

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

**Participation in Recreation by Muslim Women at UBC**

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**KIN 464**

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Assignment 4: Final Report

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**Recreation Opportunities for Target Demographics (Muslim Women)**

## **EXECUTIVE SUMMARY**

### **Objective:**

To understand the gaps in communication and programming at the University of British Columbia's (UBC) recreation facilities affecting Muslim women in recreation at the undergraduate level; to determine the barriers to their participation; and to make recommendations based on this understanding in order to ultimately increase the rates of physical activity in this population.

### **Study Design:**

This project recruited Muslim Women studying at UBC at the undergraduate level (n=11) to participate in semi-structured interviews and questionnaires, both with the same questions. Interview and questionnaire responses were categorized into 7 categories: varying levels of physical activity; lack of female only space; lack of hours dedicated to female only participants in existing facilities; lack of knowledge of UBC recreation facilities and programs; emphasis on academics as a barrier to participating; perception of fitness; sense of not belonging

### **Results:**

From the 11 participants, four were relatively inactive, participating in less than 75 minutes; half of the recommended minutes of physical activity per week; two were moderately physically active, participating in about 100 minutes of physical activity per week; five met the weekly recommendation of 150 minutes of physical activity; three mentioned lack of female only spaces as a barrier to their participation; two mentioned lack of female designated hours in existing facilities as a barrier; one knew nothing of UBC's recreation facilities and programs; three were mildly aware of UBC's recreation facilities and programs; two mentioned that emphasis on schoolwork was a barrier to their participation in UBC recreation facilities and programs.

### **Conclusion:**

In order to increase UBC's Muslim Women's engagement with recreation facilities and programs on campus, and subsequently their physical activity, we recommend that UBC employs Muslim women as fitness instructors; includes Muslim women in their marketing materials; having such marketing materials to educate Muslim women; expanding existing female only hours at existing recreation facilities; ensuring that female staff are present during such hours; adding female only spaces with appropriate equipment, as opposed to the inadequate ones currently being provided.

## **Introduction & Literature review**

The purpose of this paper is to make suggestions to Athletics and Recreation at the University of British Columbia (UBC) in order to facilitate inclusivity, particularly for the female Muslim population. For the purposes of this paper, physical activity refers to moderate-vigorous repetitive movements that require large muscle groups and result in an increased heart rate and breathing rate. Regular physical activity is associated with a greater quality of life, chronic disease prevention, improved mental health outcomes, and increased longevity (McArdle, Katch & Katch, 2015). Notably, students that participate in regular physical activity and exercise have lower levels of stress, and higher social engagement and the evidence suggests that students are more likely to maintain healthy behavior if the appropriate setting and equipment are available and more accessible. Although physical activity and recreation provide many benefits to students, barriers may prevent them from participating, which may be especially true for marginalized groups. (Foster et al, 2015). Women in general face inequity in the physical activity and sports environment. Sports, especially in Western culture display a male dominated environment, evident in major sporting events such as the Olympics which originally did not allow women to participate (Crowther, 2004). The reverberations of the historical systematic oppression of women are still evident. While policies may have changed, social forces such as stereotyping, and stigmatization still limit women's participation in physical activity. Great inequities result when there are barriers to physical activity participation for vulnerable groups, which is exactly the case for Muslim women (Hamidreza, 2014; Nakamura, 2002). Muslim women are identified as any individual identifying as a female who also identifies as a religious person that may dress and act in a manner that corresponds with varying degrees of traditional and modern Muslim culture (Nakamura, 2002). Muslim women are a population that have been subject to ongoing attention because of the level of influence their religion has on their daily life (Sethi & Seligman, 1993). One of these areas

