

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

The UBC Aquatic Centre Universal Change Room: Community Perception

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KIN 464

Themes: Health, Buildings, Community

April 2, 2019

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Executive Summary

Title: The UBC Aquatic Centre Universal Change Room: Community Perception

Participation in physical activity (PA) is instrumental to both improving and maintaining overall health (Bize, Johnson, & Plotnikoff., 2007). However, not all populations are able to participate in physical activity to the same degree (Gorzynski, 2016). The University of British Columbia's (UBC) recent implementation of universal bathrooms and change rooms on campus seeks to address the barriers to physical activity that exist amongst many populations, particularly the LGBTQ+ community (Gorzynski, 2016). Our research aimed to determine how patrons of the UBC Aquatic Center perceive, use, and experience the universal change room. This investigation was conducted in partnership with UBC. Thus, the purpose of our research project was to gain insight into how patrons perceive universal change rooms, and to use our findings to provide recommendations for our SEEDS partners.

We conducted our survey on one weekday night in order to take advantage of a high-traffic time frame. Twelve participants were approached outside of the universal change rooms and provided consent to participate in our survey. Convenience sampling was utilized in the surveys to collect both quantitative and qualitative data. Our mixed-methods study design collected quantitative data through the use of "yes/no" questions and a Likert scale of 5. Quantitative data was analyzed with descriptive statistics. Qualitative data was collected through the use of an open-ended question and was further analyzed using thematic analysis to identify patterns in the qualitative responses.

Through our investigation, we found that the majority of participants had pleasant and comfortable experiences in the universal change rooms, and considered universal change rooms to be a necessary facility at the UBC Aquatic Centre. Our qualitative data indicated that many participants appreciate the spaciousness and privacy of the universal change room. However, the open-ended question also indicated that there is a perceived lack of privacy in the universal change room which resulted in a preference for sex-specific change rooms for some participants.

We hope that this data will be used to improve implementation of universal and gender-neutral change rooms; not just on our campus but on a larger scale. Based on our findings, we recommend that SEEDS partners should promote privacy, reinforce necessity, conduct semi-structured interviews and collaborate with LGBTQ+ groups. More specifically, we believe that future advertising efforts should emphasize the specific privacy features of the universal change room as well as provide background information of why these facilities are necessary. We also believe that it is important for future investigations to obtain more qualitative data via participant interviews, as this data provides excellent insight to potential areas of improvement in the facility. Finally, we believe that collaboration with LGBTQ+ groups is essential to ensure that these facilities are decreasing barriers to physical activity. By following these recommendations, we are confident that universal change rooms can be transformed for the better and fulfill their purpose in the community as safe-spaces designed to promote inclusion.

Introduction and Literature Review

Why is Physical Activity Important?

Current global trends indicate that the number of individuals suffering from non-communicable diseases such as obesity, cardiovascular disease or type II diabetes is steadily increasing (Reiner et al., 2013). Not only do these diseases pose a great health risk to the people that suffer from them, but the rise of chronic disease places great financial stress on the healthcare system. This being said, the majority of non-communicable diseases arise from a combination of unhealthy eating and/or drinking habits and an inactive lifestyle, which means that they are largely preventable (Reiner et al., 2013). The results of several cross-sectional studies indicate that there is a strong relationship between physical activity and general health, and that exercise can be instrumental in preventing the development of these non-communicable diseases (Bize et al., 2007).

In particular, a systematic review of longitudinal studies conducted by Reiner et al. (2013) found that increased physical activity participation is associated with a lower risk of developing these non-communicable diseases, as well as positive long-term outcomes. In terms of physical activity recommendations, the majority of international guidelines indicate that 150 minutes per week of moderate-to-vigorous physical activity is necessary to accrue health benefits; however, a recent systematic review found that simply becoming more active can lead to increased positive health outcomes regardless of an individual's current activity level (Warburton & Bredin, 2017).

What Prevents Certain Populations from Participating in Physical Activity?

Becoming physically active is not easily achieved by all populations. For example, LGBTQ+ (lesbian, gay, bisexual, transgender, queer/questioning and "plus") populations face specific social barriers that may impede their ability to engage in physical activity at the same frequency or intensity-level as non-LGBTQ+ populations (Gorczyński, 2016). There are several factors that have been identified as barriers that prevent this population from participating in physical activity (PA), specifically, homophobia, biphobia, transphobia, and the threat of violence from non-LGBTQ+ people (Gorczyński, 2016). This results in extremely negative consequences for LGBTQ+ individuals, such as lower rates of participation in PA and higher rates of health problems such as heart disease, obesity, depression, and anxiety than non-LGBTQ+ individuals on average (Gorczyński, 2016).

There are both personal and social barriers which prevent LGBTQ+ people from being active, with exclusionary discriminatory practices being a main driving force behind these barriers (Gorczyński, 2016). For example, it has been documented that lesbian and bisexual women have a greater risk of obesity than heterosexual women, and sexual minority stress is the most common explanation behind this disparity (VanKim, Austin, Jun, & Corliss, 2017). Exposure to discrimination, bias, stigma, and prejudice negatively impacts mental, behavioural, as well as overall physical health (VanKim et al., 2017).

