UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Identifying Barriers to Physical Activity for Middle-Aged Female Employees at UBC-Affiliated Food Services

Mabel Zhou, Shairah Bumagat, Joe Theobald, Maggie Mei, Victor Luk

University of British Columbia

KIN 464

Themes: Community, Wellbeing

April 3, 2018

Executive Summary

Objective:

To compare physical activity levels of women 40-55 years of age working at food outlets run by University of British Columbia (UBC) Vancouver campus.

Study Design:

This report describes the evaluation of women's (n=13) overall health, family structure, physical activity levels, levels of perceived fatigue during and after their shift, relationship between coworkers, and barriers to physical activity. Surveys were analyzed using SPSS Statistics after the data collection period to identify the frequency and correlation analyses associated with physical activity participation.

Results:

The top three barriers to physical activity are time, money, and health concerns. 92% of participations reported that health was very or extremely important to them and their family. 31% of participants reported to engage in physical activity beyond working hours. On a scale from 1-5, participants on average reported their mental and social health as 3.8 and 3.9 respectively. In addition, participants on average reported their physical health as 3. Participants reported the quantity of sleep with an average of 4-7 hours per night. An average of 29 hours of work were reported. 15% of participants believed to be more active, 54% of participants perceived themselves as just as active, while 31% of participants assumed to be less active than others of correspondent age.

Importance of health and participation in physical activity outside of work contained a positive relationship (0.42). Participation in physical activity had a moderately large positive relationship (0.38). Working hours and participation in physical activity outside of work had a negative relationship (-0.15). Co-worker relationship and likelihood to participate in physical activity with coworkers had a negative relationship (-0.11). The awareness of UBC recreational programs and participation in physical activity outside of work had a positive relationship (0.52), while awareness of recreational resources and engagement in physical activity had a positive relationship (0.64). Physical activity level and participation of physical activity outside of work had a positive relationship (0.15). The importance of exercising regularly and engagement in physical activity had a positive relationship (0.18).

Conclusion:

To address the barriers to physical activity, random dancing during non-peak hours could increase the amount of physical activity without spending too much time outside of work. With regards to financial issues, stamp cards/ access cards are recommended to motivate and interest employees.

Keywords: *standing jobs, physical activity, barriers, food services, UBC.*

Identifying Barriers to Physical Activity for Middle-Aged Female Employees at UBC-Affiliated Food Services

INTRODUCTION & LITERATURE REVIEW

There is increasing research suggesting that the effects of physical inactivity may predict detrimental health concerns such as cardiovascular diseases, obesity, type 2 diabetes and some types of cancers (Hu, Tuomilehto, Silventoinen, Barengo, Peltonen, & Jousilahti, 2005). Physical inactivity, also known as sedentary behaviour is defined as any activity that involves a sitting or reclining posture while expending 1.5 metabolic equivalent (METs) or less (Mansoubi et al., 2015). METs is the measurement of the amount of oxygen one consumes per unit of body weight during 1 minute of rest (Mansoubi et al., 2015). According to Statistics Canada (2015), there is a negative relationship between total daily sedentary time with respect to age. Adults age 18 to 39 are sedentary for an average of 9 hours and 36 minutes and those ages 40 to 59 spend 9 hours and 49 minutes being sedentary. However, only 32% of adults age 18-39 meet the guidelines, whereas 18% of adults age 40-59 achieve the recommended 150 minutes of physical activity per week (Statistics Canada, 2015). This suggests that very few middle-aged adults are meeting the physical activity guidelines, thus have an increased risk of developing adverse health conditions. Moreover, there has been supporting evidence that even when adults meet the physical activity guidelines, sitting for long periods can compromise metabolic health (Owen et al., 2010). This could be a result of adults' working hours and returning home feeling fatigued.