of focus is Muslim women's participation in recreation and sport, which can be vastly improved. According to journal article *Women-centered Physical Education Programming in Higher Education*, the researchers highlight that The Centers for Disease Control and Prevention (CDC, 2012) note that a staggering 60 percent of females do not meet the current recommendations for PA (Foster et al, P.1 2015). This disparity is even greater for Muslim women and one possible explanation for this is that Muslim women experience oppression (Hamidreza, 2014; Nakamura, 2002). Muslim women in higher education institutions may face stigma from both their own Muslim community as well as the wider western Canadian society. The discrimination from the Muslim community is especially evident if members are seen to go against cultural norms. This presents a unique challenge because some Muslim values directly oppose each other, leaving the stigmatized women with a sense of insecurity about the "right" way to behave. This phenomenon is explored in more detail in the literature review. Low levels of recreational participation by Muslim women are a concern because it does not reflect inclusion, and further perpetuates potential cultural barriers, thus it may increase sedentary behavior. What's more, research shows that decreasing levels of perceived discrimination and stressors, such as acculturation, whilst increasing feelings of inclusion and social wellbeing are likely to increase the health of marginalized groups (Szaflarski & Bauldry, 2019). Consequently, this could not be a more productive cause. UBC has recognized this inequity and put forth initiatives to address it. For example, under the *Inclusive Rec* homepage, it states "UBC Recreation is striving to create a sport and recreation experience that challenges or removes conventions that marginalize or limit the opportunities for individuals to participate." It also notes the measures they are taking to this end, such as evaluating, educating, and evolving their culture, programs and policies (UBC Rec, 2017). UBC Recreation programs include drop-in programs such as basketball, soccer and the aquatic

center intramural leagues that are supposedly gender equitable and include a women's league, a co-rec league, and a men's league (UBC Rec, 2017). In other words, it appears that UBC recognizes the existing gap in vulnerable groups' participation in physical activity, yet existing interventions have not eradicated this issue. Thus, in order to bridge the gap between UBC's slogans of inclusion and actual utilization of recreation facilities by Muslim women, evidence-based strategies must be employed. Therefore, before any further steps are taken to invest in policies, programs, and spaces that take particular care towards increasing rates of recreation for Muslim women, the existing research must be explored. As such, this paper will focus on the extant literature to highlight possible explanations, such as cultural norms and gender norms, as well as solutions for the low levels of physical activity in this population

### **Literature Evaluation**

With regards to the cultural norms that contribute to Muslim women's lack of participation in physical activity, there appear to be several salient barriers. It is noteworthy to mention that women in general see inequity in physical activity spaces due to hegemonic attitudes of physical superiority that are displayed by males within sports, developed via forceful occupation of space objects and the overall display of physical power (Aizlewood, 2006). post-structural feminism theory research illustrates how women themselves perceive limits to their choices in physical activity (Azzarito,2006). The Muslim religion emphasizes modesty and religious attire that are not conventionally a part of Canadian physical activity settings. For instance, attitudes toward the body related to privacy and modesty are not reflected by the dominant culture which is alienating for the group concerned (Hamidreza, 2014). More specifically, norms in the dominant culture often mean that many women are wearing clothing that exposes body parts that may traditionally be covered for Muslim women. Research shows

that there is a high value on modesty in the Muslim culture. For instance, many Muslim women wear a head scarf whether it is a hijab or burka (full face covering), which allows them to feel morally safe (Haider, 2015). What's more, Dagkas (2011) notes that private changing stalls and showers that facilitate concealment of Muslim women's bodies are key factors for this group.

Thus, norms of dressing in Canadian sport settings are in direct contrast to the prevailing norms of Muslim women, which presents as an important barrier (Hamidreza, 2014). Secondly, there may be cultural and religious norms that dictate how Muslim women spend their time.

Specifically, within a typical Muslim household it is known that parents believe academic achievement is the number one priority for their daughters and that physical activity is not meant for women (Taylor & Toohey, 1995). It is evident that Muslim female youth may feel pressure from outside forces to devote more time to academics and domestic obligations rather than physical activity (De knop et al., 1996). In fact, Sofian (2010) points out that participating in physical activity and neglecting domestic duties may directly challenge traditional Muslim notions of respectable femininity. However, it is notable that findings have produced conflicting results: parents were found to support sports involvement yet show great selectivity in the type of sport as it must conform to the conditions of Islam (Kay, 2006). A final cultural norm that was found to impact Muslim women's participation in physical activity is that of observing Ramadan. Notably, subscribers will fast during the day and exercise will be forgone for an entire month (Hamidreza, 2014). Clearly, there are a number of key considerations with regards to Muslim women's cultural norms that diverge from physical activity norms in Canada and thus act as barriers