In a study conducted by Morrow & Gill (2003), it was found that members of the LGBTQ+ community experienced high levels of harassment in change rooms. As a consequence of this harassment, sex-specific change rooms are often seen as an unsafe and unwelcoming environment for members of the LGBTQ+ community, providing further reasoning as to why members of this community have lower levels of PA than other groups. According to another study conducted specifically within an LGBTQ+ population, 32.5% regularly avoid attending physical education class, 39.0% avoid all change rooms, and it was found that half as many LGBTQ+ students participate in athletics than their heterosexual counterparts (GLSEN, 2013). This evidence indicates that there is certainly more that must be done to ensure that recreational facilities are a welcoming environment for all people, and demonstrates that one of the most influential barriers to PA for the LGBTQ+ population is feeling unsafe or unwelcome in changing facilities. Through this investigation, we hope to address this underlying issue by providing further evidence that speaks to the necessity of universal change rooms and identifying strategies that can be used to improve them for all patrons.

How Can These Health Inequities be Addressed?

Having identified this specific barrier to PA, there are steps that can be taken to address it. A qualitative study conducted in British Columbia, Minnesota and Massachusetts found that LGBTQ+ people associate positive experiences with gender-neutral washrooms, and that gender-neutral washrooms make them feel safer and more included (Porta et al., 2017). As well, this study found that if a gym or drop-in centre provided access to a gender-neutral or universal change room, LGBTQ+ individuals would feel more comfortable using that facility than if this type of changeroom were not provided (Porta et al., 2017). The University of California, Berkeley has opened a 4,500-square-foot gender-inclusive locker room in 2018 to better accommodate the needs of transgender and non-binary students, as well as those with disabilities and students seeking additional privacy (Kozub, 2018). Equality California, the state's largest LGBTQ-rights organization, believes that the gender-inclusive washroom will serve to protect the privacy of students and remove physical activity barriers for LGBTQ+ students who felt unsafe or uncomfortable using the sex-specific change rooms that were previously available (Kozub, 2018). Taken together, these two pieces of evidence are indicative of the positive impact that universal change rooms can have on creating an environment of inclusion. However, there are specific knowledge deficits that must be addressed with this investigation - specifically, we aim to understand how universal change rooms are perceived by all patrons that utilize it, not just LGBTQ+ individuals.

How will we Contribute to this Effort?

More specifically, our study will investigate public perception of the universal change room at the University of British Columbia (UBC) Aquatic Centre, and how the implementation of this facility has impacted PA experiences for all populations. We aim to demonstrate that universal change rooms can be implemented effectively on a large-scale such as in the UBC Aquatic Centre, such that they can be enjoyed by all patrons of the facility. This investigation was completed in partnership with the UBC Social Ecological Economic Developmental Studies (SEEDS) Program in order to help them gain a better understanding of the “knowledge,

perceptions and experiences” of the patrons using the universal change room at the UBC Aquatic Centre. The work done in our study will directly contribute to the achievement of this goal, as we have collected data in order to specifically address these knowledge deficits that the SEEDS partners wish to fill.

This study will contribute to existing literature on the importance of universal change rooms as well as provide basis for certain recommendations to be made to our SEEDS partners so that the universal change room at the UBC Aquatic Centre can be enjoyed and appreciated by all.

Methods

Rationale

To execute our investigation of perception of the universal change room, we collected data from the Aquatic Centre on weekday evenings. The rationale for doing so was as follows: The UBC Aquatic Centre is one the campus’ newest facilities, hosting athletic training, competitions, and neighbourhood leisure (UBC Aquatic Centre, n.d.). Among the recreational and competition pools, hot tub, steam room and sauna, the Aquatics Centre features men’s, women’s, and universal change rooms. Although there is currently no literature available to confirm this, we found that weekday evenings had a large volume of traffic. In addition to this, the UBC Aquatic Centre provides “public swim time” each weekday evening (UBC Aquatic Centre, n.d.), which likely contributed to the fact that the population of patrons was substantial enough for data collection. The primary goal of data collection was to interact with individuals over the age of 18 and ask that they complete the survey, the details of which will be expanded upon in future sections. It was expected that data would be collected from a relatively small sample (n=12); this will also be discussed in greater detail in the discussion.

Data Collection

A mixed-method study design was used in this project to investigate patron’s perceptions of the universal change room at the UBC Aquatic Centre. As the mixed-methods study design uses both qualitative and quantitative approaches, using this approach can counteract the limitations of both techniques whilst amplifying the strengths of each method, yielding results that are more accurate (Doyle et al., 2009). The survey used for data collection is provided in Appendix A for reference. Participants were required to select ‘yes or no’, or select a number on the Likert scale of five, for example, one meaning “not often” and five meaning “very often” (Joshi, Kale, Chandel, & Pal., 2015). The aim of the survey questions was to establish the sentiments of patrons towards certain aspects of the universal change room. For example, participants were asked to rate how comfortable they felt using the universal change rooms as well as how much privacy they felt that the universal change rooms provide, in addition to other survey questions (see Appendix A for all questions). An open-ended question was provided at the end of the survey, asking participants to provide an explanation for why they might prefer one type of change room (sex-specific or universal) over the other. This style of question

allowed us to capture any factors that were not accounted for within the survey questions, as well as contributed to the richness of our data.

Procedures

Convenience sampling was utilized for this survey given that the surveys were conducted at the UBC Aquatic Centre - this inherently provides access to patrons of the Aquatic Centre that could be recruited as study participants. Convenience sampling is often used in both qualitative and quantitative research, and worked well for this investigation because the target population for the surveys was UBC Aquatic Centre patrons (Robinson, 2013). Before proceeding with the survey, participants were given information regarding the purpose, study procedures, and dissemination of study results to the general public following its completion. Participants were required to fill out the consent form prior to completing the survey (see Appendix B). After explaining study procedures and obtaining consent, participants were invited to ask any questions that remained unanswered. Once all participant questions had been answered, participants were provided with the survey. The survey was provided on paper, meaning that participants were required to write their responses (see Appendix A).