In contrast, Tigbe, Lean, and Granat (2011) have conducted a cross-sectional survey comparing delivery workers and office staff members' physical activity claiming that having a more active occupation is not associated with more inactivity during work hours, reflecting a compensatory behaviour. Physical activity could be categorized into leisure-time and occupational (Gu, Charles, Ma, Andrew, Fekedulegn, Hartley, Violanti, & Burchfiel, 2016). Research has suggested that individuals who work in professional, scientific and technical services participate in more leisure-time physical activity compared to those who work in industries (Gu et al., 2016). In addition, employees who form good relationships with one another are more likely to engage in physical activity (Hunter, Davis, Tully, & Kee, 2012). Thus, interventions to reduce sedentary behaviour at the workplace could benefit employees' health by promoting more leisure-time physical activity even if it is at a lower intensity.

There is limited research with regards to the associations of non-desk jobs and physical activity of female employees age 40-55 at UBC. There are over 40 food retailers on the UBC campus, however, only retailers owned and affiliated with UBC will be chosen to allow for placement of wellness interventions (UBC, 2015). Surveys conducted on the UBC Vancouver campus allow for a deeper analysis of the correlation between active work environments and physical activity of middle-aged women. The results of this study could identify barriers to physical activity, developing interventions that enhance UBC employees' motivation to becoming more physically active, and promote leisure-time physical activity after working hours.

METHODS

Research Paradigm

This study was community based and it aimed to promote health among middle-aged female employees at UBC Vancouver campus through identifying the main barriers to physical activity and recommending program changes for UBC Department of Athletics & Recreation in accommodating the needs of the population. In terms of participation, we invited employees to make recommendations on how to change the programs at UBC Recreations to better fit their needs.

Sample and Recruitment of Participants

The inclusion criteria for the study required participants to self-identify themselves as women, able to speak and understand English, and aged 40 to 55. They should also be working in food services affiliated with UBC at the Vancouver campus. Individuals were excluded from participation if they were currently engaged in any type of physical activity related interventions. Participants surveyed were from five cafés and restaurants operated under UBC food services, including Open Kitchen at Orchard Commons, Tim Hortons at David Lam building, Mercante at Ponderosa Commons, coffee shop at Henry Angus, and Magma Cafe at the Earth Science Building. Posters (see Appendix B) were distributed to supervisors to post in staff rooms prior to data collection. From March 9th to 24th, the research team was divided into two groups to collect data from various cafés and restaurants. Since the majority of the campus-affiliated food services only open on weekdays and were crowded during lunch hours, we visited those locations during non-peak hours around 3 to 5 in the afternoon on weekdays. Employees who were either on their break or had free time before their shifts were invited to complete the surveys. To maximize the inclusivity of the participants, exact age and gender of the employee were not directly asked during the recruitment. Instead, we would provide the background information of the project, including the research topic, target age group and gender requirements to the employee and asked if they thought they were suitable for the study.

Procedure

13 female employees self-identified as 40 to 55 years of age were recruited. Prior to the study, participants were provided with written information and verbal explanation about the study to ensure that they had a comprehensive understanding of the goal of the study. Participants were then asked to sign a written informed consent form. They were also informed that they had the right to refuse participation and to withdraw from the study at any point in time without any reasons.

A survey with 27 questions was given to consented participants. There was no time limit for the survey and participants had the option to leave the questions blank if they were unsure about the answers or simply did not want to answer. Participants were asked if they were willing to participate in a follow-up interview. If so, their contact information and preferred interview date and location were requested on the form. Although we originally planned on recruiting at

least 5 participants to interview, only one individual showed interest so this portion of the study was not carried out.

Upon completion of the survey, we debriefed the participants by appreciating their efforts as well as briefly explaining the benefits of physical activity on their health. Depending on the interest of the participants, we briefly introduced current fitness programs and classes offered at UBC to further encourage physical activity participation.

In order to protect the privacy of participants and the confidentiality of experimental data, no identifying information were obtained in the surveys. Data collected were entered into a password protected excel document and were only used for SPSS analysis in this study. Only the research team had access to all data yielded from the study.

Challenges Encountered

One of the main challenges our study encountered was trying to find participants that fit the criteria for the study. The strict age range immediately posed a problem of how to politely approach an individual and ask their age without any risk of offence. A second sampling issue was trying to find an adequate number of participants to gather meaningful data. The study used a convenience sample to attain the participants. This posed a problem as it meant that we only had access to the staff who were available on that day at that time which played a factor into our small sample size.