In addition, prevailing gender norms both in Canadian culture and in Muslim culture create barriers to physical activity participation for women. For instance, research has shown sex-segregated health clubs are popular with women because many are intimidated by exercising in front of men or want to exercise in areas without harassment and/or staring (Evans, 1999). What's more, a study by Hamidreza (2014) found that sex-segregated physical activity spaces were of particular importance to Muslim women. In fact, a lack of sex segregation is shown to be a major contributor to the lack of Muslim women's participation (Hamidreza, 2014; Nakamura, 2002). Furthermore, research on high school physical education classes demonstrates that many girls feel intimidated when participating in mixed gender physical activity classes for several reasons: they feel scrutinized by peers; the boys are perceived as bigger, stronger, and more aggressive; and these same boys successfully attain leadership positions, robbing their female counterparts of such opportunity (personal communication, Steve McGinely, Nov, 12th, 2019). Adopting a Feminist post structural lens, it can be seen how female fitness centers serve two compensatory purposes of the gender discrimination of the historical and cultural ways of the past that have affected structural issues of the present (Foster et al, 2015). Firstly, they tackle a history of sex-role socialization that has left many women disadvantaged at mixed-gender fitness centers. As a result of sex-role socialization that defines women as physically weak, non-athletic, and insecure about their physical appearance, many women are intimidated of joining mixed-gender health clubs fitness centers and exercising in front of men. Secondly, female-only fitness centers compensate for past sexual violence or harassment suffered by some females at the hands of men. Women might be working out while recovering from past sexual or physical abuse through improving self-confidence or learning self-defense (Evans, 1999)"). Many older women are of post childbearing age and have experienced changes in their body due to childbearing or through pregnancy and this



has resulted in a change in appearance. Some have recently experienced menopause and are intimidated exercising in a co-ed environment. Also, because of these historical and cultural factors, women may feel inferior due to the superiority complex of a male dominated fitness culture (Huffman, 2004).

The Women's Sport Foundation (2006) also corroborates this notion that both Muslim and non-Muslim women prefer to engage in sport and physical activity in spaces that are free of both male coaches and participants. They found that female-only classes were of importance to women of all cultures (Women's Sport Foundation, 2006). Evidently, women only physical activity spaces may present a large area of opportunity for UBC Athletics and Recreation.

In sum, it appears that prevailing cultural and gender norms of Muslim women are misaligned with the current offerings of UBC Athletics and Recreation, which contributes greatly to their lack of utilization of these facilities. Furthermore, the literature indicates there to be a lack of infrastructure or resources for Muslim women, minority women, and women in general. For Muslim women to become comfortable engaging in recreational activity, spaces must be designed and managed in a way that is in line with and supports the cultural and religious beliefs that the women follow. These spaces should not hold any risk of them breaching their moral framework. The need for single-gender recreational spaces is not only present among the Muslim community, but among other communities as well. Moreover, the creation of fitness centers that differentiate on the basis of sex is justified if the sex classification is not "based upon and does not perpetuate archaic and stereotyped notions of the abilities or roles of the sexes" among other reasons investigated on the Yale Journal of Law and Feminism (as cited in Evans, 1999). The evaluation of the extant literature on this topic will empower our group to provision further investigation into these barriers by way of collecting data on the voices of Muslim women at UBC. Through this

work we aim to promote the celebration of cultural & religious diversity by removing environmental and cultural barriers. Policies at UBC are already in place and promote inclusivity, however cultural stereotypes and understanding can be improved. Our project will contribute to a better understanding of the cultural & religious differences and needs that everyone must respect in order to create a truly inclusive and diverse campus.

### **Methods and Rationale**

This project recruited Muslim Women studying at UBC at the undergraduate level (n=11) to participate in semi-structured interviews and questionnaires, both with the same questions. This group was selected as undergraduate students make up the largest portion of the student body at 81.8% (UBC Overview and Facts, 2019) and as such will spend the most time in and around UBC's facilities during their education. More importantly, as discussed in the introduction and literature review, Muslim women experience barriers to participation in physical activity which is problematic and inequitable. In order to understand the potential ways cultural and gender norms intersect at UBC's facilities, it was our main concern to conduct interviews that not only provide firsthand experiences; but also, garner suggestions that would help make UBC a more encouraging place for Muslim women to engage in recreation. The benefit of using a semi-structured interview is that it permits reciprocity between individuals and thus allows the interviewer to tailor questions which are suitable for each individual participant's response (Kallio, Pietila, Johnson, & Kangasniemi, 2016). Furthermore, beyond qualitative data providing rich, contextual, and nuanced information, it also captures the lived experience and thus the voices of vulnerable groups--features that could not be captured by quantitative data alone (personal communication, Carolyn McEwen,

