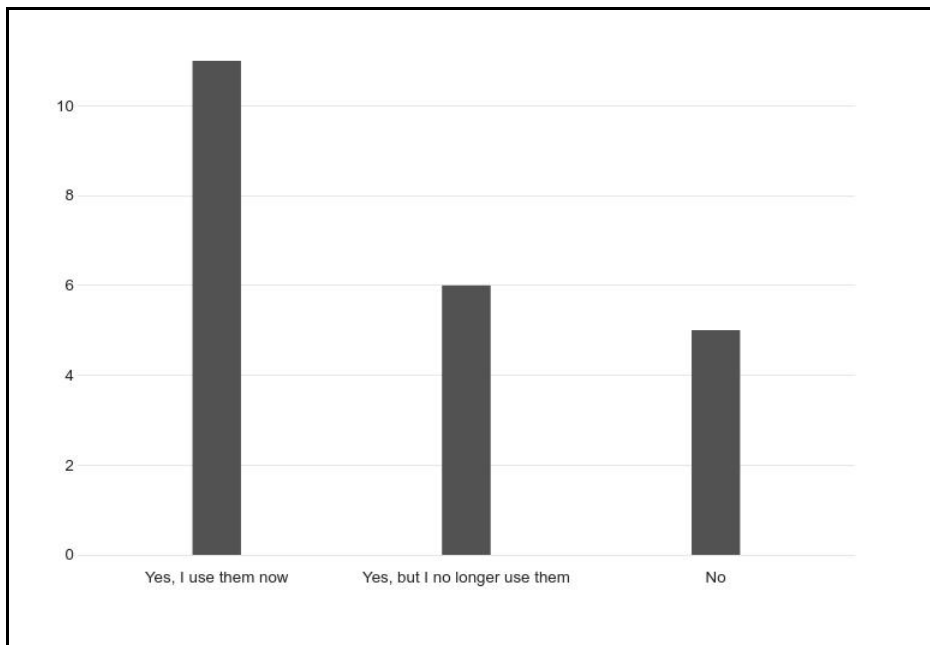
**Figure 3**

*(Q3) Which of the following you personally see as barriers to exercising at home during COVID-19?*



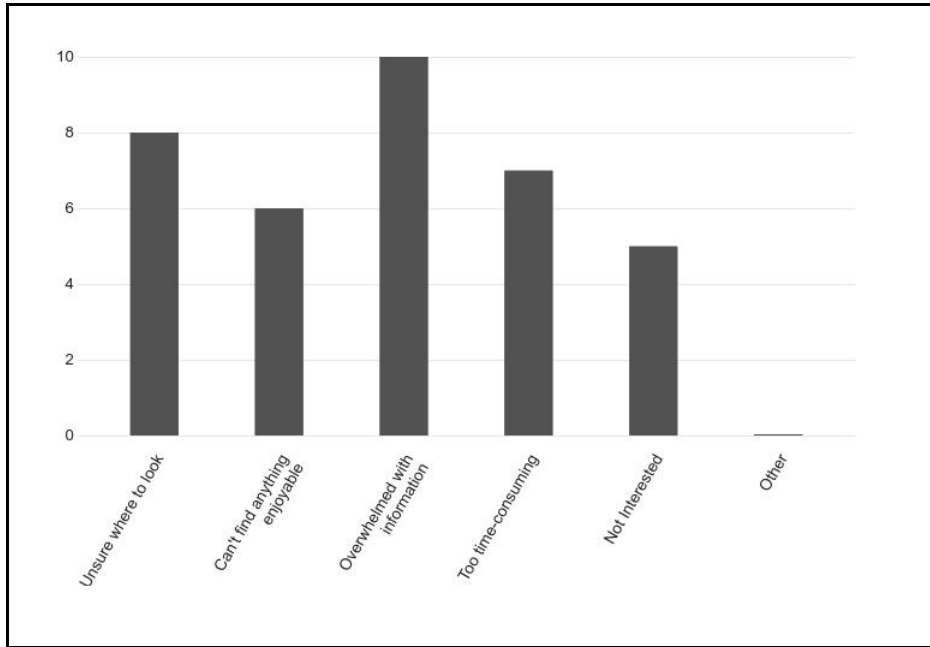
**Figure 4**

*(Q4) Throughout COVID-19, have you sought out any online physical activity resources? In other words, have you searched for resources on a browser, like Chrome?*