Although some employees were willing to help out with the study, the research team received a number of rejections in the process as employees preferred to relax or eat during their short breaks instead of completing surveys. There were also a few employees who were not confident with their English proficiency to take part in the study, possibly contributed to a biased sample.

RESULTS

Data Analysis

The research team used the SPSS Statistics Software to quantitatively analyze data collected from the surveys, as most of our questions were answered on a scale. Frequency and correlation analyses were conducted for key correlates of physical activity participation identified from previous researches. Correlation between physical activity participation and other variables such as perceived importance of health, perceived health statuses, level of education, co-worker relationships, and level of fatigue were determined.

General Trends

92% of survey participants expressed that health was very or extremely important to them and their family, but only 31% currently engage in any type of physical activity outside of work.

On a scale of 1 to 5, 1 being poor and 5 being excellent, our survey participants rated their mental and social health an average of 3.8 and 3.9 respectively. On the other hand, the rating for physical health was lower with an average score of 3.

The vast majority of survey participants' highest educational attainment was high school graduate, sleeps for 4 to 7 hours per night on average, and take bus and/or Skytrain to work. Although 11 out of 13 participants reported currently being in part-time employment, it's interesting to note that the average weekly work hours were 29, not very far from what is considered as a full-time employment in many organizations.

15% of participants perceive themselves to be more active than people their age, whereas 54% of the participants believe they are just as active as other people of their age, and 31% predicted themselves being less active than others of their age.

All participants believe they have control over their future health, although 12 out of 13 employees only selected "some control" as opposed to "very in control."

Work Characteristics

All participants reported that their employment consists of repetitive activities and prolong periods of standing, with a few needing to lift heavy loads occasionally.

Most participants reported being slightly fatigued both during (11) and after (9) their shifts, with some individuals experiencing high (2) or extreme (2) fatigue levels.

When asked to identify at least one aspect of the job that is health promoting, the most commonly reported features were healthy snack bars provided and getting to move around during their shifts. Fatigue mats also seemed to be available for certain employees.

In terms of relationships between coworkers, all of the survey participants report positive working environments, with an average score of 8.6 on a scale of 1 to 10, 10 being excellent. However, this high score did not subsequently lead to a will to be active together, demonstrated by 7 out of 13 participants not being comfortable to exercise in a group setting with their coworkers.

About half (6 out of 13) of the employees surveyed work at specific locations, while the other half (7) work at different locations across campus depending on assignment. When asked whether they would be comfortable with the idea of switching work locations during a work day, 8 out of 13 employees were neutral or comfortable with the idea.

Areas for Improvement

8 out of 13 participants are aware of the active programs on campus, but 7 out of these 8 employees rarely or never participate in any of the programs. The biggest reason for not participating was reported to be lack of time.

Although all participants live within a 10-minute walk to green spaces, 9 out of 13 employees reported not having a good understanding of how to access recreational resources near their home or be active on their own.

Overall, the biggest barrier to physical activity appeared to be time-related with 12 out of 13 participants identifying it. Some other recurring barriers were money (2), health concerns (2), and energy level (2). Relating to time being an obstacle, 9 out of 13 participants attribute this lack of time to long working hours on campus despite majority being part-time workers.

If UBC were to include a physical activity or leisure program that could be easily accessed by the survey participants, 3 individuals suggested badminton and 5 individuals wanted to do some sort of dance programs. Easy walking, biking, and yoga programs were also among the list of preferences for this population.

Correlations

Relationship between importance of health and participation of physical activity outside of work has a large positive relationship (0.42).

Participation in PA has no significant relationship (-0.02) with one's mental health status (-0.02), a moderate negative relationship (-0.27) with one's social health status, and a moderate-large positive relationship (0.38) with one's physical health for surveyed participants.

Working hours and participation in physical activity outside of work has a small negative relationship (-0.15), showing that the longer employees work, the less likely they are to engage in physical activity outside of work.

There is no significant relationship (0.03) between participation in physical activity and fatigue level post work.

There is a small negative relationship (-0.11) between co-worker relationship and likelihood to participate in physical activity with their coworkers.