October 21, 2019). Participants in this study were sampled from the Muslim Students Association of (MSA), Thaqaalayn Muslim Students Association (TMSA), Arab Student Association (ASA) and the general UBC population. Using the MSA in particular simplified sampling as the MSA is a hub that promotes a respectful, secure, and compassionate environment for Muslim students to congregate (Muslim Student Association, 2020). One group member contacted and interviewed the eleven participants. This group member was chosen because they too are Muslim and thus more aware and adept in the Muslim culture. Self-identifying Muslim students were approached and asked if they would like to engage in a short interview about recreation. Students were contacted through social media and informed of the study along with the consent form. If they agreed to be interviewed in person, a meeting time and place were set up and the interview was recorded. Each interview ranged from 10-20 minutes. If an in-person meeting was not possible, the participants were sent the interview questionnaire and typed out their responses. This was the case with 6 participants due to the sudden outbreak of Covid-19. Once they agreed, they were informed of the reasoning behind the interview; that participation is voluntary; that they do not have to answer all questions; and that they can end the interview at any time. For the participants that were not interviewed face to face they were sent the questionnaire and returned it promptly. The interviews and the questionnaire included questions about the individual's attitudes towards recreation such as: what kinds of recreation they engage in; have they considered engaging in recreation at UBC; do they know the benefits of recreation; and so on (see appendix A for a full list of interview questions). Contextual questions were aimed to give us a clearer understanding of the participants background and current life experiences. The questions included how many hours they engage in physical activity per week; course load; how many hours per week they dedicate to

employment (see appendix A for a full list of interview questions).

### **Data collection and analysis**

Data was collected through interviews and questionnaires. Interviews were recorded by iPhone, the interviews (located in appendix) consisted of a 10-15 -minute semi structured style interview. Questionnaires were conducted using the same questions, however typed out and sent back as a PDF. As previously mentioned, the questions asked were qualitative in order to facilitate trust, rapport, and open dialogue. The earlier questions in the interview were simpler and more straightforward whilst later questions were more personal and revealing (Kallio et al., 2016). The data collected from contextual questions, such as hours of weekly activity; course load; hours dedicated to employment; and so forth, are analyzed and compared to norm data from this population, other groups minorities, and the general population. The data from the qualitative questions provided more in-depth knowledge about this population's lived experiences with physical activity at UBC and recreational sport participation to uncover consistent themes. The data that was collected was analyzed and put into summative, but in-depth responses that were linked in terms of similarities and differences with other interviewee responses to further depict consistent problematic barriers that may impede physical activity and recreation for Muslim women at UBC. The information collected was coded and put into relationship codes; participant perspective codes; Direction (positive, negative, or neutral) of the experience, and participant characteristic codes. Consistent ideas were used to generate themes, analyzed, and potential solutions will be recommended based on the recommendations of the participants. This will also be accompanied with theoretical analysis and peer reviewed research on the recommendations provided, and the level of effectiveness of the proposed solutions at facilitating physical activity

participation among Muslim women. This provided more concrete evidence that will provide clear insight on what areas may be of most concern, and how UBC can improve on these concerns presented with regards to the facilities and activities offered.

### **Results and Findings**

As the results may show, the main aspect to why these individuals seemed less likely to participate in physical activity was mostly due to accessibility barriers to a suitable gym. Be it the women only hours at the UBC gym did not fit into their schedule, or a women's only gym was not present for them to participate in, on campus. As noted, these issues were purely due to external in-accessibility to facilities deemed required for Muslim women to engage in physical activity.

From the 11 participants, four were relatively inactive, participating in less than 75 minutes; half of the recommended minutes of physical activity per week; two were moderately physically active, participating in about 100 minutes of physical activity per week; five met the weekly recommendation of 150 minutes of physical activity (Tremblay et al., 2011); three mentioned lack of women only spaces as a barrier to their participation; two mentioned lack of women designated hours in existing facilities as a barrier; one knew nothing of UBC's recreation facilities and programs; three were mildly aware of UBC's recreation facilities and programs; one mentioned a long commute to campus as a barrier to their participation in UBC recreation facilities and programs; two mentioned that emphasis on schoolwork was a barrier to their participation in UBC recreation facilities and programs.