Data Analysis

The survey utilized for this project consisted of three different question-types. The survey data was divided into the following forms: “yes or no”, a Likert scale, and an open-answered section. Pie charts and bar graphs were used for presentation of the data analysis. Tables were also used for the open-answered section. Based on the mixed-method study design, we used qualitative and quantitative methods to analyze the data.

For this investigation, we used descriptive statistics to analyze quantitative data by measuring the frequency of response for each option of the Likert Scale for each one of the questions. Pie charts and bar graphs allowed the data we collected to be quickly and easily understood. They were specifically useful for this investigation as we wanted to compare the proportion of individuals that possess certain feelings or opinions towards the universal change rooms at the UBC Aquatic Centre, and a bar graph allows for simple visualization of data.

To analyze the open-ended section of our survey, we used a thematic analysis approach. Thematic analysis (TA) is used to identify themes or “patterns of meaning” within qualitative data (Clare & Braun, 2017). We identified “codes” within the qualitative responses; a “code” is defined as “the smallest unit of analysis that capture interesting features of the data” that could be directly relevant to the topic at hand. From there, the codes were sorted into overarching themes which were then used to identify a “shared core idea” from the qualitative responses (Clare & Braun, 2017). The topic of our investigation was used to guide the coding, as we were specifically looking for indications of how patrons of the UBC Aquatic Centre feel about universal change rooms compared to sex-specific change rooms.

We did not encounter any specific challenges with data analysis, but the challenges involved with data collection will be discussed in detail in a later section. By understanding and

identifying some of the potential barriers and areas for improvement, we were able to create strategies aimed towards making universal change rooms at the UBC Aquatic Centre more comfortable and accessible for everyone. Furthermore, the qualitative results of our survey were used to inform the suggestions for our SEEDS partners, which will be elaborated upon in a later section.

Results

Participant Background

Out of the twelve participants that were surveyed, nine participants (75%) self-identity as male and three participants (25%) self-identify as female. Eight participants are in the 18-24 age range, two participants in the 25-34 age range, and two participants in the 35-44 age range. Participant ethnicity was also asked in the survey; out of the twelve participants, six participants are Asian, two participants are White, one Arabic, one Egyptian, one Indian, and one participant who is White/Asian mixed. None of the participants have a mobility issue or other disability, and out of the twelve participants, two participants reported that they have a child.

Universal Change Room Usage

67% of participants reported that they use the universal change room, and 33% of the participants reported that they do not use the universal change room (Figure 1). On a Likert scale of 5, three participants indicated that they never use the universal change room, three participants indicated that they use the universal change room “very often”, while two participants each indicated that they use the universal change room “rarely”, “somewhat often”, or “fairly often” (Figure 2).

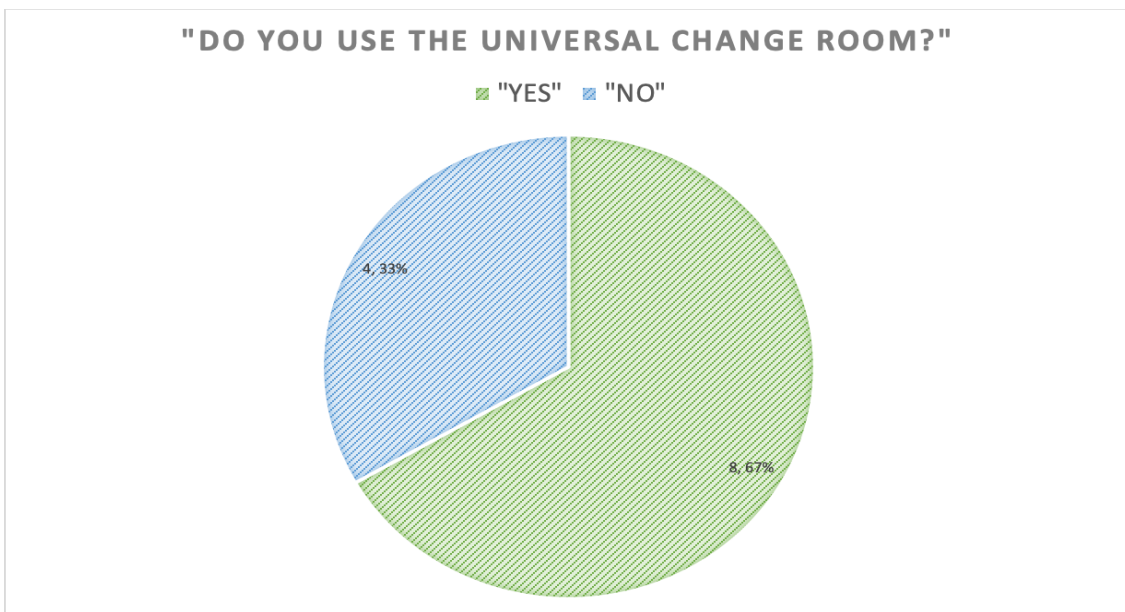


Figure 1. Proportion of participants that either do or do not use the universal change room, n=12.