There is a large positive relationship (0.52) between awareness of UBC recreational programs and participation in physical activity outside of work. Awareness of recreational resources around employees' neighborhood also positively correlates (0.64) with engagement in physical activity.

Relationship between perceived activity level has a small positive relationship (0.15) with participation of physical activity outside of work.

Individuals who think it is important to exercise regularly are slightly (0.18) more likely to engage in physical activity.

DISCUSSION

The results have provided a snapshot on the pattern of physical activity of women working at UBC food service outlets. Lack of time was reported as the most prominent barrier to

physical activity among the participants. The majority of the participants work part-time, but the average weekly working-hour was 29 hours. Subsequently, they spend most of their spare time on grocery shopping and taking care of family members. These findings are in line with previous studies, in which lack of time for physical activity is due to multiple family roles such as providing financial stability and caregiving responsibilities for small children or elderly family members (Zhu, Timm, & Ainsworth, 2001; McNeill, Stoddard, Bennett, Wolin & Sorensen, 2012). Gender role appears to be one of the social determinants of health for middle-aged women working at UBC food services, which explains the negative correlation between working hours and participation in physical activity outside of work.

Other than time, potential cost of recreational programs was identified as a major barrier to participation in physical activity. According to UBC Human Resources (2018), the starting wage for employees in food services is $14.61 hourly. Depending on the family structure, employees may need to support their children or parents financially with their income, leaving them with minimal resources to access recreational programs as the average for lower end gym memberships cost an average of $30 monthly in Greater Vancouver (Lazaruk, 2016). The majority of the participants reported not knowing how to access physical activity resources in their living area and are not familiar with the recreational facilities on UBC campus. This further discouraged participation as they are not aware of potential discounts and benefits that they could receive as UBC staff members.

Data from the survey suggested that participants were interested in becoming physically active as nearly all participants agreed with the statement that it is important to exercise regularly. Majority of the participants have also reported that they believe they have control over their future health. However, lack of knowledge regarding access of physical activity programs is a negative consequence towards physical inactivity. Many participants also stated that their health issues prevent them from participating in physical activity. These findings suggest that physical inactivity among middle-aged female employees on campus is not mainly attributed to the individual intention of exercising and awareness on the importance of physical health on the agency level, but more on the structural level regarding how well the employees are able to access and engage in physical activity.

Although small in sample size, this study has provided a huge scope for future research and interventions with respect to this target group as they seem to represent an ‘untapped market’, having seemingly been left behind by other health promotion initiatives. The data suggests that future programs should focus on bridging the gap between intention and the opportunities for participation. Furthermore, providing resources on how to exercise efficiently and at a low cost will be critical to improving their physical activity engagement. However, before meaningful health initiatives can be implemented in this area, more information is needed to gain a better understanding of the barriers this target group has to physical activity. Therefore, future research should focus on gaining a qualitative understanding into the stressors and pressure of these women’s lives that prevent them from being physically active. Interviews or focus groups may be beneficial in gaining rich data which could then be used to inform future physical activity initiatives aimed at this target group.

Limitations

The small number of completed surveys is a weakness of the study as it was difficult to draw accurate conclusions or generalize the data outside of this study. If the study was being repeated, it may be beneficial to use UBC services to notify every potential participant about the study and how to be involved through pre-shift meetings led by the supervisor. This would increase the sample size and consequently the power of the study. Another limitation posed by our study was how to go about gathering valid data. Our study used a survey format to attain largely quantitative data. This was a convenient and quick method of attaining large amounts of simple information about the target group.

The simple information provided also made it easier to conduct statistical analysis and infer relationships. On the other hand, self-report measures, when used alone, have been shown to be an inaccurate method of measuring participants' physical activity levels (Senso et al., 2014). If this study was to be repeated, a mixed methods approach may be more beneficial, including interviews as well as surveys in order to gain a more holistic view of the target group. Participants could also wear a pedometer so researchers could get an objective measure of their levels of participants daily physical activity.

A final drawback of this study was the researchers themselves. Although all group members obtained the TCPS Research Ethics Certificates, lack of previous field experiences may still have affected the validity or reliability of the collected data. Therefore, if this study was to be repeated, it would be invaluable to have more knowledgeable researchers to closely oversee the process.