11 Canadian Muslim women as well as international Muslim women studying full-time at the undergraduate level at UBC participated in the interview. These participants were from the MSA; TMSA; and the ASA and the general UBC population.

### **Sense of not belonging**

Out of 11 participant responses, two mentioned that they felt fear of being judged or discriminated against due to wearing a hijab in recreation facilities.

### **Lack of appropriate female only spaces**

Out of 11 participant responses, 3 mentioned a lack of women only spaces as a barrier to their participation.

Out of the 4 participants that have participated at a UBC facility, 2 of them mentioned lack of appropriate equipment as a barrier.

### **Perception of fitness**

Out of 11 participant responses, 9 felt they were less physically active compared to the average UBC student, 1 felt they were equal to, and 1 felt they were more active.

### **Lack of adequate equipment and female designated hours in existing facilities.**

In addition, 7 were concerned about the unavailability of female only hours.

3 mentioned lack of proper equipment

### **Lack of knowledge of UBC recreation facilities and programs**

Out of 11 participant responses, 5 were aware of UBC's recreation facilities or programs; 4 were only mildly aware of UBC's recreation facilities and programs; and 2 were completely unaware of UBC recreation facilities or programs;

### **Varying levels of physical activity**

Out of 11 participant responses, 1 exercised for 30 minutes per week, 2 exercised for 1 hour per week, 1 exercised for 1.5 hours per week, 3 exercised for 3.5 hours per week, 1 exercised for 4 hours per week, 1 exercised for 5.5 hours per week, and 2 exercised for 6 hours per week.

### **Focus on school**

Out of 11 participant responses, two mentioned that emphasis on schoolwork was a barrier to their participation in UBC recreation facilities and programs.

## **Discussion**

The data collected from the interviews led to important discoveries about the internal issues associated with the barriers to physical activity for Muslim women at UBC. Physical activity and sports carry social norms regarding who the spaces are for. So, ideas around bringing equality to this environment were discussed.

### **Lack of female only spaces**

Out of 11 participants, 3 felt that the lack of female-only spaces at UBC presented a barrier to their engagement with UBC recreational facilities and programs. The most salient theme relating to this was keeping modesty and avoiding uncomfortable exposure. Coed

facilities are not appropriate as Jiwani & Rail (2010) touched upon how the general social role of women in the Islamic culture is geared away from mixed-gender physical activity and focuses on female only activities instead. The lack of a female only space at UBC has narrowed the amount of women that are presently participating in physical activity at UBC significantly, and most dramatically those that are Muslim. As Evans (1999) discusses, movements such as bending over, hip thrusts, or open leg exercises put women in vulnerable positions, the presence of 'leering men' is against the teachings of modesty in Islam, and can make the women feel less safe, in the gaze of men (Kay, 2006). This was certainly reflected in the responses by the women, most evidently when respondent number three said "squatting makes me feel especially vulnerable in a packed gym". This has produced the need for Muslim women at UBC to find alternatives such as women-only facilities and fitness centers that provide women only facilities at alternative locations outside of campus in order to participate in physical activity whilst maintaining their religious modesty.

### **Perception of fitness**

Out of 11 participant responses, 9 felt they were less physically active compared to the average UBC student, a staggering 82%. Although this may just be a perception of the 11 female students interviewed, the few that did meet the requirements for physical activity still perceived themselves as having less than average fitness. One of the individuals that met the requirements went further to explain that she felt that she, as a Muslim woman, feels that Muslim women are not given equal opportunity to be physically active due to the modesty constraints that conflict with the current physical activity facilities available at UBC. This injustice must be remedied by UBC Athletics and Recreation.



### **Lack of adequate equipment and female designated hours in existing facilities.**

Of the 11 individuals interviewed, 7 posed the barrier of inaccessible hours regarding UBC's current female only physical activity services. This physical activity limitation ties very closely to the finding regarding a greater emphasis on academics. Many of our interviewees mentioned that the current UBC women's only hours were very limited and conflicted with their academic courses. Admittedly, it would be impossible to incorporate a vast enough system to incorporate everyone's schedule. However, 7/11 posed the hours as inaccessible which clearly indicates that the available hours are not entirely accessible. The current UBC women's only hours were noted as "limiting" and "hard to accommodate for" by 2 of our interviewees. The other 6 were more passive as they stated that the hours did not fit into their academic schedules, thus it was difficult to maintain a consistent workout schedule. 3 of the individuals that have attended these physical activity facilities noted that the facility itself lacked strength training and cardio equipment, and was more of a studio, than a well-rounded fitness facility.