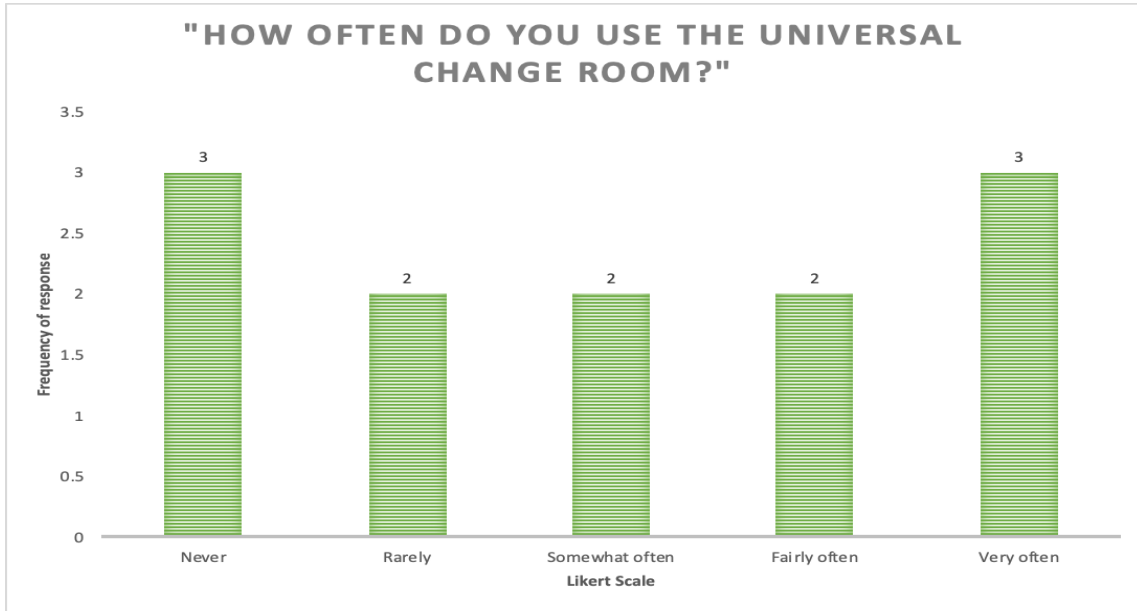


Figure 2. Frequency with which participants use the universal change room, n=12.

Comfort Level

Participants were asked to indicate how comfortable they feel using the universal change room. Two participants reported that they are “somewhat comfortable” using the universal change room, seven participants reported that they are “very comfortable”, and three participants reported to be extremely comfortable with using the universal change room (Figure 3).

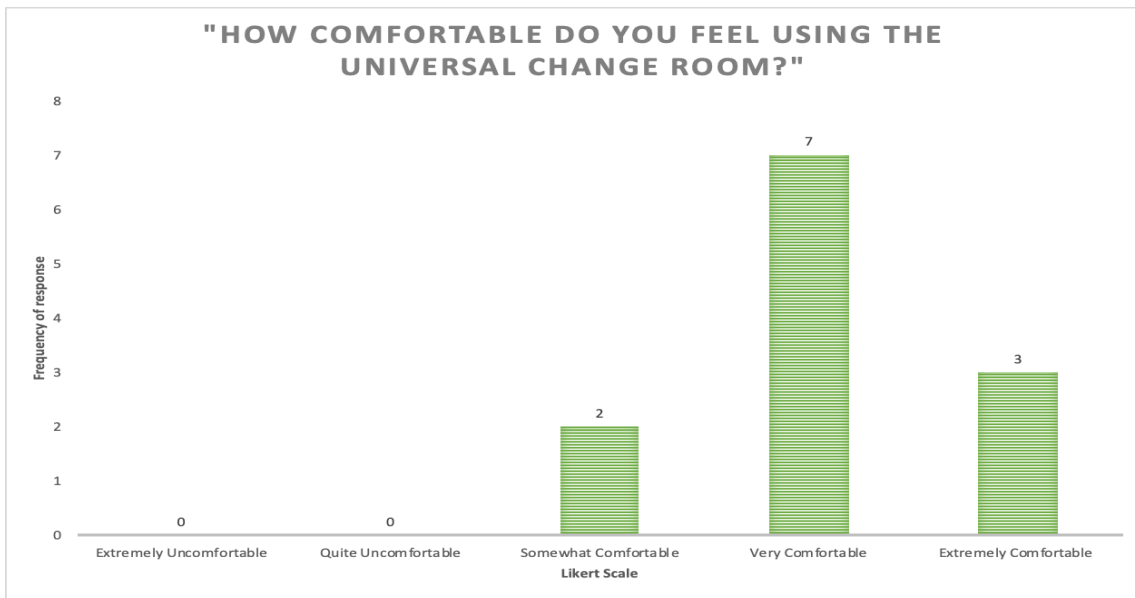


Figure 3. Likert Scale of participants’ level of comfort in using the universal change room, n=12.

Necessity

Participants were asked to report how necessary they believe the universal change room is, and the results were distributed between 3-5 on the Likert scale. Five participants think that it is “somewhat necessary”, four participants think it is “very necessary”, and three participants think it is “extremely necessary” to have universal change rooms (Figure 4).