RECOMMENDATIONS

The following recommendations are made to address the top three barriers to physical activities identified by our target demographics of middle-aged female employees in UBC-affiliated food services.

Time

Random dancing. UBC food services' management could offer a daily activity to both staff and consumers with some exercise component, similar to flash mobs in malls that were effective in raising awareness of the importance of being physically active (Fox59 Web, 2018). Before the start of each shift or after rush hours, there could be 10 minutes of dancing or calisthenics when music is played in the restaurant. Each staff member can do their own stretching or exercise routine. The goal is to give them a break and encourage physical movement before and after each shift. Alternatively, there could be a representative or volunteer (i.e. from Move UBC) leading the exercise. This addresses the time concern as it is done during working hours. It is an achievable way to instill positive behavioral change with minimal time commitment. This will likely influence others who do not participate in physical activity to get moving when they are exposed to this fun activity. It is also an effective way to advocate health-promoting activities in a common area where people gather.

Exercise programs. Approximately 30 minutes of low-cost recreational classes that are geared to accommodate the majority of staff members' free time should be implemented by UBC. Examples include drop-in badminton, yoga, indoor cycling, and Zumba, which were some of the suggestions listed by the study participants. In order to determine what types of activities and times are preferred, a calendar of potential activities could be set up with a sign-up sheet to be posted in staff lunchrooms or elsewhere that is visible to them.

Money

Stamp/access cards. 10 complimentary visits to access UBC gyms and aquatic facilities every 6 months or annually may interest employees to participate in more recreational programs. To prevent misuse or abuse of this incentive, the stamp cards can be linked to employees' identification cards. If employees completed the 10 visits before the expiration date, they could get a discount towards some of UBC's partners' products or services such as fitness gears, free assessment at UBC's physiotherapy clinic, etc. The goal is to further motivate employees to take part in physical activity, while addressing the financial concern.

Health Concerns

As some participants stated that their health concerns discouraged them from participating in physical activity, it may be beneficial for UBC to host seminars to educate employees of the benefits of physical activity regardless of their physical condition. Employees should also be aware that they can always stay in their own comfortable level of intensity, frequency, and speed when engaging in any type of physical activity.

References

Gates, D., Brehm, B., Hutton, S., Singler, M., & Poeppelman, A. (2006). Changing the work environment to promote wellness: A focus group study. *Workplace Health & Safety, 54*(12), 515-520.

Gu, J., Charles, L., Ma, C., Andrew, M., Fekedulegn, D., Hartley, T., Violanti, J., & Burchfiel, C. (2016). Prevalence and trends of leisure-time physical activity by occupation and industry in U.S. workers: The National Health Interview Survey 2004-2014. *Annals of Epidemiology, 26*(10), 685-692.

Hu, G., Tuomilehto, J., Silventoinen, K., Barengo, N. C., Peltonen, M., & Jousilahti, P. (2005). The effects of physical activity and body mass index on cardiovascular, cancer and all-cause mortality among 47 212 middle-aged Finnish men and women. *International Journal of Obesity, 28*(9), 894-902.

Hunter, R. F., Davis, M. D., Tully, M. A., Kee, F. (2012). Physical activity buddies: a network analysis of social aspects of physical activity in adults. *The Lancet, 380*(Supplement 3), S51.

Hurwitz, E. L., Morgenstern, H., & Chiao, C. (2005). Effects of recreational physical activity and back exercises on low back pain and psychological distress: Findings from the UCLA low back pain study. *American Journal of Public Health 95*(10), 1817-1824.

Lazaruk, S. (2016). Fitness industry bulking up in B.C. Retrieved April 01, 2018, from http://vancouversun.com/business/local-business/fitness-industry-bulking-up-in-b-c

Loprinzi, P. D. (2015). Dose-response association of moderate-to-vigorous physical activity with cardiovascular biomarkers and all-cause mortality: Considerations by individual sports, exercise and recreational physical activities. *Preventive Medicine 81*(1), 73-77.

Marshall, P. W. M., Patel, H., & Callaghan, J. P. (2011). Gluteus medius strength, endurance, and co-activation in the development of low back pain during prolonged standing. *Human Movement Science 30*(1), 63-73.