### **Lack of knowledge of UBC recreation facilities and programs**

Out of 11 participant responses only 2 were completely unaware of UBC recreation facilities and programs, and 4 were only mildly aware of a few recreational facilities. As these numbers are not as significant as the rest of the potential barriers, it is to be noted that the 2 individuals that were completely unaware of these facilities showed great deal of interest in participating in UBC's current recreational programs and facilities after being told of their existence. As this barrier to physical activity remains, the opportunity for more individuals to be aware of the current UBC recreational facilities and programs is of utmost importance. A significant statement from one of the interviewees that has participated in multiple seasons of all

girl's recreational soccer at UBC mentioned that some semesters the program had to be canceled "because not enough participants were present". According to the interview with her, this occurrence happened twice in her three years at UBC, which is deemed to be a significant limitation to physical activity for her whenever it did end up being canceled.

### **Varying levels of physical activity**

Out of 11 participant responses, 4 were participating in less than half the recommended minutes of physical activity, (Tremblay et al., 2011). This is well over a quarter of the participants. Another 2 participants participated in about 100 minutes of physical activity bringing the total of individuals below the recommended 150 minutes of physical activity to more than half, while only 5 individuals had actually met the 150 minutes of recommended physical activity (Tremblay et al., 2011). It is troubling that more than half of the participants did not meet the physical activity guidelines and speaks to UBC's need to increase participation in recreation for this group.

### **Emphasis on academics as a barrier to participation**

Out of 11 participant responses, two mentioned that emphasis on schoolwork was a barrier to their participation in UBC recreation facilities and programs. Individuals mentioned that they struggled with time management due to their academics, which in turn took time away from recreation. While the BirdCoop Fitness Centre and The Arc are opened 7 days a week throughout the day, the women only hours are restricted to only Tuesdays (7:30 AM – 10:30 AM), Wednesdays (3:00 PM – 5:30 PM) and Fridays (3:00 PM – 6:0 PM) at the ARC. UBC does not offer women only hours at the BirdCoop. Related to our previous finding that the women only

hours are insufficient, this further creates a barrier and thus limits recreation for individuals such as our interviewees who already struggle with time management.

### **Sense of not belonging**

Out of 11 participant responses, two mentioned that they felt fear of being judged or discriminated against due to wearing a hijab. Interviewee #10 stated that to her, the biggest barrier was being distinct (referring to her hijab) and not being able to blend into the crowd. She felt that when attending physical recreation facilities, knowing she would be the only person wearing a hijab was often a deterrent as it affected her comfort. Interviewee #10 further stated that she did not believe that UBC lacked facilities that enabled Muslim women to engage with recreation, but more so a lack of resources that enhanced their comfort with being in these settings. One of her suggestions was for UBC to include more hijabi women in their advertisements in order to increase representation and a sense of belonging. In her opinion, the most effective way to breaking down these barriers is to normalize Muslim women values in these spaces. Interviewee #4 shared a personal experience of discrimination. Twice in three years she was pulled out of a soccer game due to her attire violating dress code bylaws, wearing a long shirt, pants, and a hijab in order to cover her body. She stated that due to being singled out as the only hijabi, she now often feels anxious when she is the only hijabi participating in sport alone. Through these personal experiences we can see UBC clearly lacks resource allocation towards the inclusion of Muslim women in physical recreation. Which in turn limits their rates of participation. It is also important to realize the hegemonic attitudes of physical superiority that males possess in a physical activity setting as well, physical activity and sports have long been a male dominated environment (Huffman, 2004).The literature on post-structural feminism made it

clear that understanding systems of knowledge that produce this inequity is the framework to solving the issue (Budryk, 2020). These personal accounts of women feeling that their need for modesty and inclusion clashes with the conventional attire of Canadian physical activity settings is corroborated by Hamidreza (2014), as well as in our own interviews done at UBC.