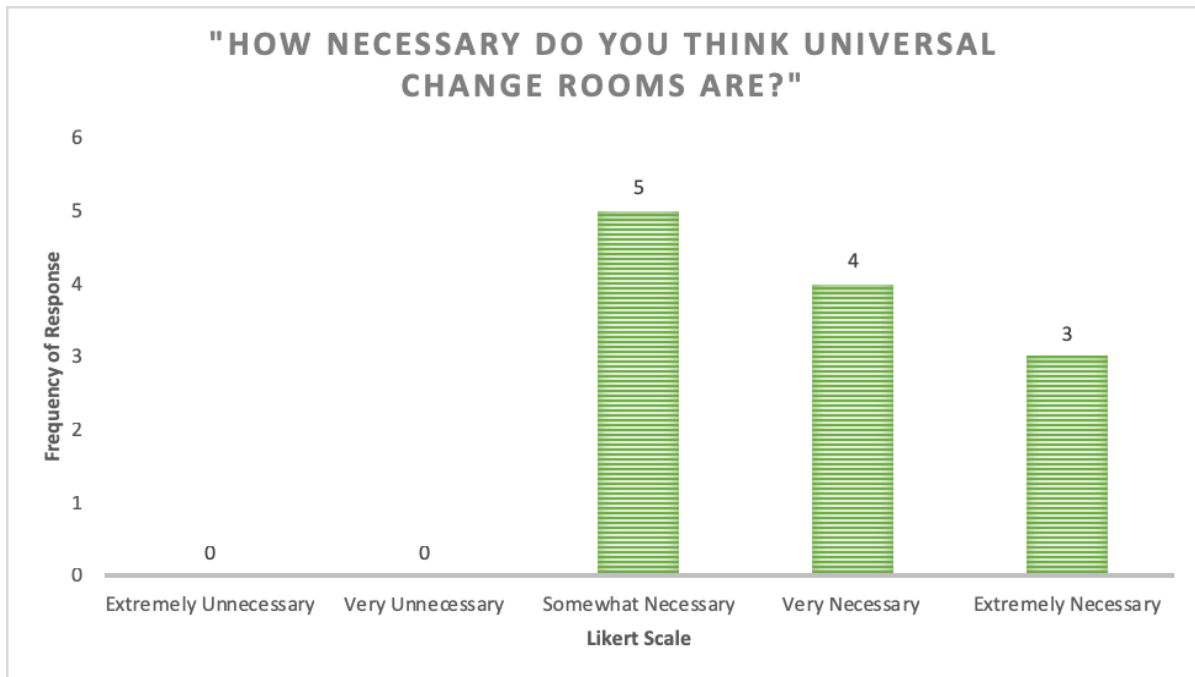


Figure 4. Likert Scale of participants’ perception of the necessity of universal change rooms, n=12.

Privacy

Participants were then asked how much privacy they think the universal change rooms provide. There were mixed responses, as five participants think that the change rooms are “moderately private”, one participant thinks there is “some privacy”, and six participants think the universal change rooms provide “a lot of privacy” (Figure 5).

Experience

On a Likert scale of 5, participants were asked to rate the pleasantness of their experience using the universal change rooms at the UBC Aquatic Centre. Three participants have had “somewhat pleasant” experiences, six participants (50%) of the participants have had “very pleasant” experiences, and two participants have had “extremely pleasant” experiences. One participant reported N/A, as they previously indicated that they never use the universal change room (Figure 6).

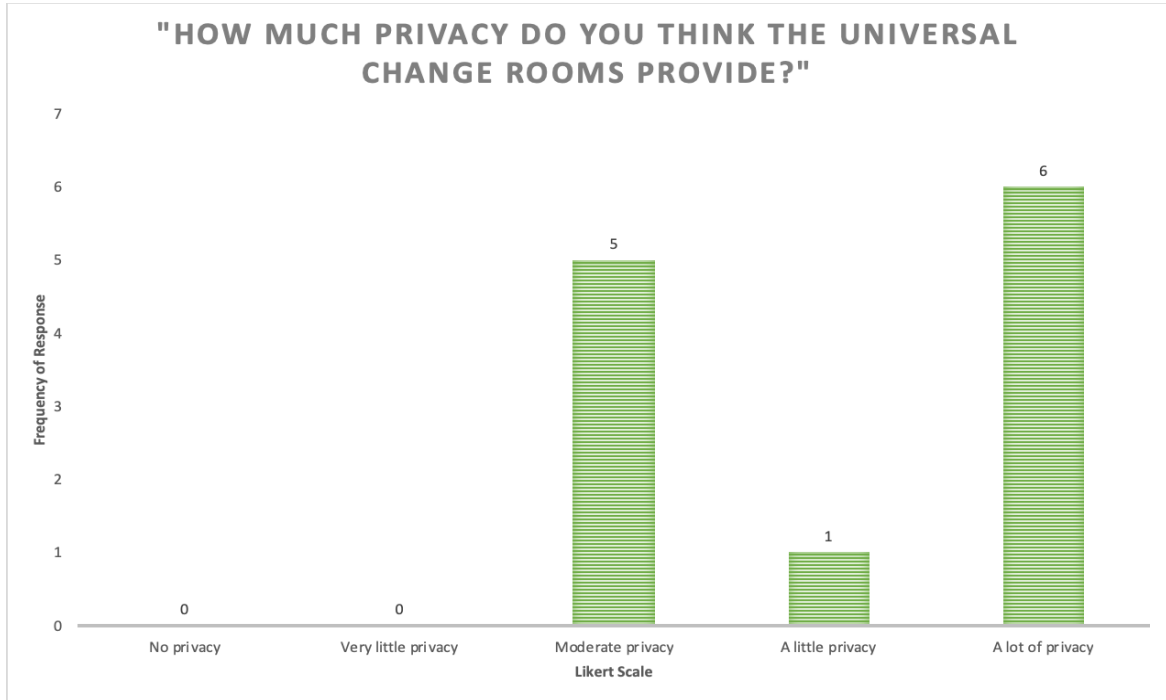


Figure 5. Likert Scale of participants' opinions regarding the privacy of the universal change room, n=12.