McNeill, L. H., Stoddard, A., Bennett, G. G., Wolin, K. Y., & Sorensen, G. G. (2012). Influence of individual and social contextual factors on changes in leisure-time physical activity in working-class populations: Results of the healthy Directions—Small businesses study. *Cancer Causes & Control 23*(9), 1475-1487.

Mansoubi, M., Pearson, N., Clemes, S., Biddle, S., Bodicoat, D., Tolfey, K., Edwardson, C., Yates, T. (2015). Energy expenditure during common sitting and standing tasks: examining the 1.5 MET definition of sedentary behaviour. *BMC Public Health, 15*(516), 1-8.

Owen N., Healy G., Matthews C., & Dunstan D. (2010). Too much sitting: the population health science of sedentary behavior. *Exercise Sport Science Reviews, 38*(3), 105-113.

Senso, M. M., Anderson, C. P., Crain, A. L., Sherwood, N. E., & Martinson, B. C. (2014). Self-reported activity and accelerometry in 2 behavior-maintenance trials. *American Journal of Health Behavior*, *38*(2), 254–264. http://doi.org/10.5993/AJHB.38.2.11

Statistics Canada. (2015). *Directly measured physical activity of adults, 2012 and 2013.* Retrieved from http://www.statcan.gc.ca/pub/82-625-x/2015001/article/14135-eng.htm

Tigbe, W., Lean, M., & Granat, M. (2011). A physically active occupation does not result in compensatory inactivity during out-of-work hours. *Preventative Medicine, 53*(1), 48-52.

UBC. (2018). UBC food services. Retrieved from http://www.food.ubc.ca

UBC Human Resources. (2018). Salary Scales. Retrieved April 03, 2018, from http://www.hr.ubc.ca/compensation/salary-administration/salary-scales/

Web, Fox59. (2018, March 21). Flash mob at circle centre call raises awareness about world down syndrome day. *Fox 59.* Retrieved from http://fox59.com/2018/03/21/flash-mob-at-circle-centre-mall-raises-awareness-about-world-down-syndrome-day

Väänänen, A., Kouvonen, A., Kivimäki, M., Oksanen, T., Elovainio, M., Virtanen, M., . . . Vahtera, J. (2009). Workplace social capital and co-occurrence of lifestyle risk factors: The finnish public sector study. *Occupational and Environmental Medicine 66*(7), 432-437.

Zhu, W., Timm, G., & Ainsworth, B. (2001). Rasch calibration and optimal categorization of an instrument measuring women's exercise perseverance and barriers. *Research Quarterly for Exercise and Sport, 72*(2), 104-116.