## **Limitations**

A highly notable limitation of our research resided in the transparency of responses by the participants. Since our research team is composed of just men, there is bound to be a superficial level of trustworthiness in the interviewers. More specifically, Broom, Hand, & Tovey (2009) assert that a male interviewing a female may result in women falsely catering to male narratives reinforced by social expectations of women as passive listeners. To account for this discrepancy, we came up with a solution to have one of our Muslim identifying researchers conduct every single interview and questionnaire. This compromise was also made in order to mediate the social desire response bias (Heine, 2020) and enhance the reliability of the information given by the participants. Social desirability bias refers to a well-known limitation of qualitative research methods, whereby participants respond in ways they believe will be viewed favorably (personal communication, Carolyn Mcewen, October 21st, 2019). While this may not address the gender bias inherent in male interviewers and female interviewees, the accommodation of their culture was the best remediation available within the limitations of our group.

Furthermore, our analysis is limited in the fact that only eleven Muslim women were interviewed, and their results were near constant to each other. Such a small sample size may

mean that other more concerning topics may be hindering the ability for Muslim women to engage in physical activity in a recreational setting. What's more, the smaller the sample size makes the findings less generalizable to the larger population of Muslim women at UBC, a phenomenon called sampling error. In other words, a small sample size means the data collected may be unrepresentative (Marshall, 1996). In addition to the small sample size, we further preserved religious privacy. Hence, we did not ask for clarification on whether participants carried a modernist or a traditional interpretation of Islam. This is an additional factor that would significantly impact the level of concern Muslim women have when dealing with western norms for physical activity settings (Kay, 2006)

A final limitation of our findings exists in the methodology. There are limitations to both quantitative and qualitative research, so this is not to say that one supersedes the other. As previously mentioned, semi-structured interviews and qualitative research in general have the advantage of revealing the lived-experiences of marginalized groups--a feature that could not be more relevant to this project. However, qualitative approaches have their limitations. Notably, the interpretations of one researcher, or in this case, group project member, may not reflect those of another. Expressly subjective analysis always leaves room for bias on the part of the person interpreting it (Morgado, Meireles, Neves, Amaral, & Ferreira, 2017).

### **Recommendations**

Using the literature and data analyzed we have several recommendations that UBC Athletics & Recreation may implement to facilitate better physical activity opportunities for

Muslim women at UBC. The following recommendations are ordered by ease of implementation from easiest to most challenging, with the latter having potentially the greatest effect on improving Muslim women's participation in recreation at UBC. These recommendations are in line with UBC Athletics & Recreation vision as stated in their Financial Summary report for the Fiscal year of 2017 (UBC AMS, 2017). Their vision states three targets: increase participation; improve diversity of programs; and increase of recreation facilities. In line with these visions, we suggest the following 3 recommendations: **increasing marketing material for UBC recreation as well as the representation of Muslim women in the marketing material, increasing the already existing women-only times at The Arc and implementing them at the BirdCoop Fitness Center, and ultimately creating a permanent women's-only recreation facility with appropriate equipment.**

### **1. Increasing marketing and representation of Muslim women in marketing material**

Increasing marketing material throughout UBC will allow for more Muslim women to become aware of what is offered at the facilities and potentially increase their participation. The marketing materials must ensure to be spread through the campus and not simply clustered around the recreation facilities themselves. Interviewee #1 stated that part of her lack of knowledge regarding the recreation programs was due to the fact that she spends a lot of time at the pharmaceuticals building and that there is not a lot of information in that space. In order to make Muslim women feel more confident and welcomed in physical activity settings, increased representation in the UBC Athletics and Recreation marketing material should take place. This requires everything from posters to social media posts to actively target Muslim

women in their targeted marketing strategy. This would lessen the stigma existing in Western and Muslim communities of hijabi women participating in exercise and physical activity. As interviewee #10 said “having more Muslim women who wear the hijab on the advertisements for the gyms or recreational classes can have a tremendous impact and possibly even motivate Muslim women to attend those classes. It follows the mindset; “if she can do it, then I can too”.

## **2. Increasing women’s only hours at The Arc and implementing women’s only hours at the BirdCoop**

Currently, there exists only three days throughout the week each with a small two and a half to three-hour window of designated female-only physical activity (UBC Athletics & Recreation, 2019). These hours are in the ARC Lower Level Studio are:

- Every Tuesday from 7:30 AM – 10:30 AM
- Every Wednesday from 3:00 PM – 5:30 PM
- Every Friday from 3:00 PM – 6:00 PM

However, this is very minimal, and these timings do not align with the schedules of many participants as was the case with Interviewee #4 and may be the case for many other Muslim women at UBC. Furthermore, having just one female designated space in the entire UBC campus is not enough which is why they are also required at the BirdCoop. Implementing them at the BirdCoop would also help if it is not currently possible to increase the hours at The ARC. If these hours were sufficient, there would likely be higher rates of participation by Muslim

women. Based on UBC Vancouver’s published statistics, as of 2019 there are 57,250 enrolled students and women make up the majority. Females make up 57% of those enrolled in Baccalaureate degrees and 59% of those enrolled in Post-Baccalaureate programs (UBC Vancouver, 2019). Consequently, having just one female dedicated room for a very low total of 8 hours of availability per week is not sufficient for more than 25,000 students.