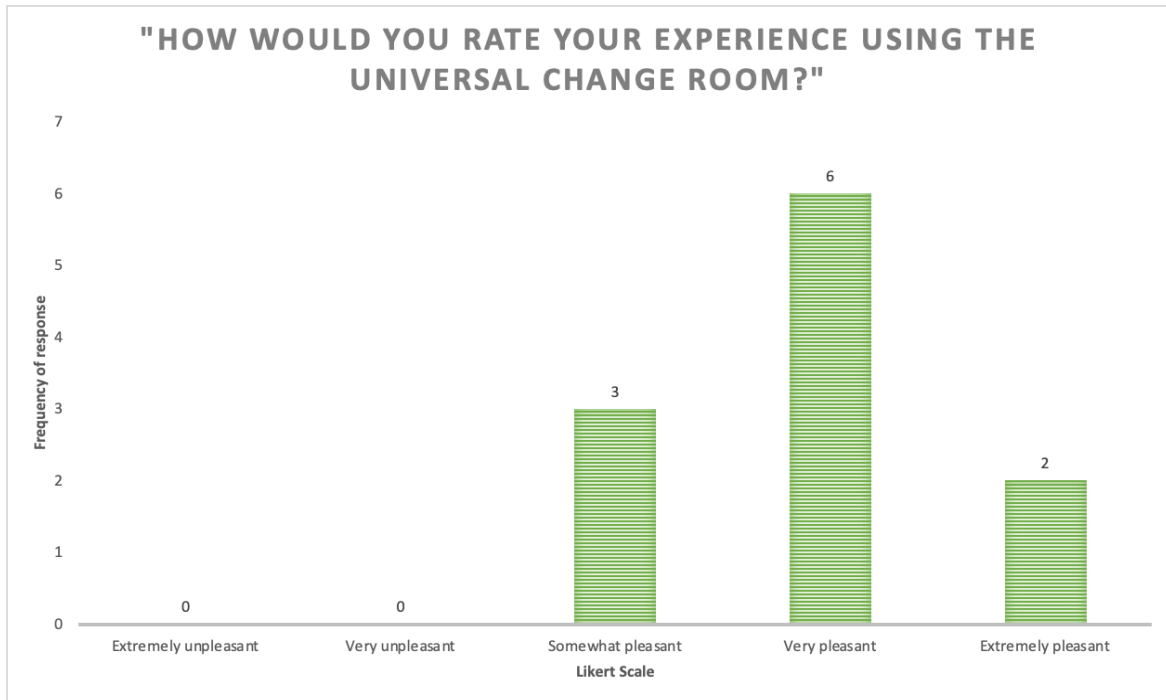


Figure 6. Likert Scale of participants' experience using the universal change room, n=11.

Open-Ended Question

Participants were asked to provide a brief reasoning as to why they might choose one type of change room over another, specifically, the universal change room versus a sex-specific change room. The qualitative results of this part of the survey are included in a table below, followed by the results of the thematic analysis.

Table 1. Qualitative results from the open-ended question of the survey.

<p>“Please give a brief reasoning for why you might choose one type of change room over another (universal change room vs. sex-specific change room):”</p> <p><i>“If I have to change out of/into my swimsuits I’ll use the women’s change room.”</i></p> <p><i>“Habit and confidence, good to have inclusive options.”</i></p> <p><i>“I would prefer sex-specific change room as it gives more privacy, especially for women.”</i></p> <p><i>“Convenience, privacy.”</i></p> <p><i>“Male change room is too small/over crowded.”</i></p> <p><i>“More convenient changing stalls.”</i></p> <p><i>“Depending on locker availability/crowd.”</i></p> <p><i>“N/A”</i></p> <p><i>“Based off what gender someone would identify with or not comfortable in a binary assigned washroom.”</i></p> <p><i>“There is more room in the universal change room, cleaner.”</i></p> <p><i>“More privacy in universal change rooms.”</i></p> <p><i>“Freedom of changing within a sex-specific changing room, don’t need to hide in a locker.”</i></p>
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Identified Themes

Thematic analysis was performed on these qualitative data as described in the Methods section. The following overarching themes were identified: an appreciation for the inclusivity, spaciousness and privacy of universal change rooms, discomfort with changing in a universal change room, and convenience of having private stalls. From these themes, the shared core idea was determined to be that in general, patrons of the UBC Aquatic Centre have an appreciation

for the purpose of universal change rooms as a safe-space for everyone, and they believe that the change room at UBC is clean, spacious, and convenient. However, there are still some people who would feel more comfortable changing in sex-specific change rooms, perhaps due to habit or familiarity with norms. Further analysis of individual quotes will be provided in the “Discussion”.

Lastly, participants were asked to give any comments or suggestions regarding the universal change room. These suggestions will be further addressed in a later section.

Table 2. Qualitative results from the comments/suggestions question of the survey.

“Comments/Suggestions”:
<i>“Very see through to the outside world.”</i>
<i>“Washroom needs to be cleaner.”</i>

Discussion

What do our results suggest?

The results discussed in the previous section will now be elaborated upon in order to demonstrate that while universal change rooms have been implemented successfully at the UBC Aquatic Centre, this study has elucidated certain aspects that can be improved.

In terms of frequency-of-use of the universal change room, participants’ responses varied from “Never” to “Very Often”. However, all participants reported that they were either “somewhat comfortable”, “very comfortable”, or “extremely comfortable” with using the universal change room. This highlights inconsistencies within our data that should be discussed. More specifically, three participants stated that they have never used the universal change room, but those same participants also indicated that they were either “somewhat comfortable” or “very comfortable” using the universal change room. This inconsistency potentially implies that although some individuals have not yet used the universal change room, they do not possess any pre-existing negative thoughts towards the concept of using it. This is positive, as it bolsters what is indicated by the rest of our data: that the majority of people are comfortable with universal change rooms and believe that they are necessary.