Appendix A: Photos of Visited Food Services Locations

Tim Hortons at David Lam

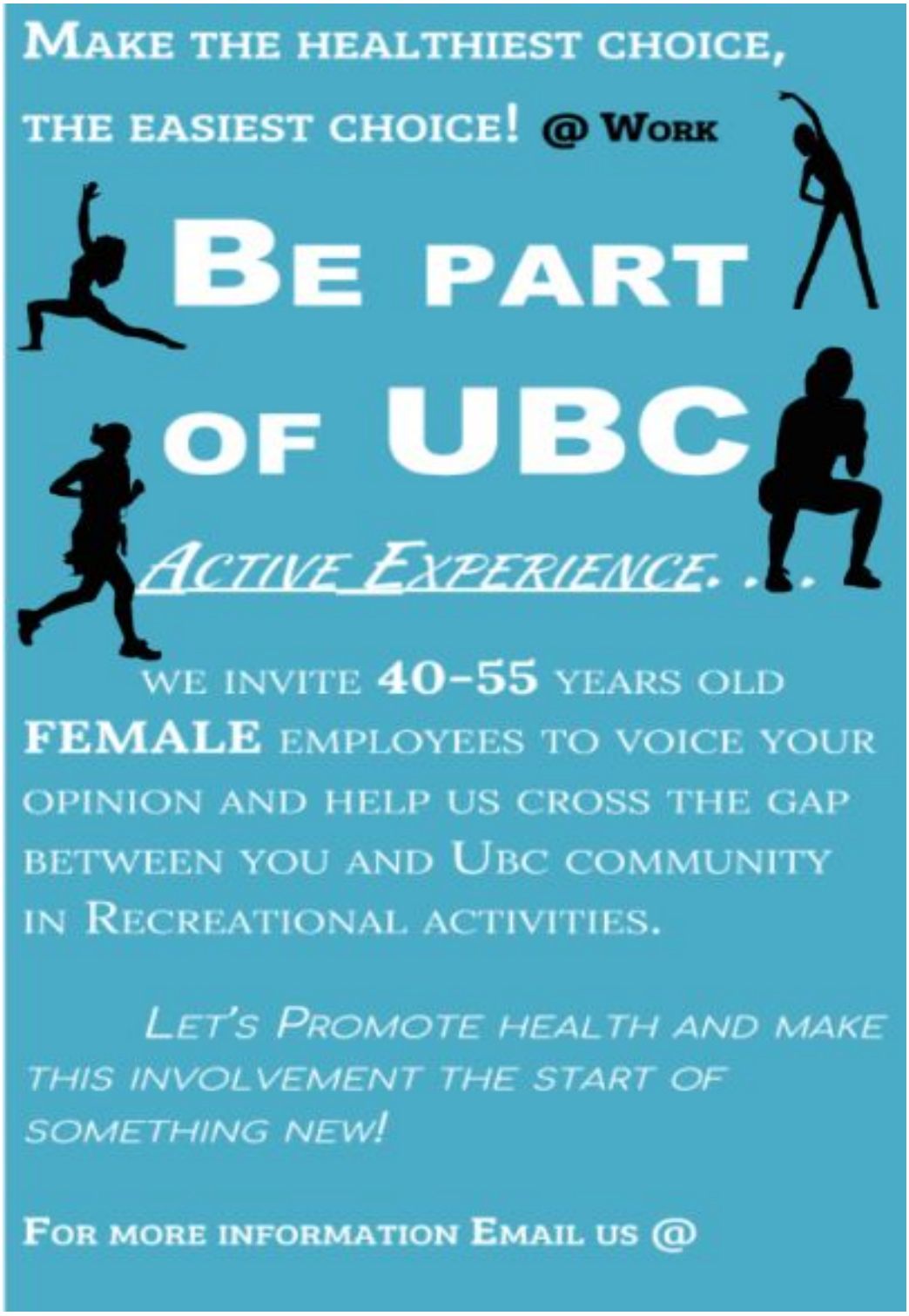
Mercante at Ponderosa Commons

Cafe at Sauder (Henry Angus)

Earth and Science Building Cafe

Open Kitchen at Orchard Commons

Appendix B: Advertisement Poster



Appendix C: Survey Questions

1. How important is health to you and your family?
   a. Not important **b.** Slightly important **c.** Very important **d.** Extremely important

---

2. How would you describe your mental … on a scale of 1 (very poor) to 5 (excellent)?
   a. **Mental** health? _____ **b. Social** health? _____ **c. Physical** health? _____

---

3. How many hours do you sleep daily? **a.** less than 4 hrs **b.** 4-7 hrs **c.** 7 hrs or more

---

4. What is your highest educational attainment?
a. High school diploma **b.** Bachelor's degree **c.** Graduate or Professional degree **d.** Vocational course
e. Other _____

---

5. How many people are living in your household? (# of adults and children with their age)

---

6. Do you work at a specific location on campus? **(Yes/No).** If so, where? _____

---

7. What mode of transportation do you use when you go to work?
   a. Walking **b.** Bus/Skytrain **c.** Car **d.** Bicycle **e.** Others:_____

---

8. What is your employment status? **a.** Part time **b.** Full time **c.** Seasonal **d.** Others _____

---

9. How many hours do you work in a day? _____

---

10. How many days do you work in a week? _____

---

11. Describe your physical job demand? (circle all that applies)
a. Lifting heavy loads **b.** Repetitive activity **c.** Awkward body position
d. Long standing hours **e.** Minimal movement

---

12. How fatigued do you feel **during** your shift?
a. Not at all fatigued **b.** Slightly fatigued **c.** Very fatigued **d.** Extremely fatigued