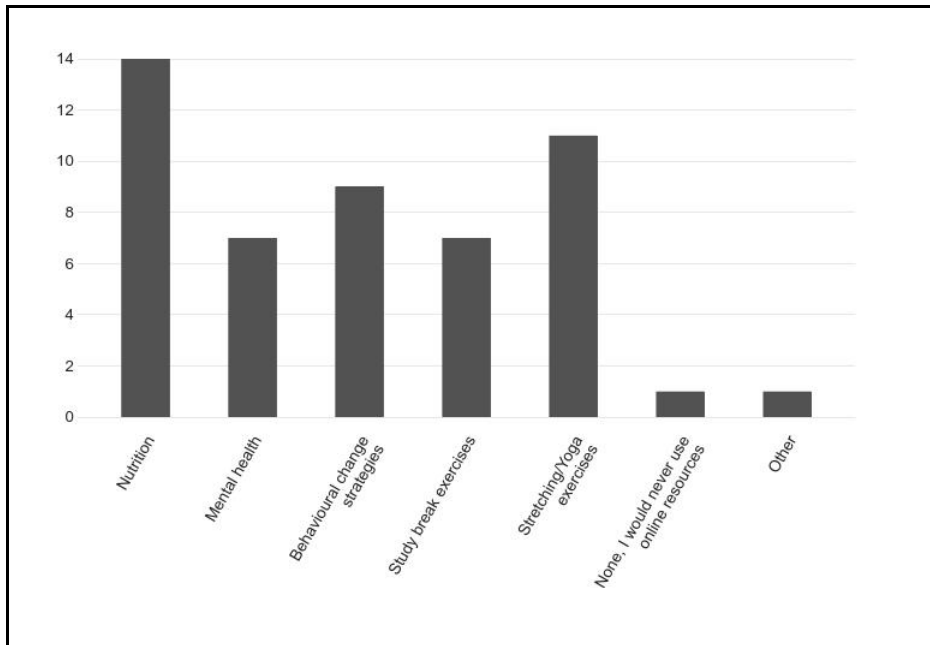
**Figure 5**

*(Q5) In regard to the question above, what do you personally see as a barrier to accessing online physical activity resources?*



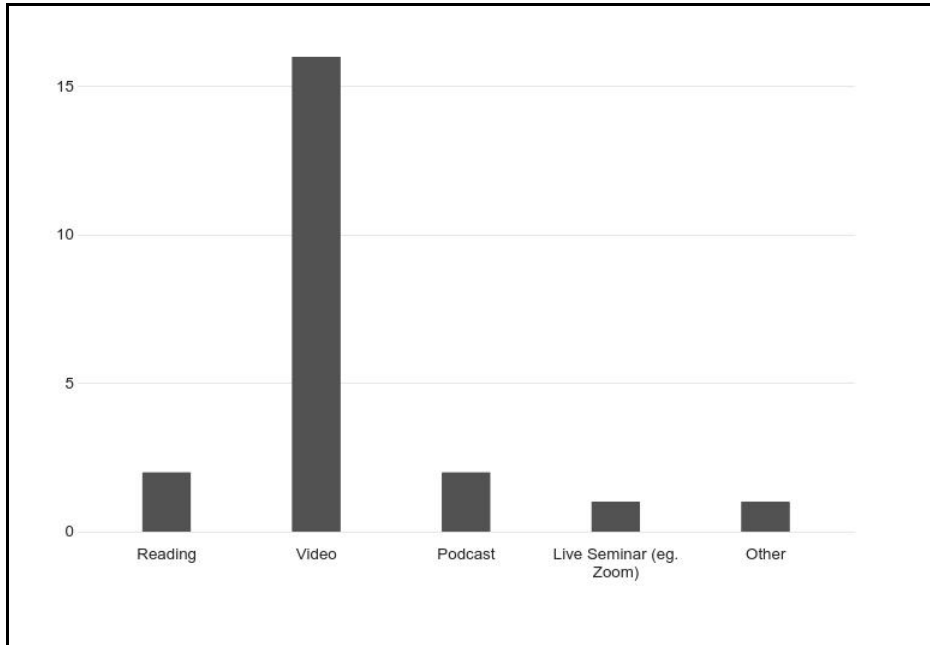
**Figure 6**

*(Q6) If you were to access an online resource, which topic would provide you the greatest benefit for engaging in physical activity?*



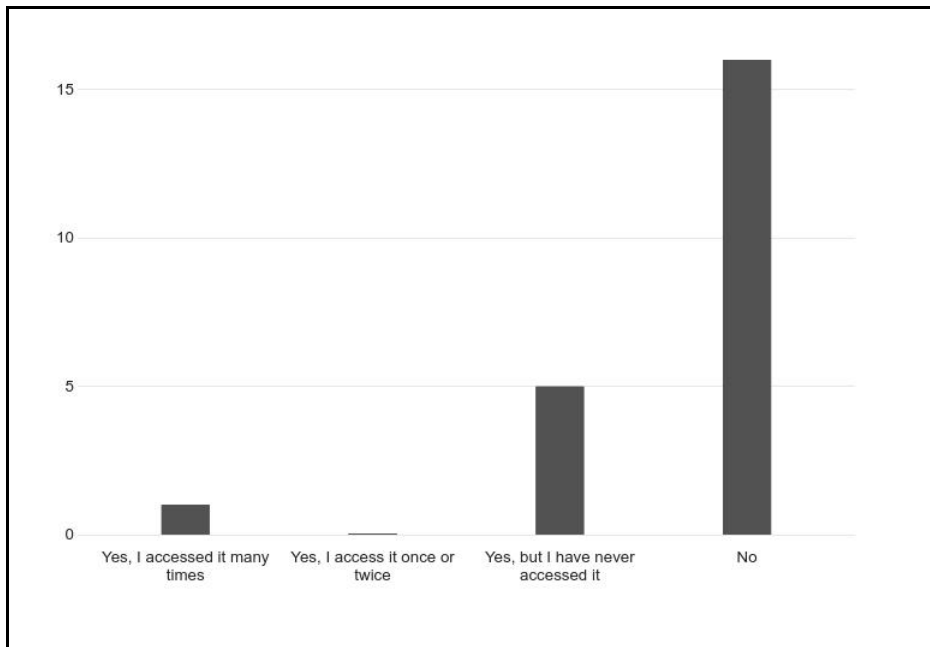
**Figure 7**

*(Q7) Which medium would you most prefer to learn about physical activity?*



**Figure 8**

*(Q8) Have you ever heard of UBC Recreation's Get Active at Home page?*



**Figure 9**

*(Q9) Do you feel satisfied by UBC's online physical activity offerings during COVID-19?*