When asked to indicate how necessary they believe the universal change rooms are, 100% of participants selected that they believe universal change rooms are at least “somewhat necessary”, while 58% of participants selected that they believe universal change rooms are “very necessary” or “extremely necessary”. These results are quite positive, and despite the fact that our small sample size limits the generalizability of our results, this study is indicative of the fact that many people have had positive experiences using the universal change room, or in the

event that they do not use the universal change room, they have some understanding of its purpose and why it has been implemented. As discussed in the introduction, the availability of safe-spaces such as gender-neutral washrooms and universal change rooms is an extremely important and often deciding-factor for whether or not a member of the LGBTQ+ community will attend a recreation facility (Porta et al., 2017). This impacts the PA levels of the LGBTQ+ community, so the presence of the universal change room at the UBC Aquatic Centre is an excellent step towards encouraging members of the LGBTQ+ community to become more physically active. Furthermore, our results indicate that this endeavour is supported by other patrons, which will contribute to the overall development of an inclusive environment.

One strength of our survey was that the open-ended questions were able to provide an in-depth understanding of the participants' perceptions of the universal change rooms, as well as address some of the conflicting categorical responses. The results of the thematic analysis performed on these data have already been discussed, so this section will focus on further investigation of individual responses received in the open-ended section. As expected, the open-ended questions provided descriptive responses that illuminated factors not accounted for in the rest of the survey. For example, three participants stated that there are certain situations in which they would rather use sex-specific change rooms despite having indicated that they were “very comfortable” using universal change rooms in the survey. More specifically, one of these participants mentioned that sex-specific change rooms “*give more privacy, especially for women*” and another participant provided further insight into their reasoning, saying, “*If I have to change out of or into my swimsuit, I’ll use the women’s change room*”. Based on these responses, we can conclude that although all participants indicated that they felt at least “somewhat comfortable” using the universal change room, some would prefer sex-specific change rooms for privacy reasons. Public recreation agencies are responsible for ensuring that all individuals have equitable access to facilities, and this includes ensuring that locker rooms, bathrooms, and showers allow for privacy (Oakleaf & Richmond, 2017). Thus, the implication that some individuals felt like their privacy was compromised in the universal change room suggests that privacy is a main issue that should be addressed by the SEEDS partners, which we will discuss in a future section.

Broader Implications

This study is indicative of the fact that the implementation of the universal change room has been quite successful. As discussed, our results demonstrate that the sentiment of UBC Aquatic Centre patrons towards the universal change room are largely positive, but this does not mean that the facilities are being utilized or enjoyed by all patrons. As well, given that 100% of our participants self-identified as female or male, we cannot be certain as to whether or not transgender or other LGBTQ+ perspectives was captured in these data. Universal change rooms have been presented as a possible solution to a barrier to PA faced specifically by members of the LGBTQ+ population in the literature (Porta et al., 2017), but our data does not allow us to determine the extent to which this issue is being addressed on UBC campus. Future studies could benefit from comparing patterns or trends in perceptions of universal change rooms across different cultural or sexual backgrounds in order to determine if the universal change rooms implemented at UBC are actually influencing PA levels of specific populations.

However, our data has illuminated certain improvements that can be made in regards to the universal change room at the Aquatic Centre. We found that certain individuals would still prefer to use sex-specific change rooms, the broader implications of which is that more must be done to make members of the general population feel comfortable using universal change rooms. It is our hope that the information provided in this study will be utilized to develop marketing tactics that will increase awareness regarding the purpose of universal change rooms, as well as provide logistical information such as descriptions of the changing stalls to quell individual concerns regarding privacy.

It is important to discuss the implications of these results as they relate to both our goals, and the goals of the SEEDS partners. Our SEEDS partners described their goals for the project as follows: “To understand patron knowledge, perceptions, and experiences with the universal change rooms in the UBC fitness facilities (ARC Recreation Fitness Facility), and the UBC Aquatic Centre.” Upon completion of our investigation, we can confirm that we have addressed each of these knowledge deficits. We have confirmed that patrons do have knowledge regarding universal change rooms, we have collected data specifically regarding patron perception of the change room’s privacy and necessity, and we have collected data on patron experience in the facility.

Challenges and Limitations

One challenge we faced during data collection was the difficulty in recruiting participants. Given that we planned to conduct our data collection on a Thursday evening between 7:00 p.m. and 8:30 p.m., many people were rushing to go home after using the facility and as a result, were not willing to stay at the facility and complete the survey. This challenge could be addressed in the future by choosing a different day and time for data collection - it is possible that weekend mornings would have been more ideal since patrons may be in less of a rush to exit the facility at that time, but this would need to be confirmed through observation.

As discussed previously, our SEEDS partners only required data from 7-12 participants. This being said, our results may not be representative of the larger population of Aquatic Centre patrons or members of the larger UBC community. As well, we anticipated the fact that participant recruitment would be difficult, so we designed our survey to be short and easy-to-complete. However, this limits the richness of our data, as we asked very few questions and did not conduct interviews. Further research might benefit from larger-scale data collection, to increase the generalizability of results as well as capture a broader variety of perspectives. Conducting semi-structured interviews with patrons of the Aquatic Centre would be an excellent way to obtain richer data on the perspectives of individuals that use the universal change room in order to find out more specific information regarding how it can be improved.

It should be noted that for the open-ended question, participants provided reasoning as to why they would prefer one type of change room over the other, but some participants did not indicate which change room they would prefer and the answer could not be inferred from their reasoning - this is a limitation of our qualitative data and could be corrected in future studies by

explicitly asking participants to state which type of change room they would prefer in addition to providing reasoning.

Recommendations for SEEDS Partners

1. **Promote Privacy:** Based on the results of this survey, several participants indicated that they would prefer to change in and out of bathing suits in sex-specific change rooms due to concerns about the universal change rooms not being private enough. Therefore, it is important to emphasize the fact that the universal change room provides excellent privacy to patrons. We recommend that the SEEDS partners take steps to address these specific concerns, and try to change the perspective of individuals who feel uncomfortable or uncertain about using the universal change room.