---

13. How fatigued do you feel **after** your shift?
a. Not at all fatigued **b.** Slightly fatigued **c.** Very fatigued **d.** Extremely fatigued

---

14. Identify at least one aspect about your job that is health promoting? (e.g. Anti-fatigue mats, salad and fruits bar, etc). Explain why you think so?□□□

---

15. On a scale of 1-10 (1-extremely bad to 10- excellent) rate your relationship with your coworkers?_____

---

16. Do you live within a 10-minute walk of a green space? **(Yes/No)**

---

17. What do you do in your spare time (e.g., chores, dancing, reading, etc)?

---

18. How much do you approve or disapprove with these exercise statements? Circle all that applies.
a. I enjoy and feel satisfied exercising **b.** It's important that I do exercise regularly
c. I don't want to disappoint other people so I exercise **d.** I feel that doing exercise is useless

---

19. Are you engaged in any type of physical activity outside of work?(e.g. Zumba, yoga, etc). (**Yes/No)**
a. If yes, indicate frequency, time, duration, and intensity.□□□

b. Would you be more likely to exercise if it's a group activity with your coworkers? **(Yes/No)**

---

20. If you were to choose a physical activity/leisure program to be offered in UBC campus that you can easily access, what would it be and why?

---

21. UBC has many active programs on campus, are you aware of these programs? **(Yes/No)**
a. If yes, indicate how often do you participate?
i. Never **ii.** Rarely **iii.** Sometimes **iv.** All the time
b. If never, why not?

---

22. I have a good understanding of where recreational resources are located near my home and how to access them. **a.** Disagree **b.** Somewhat disagree **c.** Somewhat agree **d.** Agree **e.** Strongly agree

---

23. What is your biggest barrier to physical activity?
a. Time **b.** Money **c.** Health concerns **d.** Energy level **e.** Other: _____

---

24. Long working hours is the main obstacle to physical activity. □
a. Disagree **b.** Somewhat disagree **c.** Agree **d.** Strongly agree

---

25. How comfortable are you with the idea of switching locations in one day during your work hours? (i.e., Tim Hortons at Sauder 10-12, Vanier cafe 12-1, etc.)
a. Very uncomfortable **b.** Uncomfortable **c.** Neutral **d.** Comfortable **e.** Very comfortable

---

26. Would you say that you are more/less/as active as other person of your age?
a. More **b.** Less **c.** Same

---

27. How much control do you think YOU have over your future health?
a. None at all **b.** Very little control **c.** Some control **d.** Very in control

---

Would you be willing to provide additional information via 10-15 mins interview? (YES/NO)
Available <u>date</u>, <u>time</u>, and <u>place</u>: _____

Appendix D: Consent Forms

KIN 464: Health Promotion and Physical Activity - Participant Consent Form for Class-based Projects
Principal Investigator: Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)
Student Group: Group 1
Group member names: Mabel Zhou, Shairah Bumagat, Maggie Mei, Joe Theobald, Victor Luk

The Purpose of the Class Project: To gather knowledge and expertise from community members on topics related to physical activity, recreation, health promotion and/or active transportation.

Study Procedures: With your permission, we are asking you to participate in a **survey**. Students will record the interview/collect the surveys/take note of your responses. With the information gathered, students will critically examine how different individuals understand or engage in health promoting activities or initiatives.

Project Outcomes: The information gathered will be part of a written report for the class project. The written report will be shared with the community partners involved with the project. Summaries of findings may also posted on the following website.

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, participating 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 is paramount, and no names will be used in the reports. At the completion of the course, all data (i.e. notes, interview transcripts) and signed consent forms will be kept in a locked filing cabinet in Dr. Andrea Bundon's research lab (1924 West Mall) at the University of British Columbia. 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. Although there is a schedule of questions, participants are free to share what they would like, including refusing to answer specific questions. You should know that your participation is completely voluntary and you are free to withdraw from the interview 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. Your signature below indicates that you have received a copy of this consent form for your own records. Your signature indicates that you consent to participate in this study.

Participant name (print):_____

Participant signature:_____

Date: _____