These recommendations also fall in line with the core areas and priorities of the 2018-2028 UBC Strategic Plan. The strategic theme targeted is “People and Places” in the strategic theme section of the report. In fiscal 2019/20 a total of \$36.9m has been recommended for the Vancouver campus (UBC Finance, 2019). Furthermore, the UBC Athletics & Recreation yearly budget is outlined in the picture attached below

<b>VP Students</b>	<b>33,693</b>	<b>281,740</b>	<b>315,433</b>	<b>316,010</b>	<b>(577)</b>	<b>29,027</b>
Athletics and Recreation	2,492	31,443	33,935	34,970	(1,035)	(3,345)
Housing and Hospitality Services	757	209,037	209,794	208,148	1,646	27,919
Student Development and Services	19,468	2,956	22,424	22,522	(98)	450
University Community Services	7,329	38,304	45,633	46,406	(773)	3,594
Other VP Students units	3,647	-	3,647	3,964	(317)	409



This is a quick fix solution that can be implemented instantly. Increase the scheduled female only timings at the ARC so that it aligns with the schedules of more women who prefer to workout in women’s-only settings, so that they can consistently be physically active. An increase of women’s-only activity classes such as spin classes, hip-hop/dance classes, yoga etc, to attract as many people as possible. Increasing classes supports the social as well as the physical benefits of



physical activity. Therefore, these classes would solve both the issues of isolation and of being uncomfortable in exercising in front of many men.

### **3. Development of a permanent women's only recreation facility with appropriate equipment on campus**

This recommendation while being very expensive to implement and complicated to bring to fruition is one that we believe would bring the most positive change. This recommendation removes most of the barrier's women face when attempting to participate in physical activity. Therefore, to remove barriers discussed at length in the literature evaluation and discussion, appropriate physical activity settings solely dedicated for women should be commissioned in order to attract a higher portion of UBC Muslim women population.

A studio styled room such as the one at The ARC does not suffice, as weight training and cardiovascular training need the appropriate equipment such as dumbbells, barbells, treadmills, and bike machines to fulfill the women's needs. This recommendation will also free up space for the already very congested small physical activity centers (ARC, & SRC), that are supposed to serve more than 58,000 members of the UBC community, from staff to students. Which at peak hours, are very inconveniently packed. Having this dedicated facility for women will create a safe space where Muslim women can participate comfortably, make connections with other students, and flourish at UBC.

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Survey questions & Interviews

**Appendix A**

Question 1	Are you currently a full-time student at UBC?
Question 2	Do you have a part time, or full-time job? If so, how many hours do you dedicate to employment?
Question 3	On average how many hours of physical activity do you partake in every week?
Question 4	Are you aware of UBC's vast recreational programs available to students?
Question 5	Have you ever been to any of UBC's recreational gyms, or physical activity facilities? If so, did you find them easy to access, safe, and inclusive?
Question 6	Are you currently in any UBC recreational programs, or were ever interested in joining one?

<p>Question 7</p>	<p>If you have, what are some insights you had about changing room accessibility, physical activity facilities, etc.</p>
<p>Question 8</p>	<p>Do you feel you have less than, equal to, or more hours of physical activity participation when compared to the general UBC population?</p>
<p>Question 9  10  11.  12.</p>	<p>What other barriers such as dress code, time constraints, inaccessibility to acceptable change rooms, or lack of appropriate facilities at UBC have you ever encountered that may hinder you from further increasing your participation in physical activity? And what suggestions may you have to improve physical activity experiences at UBC.</p> <p>If UBC could do one thing to support your physical activity what would it be? Ex. Free gym, free equipment, more advertisement</p> <p>Have you participated in any organized sport as a child, if so which? Did you enjoy it? Do you currently participate in organized sport?</p> <p>How religious are you? 1-10</p>