One way to do this would be to place emphasis on direct promotion of the privacy in the universal change room. For example, it would be beneficial to focus advertising campaigns on the specifications of the universal change room, by providing more images of what the universal change room looks like on the Aquatic Centre webpage. It is extremely important to emphasize the fact that the term ‘universal’ does not mean that patrons change together in open areas. As well, marketing campaigns should be clear in stating that people of all gender-identities are able to use the universal change room. This would directly address the SEEDS partners’ concern that some people are unclear as to whether or not they are welcomed in the universal change room.

2. **Reinforce Necessity:** While our survey results indicate that participants believe universal change rooms are necessary to a certain extent, we feel that more can be done to increase patron understanding of their purpose. By providing more information regarding why universal change rooms are being implemented and describing the potential positive impacts they can have on both the mental and physical well-being of LGBTQ+ individuals, patrons may be more inclined to utilize them. This can be done by increasing the information available on the UBC Recreation website, as well as by increasing signage/advertisement outside of the Aquatic Centre.

On the UBC website, it would be beneficial to provide background information outlining why the universal change room was implemented at UBC and how it can help people. In terms of signage and advertisement, an excellent way to convey the purpose of universal change rooms to a large number of people would be to have a page in the UBC agendas distributed to students of different faculties. These agendas are often distributed to first-year students and would be a very effective tool for advertisement. The page in the agenda could include a very brief history of universal change rooms, details and images of the universal change room at the Aquatic Centre, and patron testimonials outlining its positive impact.

3. **Conduct Semi-Structured Interviews:** Upon completion of this investigation, we believe that the open-ended section of our survey provided the most insightful and

relevant information in regards to how the universal change room can be improved. This is because it allowed participants to express beliefs that could not be elucidated from the other survey questions. As such, we recommend that for future research studies, our SEEDS partners conduct semi-structured interviews with patrons of the facility. This will allow them to learn more about the perceptions and experiences of patrons. One of the benefits of semi-structured interviews is that they allow the participants to freely express their opinions, and make use of observational data (Cohen & Crabtree., 2006). As well, the interviewer is able to stray from prepared interview questions to allow the conversation to flow naturally, thereby encouraging the participant to be honest about their opinions and experiences (Cohen & Crabtree., 2006).

4. **Collaborate with LGBTQ+ Groups:** This investigation did not seek out the perspectives of members of the LGBTQ+ community, which is certainly a limitation. The best way to determine whether or not the universal change rooms are actively improving PA participation of LGBTQ+ people is to speak directly with those who are part of that community. We suggest that the SEEDS partners communicate with The Pride Collective at UBC to further their understanding of how the universal change room is (or isn't) succeeding in removing barriers to PA.

Acknowledgements

We would like to acknowledge that the land on which we performed our data collection is the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) People. As well, we would like to thank Negin Riazzi and Matthew Fagan for their assistance and guidance throughout the duration of this investigation.

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Appendix A - Survey

1. Do you use the universal change room? Yes or No

2. How would you self-identify? Male, Female, Non-Binary, Other

3. What age range do you belong to? 18-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75+

4. What is your ethnicity?

White, Hispanic or Latino, Black, Indigenous, Asian, Pacific Islander, Other

_____ (if Other, please write your ethnicity here)

5. Do you have a mobility challenge or other disability? Yes or No

a. If Yes, what is your mobility challenge or disability? _____

6. Do you have a child? Yes or No

7. On a scale from 1-5, how often do you use the universal change room?

1 Never	2 Rarely	3 Somewhat often	4 Fairly often	5 Very often
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8. On a scale from 1-5, how comfortable do you feel using the universal change room?

1 Extremely uncomfortable	2 Quite uncomfortable	3 Somewhat comfortable	4 Very comfortable	5 Extremely comfortable
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9. On a scale from 1-5, how necessary do you think universal change rooms are?

1 Extremely unnecessary	2 Very unnecessary	3 Somewhat necessary	4 Very necessary	5 Extremely necessary
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10. On a scale from 1-5, how much privacy do you think the universal change rooms provide?

Appendix B - Consent Form

KIN 464: Health Promotion and Physical Activity

Participant Consent Form

Universal change rooms: Improving patron experience with universal change rooms

Principal Investigator:

Negin Riazi (PhD Candidate, School of Kinesiology, Faculty of Education)

The purpose of the investigation:

To gather knowledge and expertise from community members on topics related to physical activity, recreation, and health promotion. Results will be used to develop communication tools and signage to reach patrons who may underutilize or may be unaware of the universal change rooms in the UBC Aquatic Centre.

Study Procedures:

With your permission, we are asking you to participate in a survey. With the information gathered, students will critically examine how different individuals understand or engage in utilizing the universal change rooms at the UBC Aquatic Centre.

Project outcomes:

The information gathered from the survey questions 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 will also be posted on the following websites. ***No personal information/information that could identify participants will be included in these reports.***

UBC SEEDS Program Library:

<https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library>

Potential benefits of class project:

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

Confidentiality:

Maintaining the confidentiality of the participants involved in an interview is paramount, and no names will be asked for.

At the completion of the course, all data (i.e. notes) and signed consent forms will be kept in a locked filing cabinet in Negin Riazi's office in the Population Physical Activity Lab (2259 Lower 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. You should know that your participation is completely voluntary and you are free to **withdraw from the survey** and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study:

If you have any questions about this class project, you can contact Negin Riazi by phone at 604-822-5288 or by email at negin.riazi@ubc.ca

Research ethics complaints:

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

Consent:

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

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.

Subject signature _____

Date: _____