

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

**UBC Aquatic Centre Universal Change Rooms**

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# UBC AQUATIC CENTRE UNIVERSAL CHANGE ROOMS

*Improving Patron Experience with Universal  
Change Rooms*

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A research project in conjunction with the School of Kinesiology,  
University of British Columbia

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April 2019

## Executive Summary

The purpose of the *UBC Aquatic Centre Universal Change Rooms: Improving Patron Experience with Universal Change Rooms* study is to gain a better understanding of patrons who use this facility in the Aquatic Centre at the University of British Columbia (UBC), and how we can better them and make them more accessible for all patrons. Sixteen participants were surveyed about their use and experiences in the universal change rooms. This study focused on both statistical data and a descriptive thematic analysis to understand findings from the 21-item in-person survey. The information gathered will be used by our SEEDs partners to improve experiences in the universal change rooms.

The findings of the study coincided with the average age and gender identification of UBC (Smith, 2008; “Demographics Overview,” n.d.). An overview of participants’ demographics were displayed, including a majority of Caucasian participants, students, and those who identified as single. Small trends were found from the open-ended questions and optional suggestion questions such as the want for more private changing stalls and showers, making lockers more accessible and easier to use, and overall better cleanliness of the facility. Two larger themes arose from the data analysis: importance of privacy and feelings of safety. A large majority of participants reported that the reason they used the universal change rooms, was that they preferred the private changing stalls that they offered. This privacy allowed users to feel more comfortable, and made them more likely to engage in physical activity. Many participants also expressed that when they used the universal change rooms, they felt safer. Specifically, members of the LGBTQ+ community felt that in these spaces, they were able to be themselves and were more accepted. As this barrier of non-acceptance is a deterrent for LGBTQ+ members to participate in physical activity, it is important to address to ensure they are able to sustain a healthy lifestyle.

Based on the findings of the study, three main recommendations for moving forward were created. First, to create signage depicting a code of conduct for appropriate behaviour in the universal change rooms to promote and enhance security, comfort and privacy for users. Second, to implement various modifications, including providing an increased quantity of lockers, the number of private changing stalls and showers, as well as to reassess cleaning procedures for the locker room. Finally, to install more universal change rooms in the future across campus, and to renovate pre-existing facilities in order to increase the accessibility for those who feel more comfortable using the universal change rooms.

## Introduction

UBC has implemented universal change rooms as part of an initiative to help make campus safer, accessible and more welcoming for those who do not feel comfortable or safe using male or female designated washrooms (“Inclusive Washrooms & Change Rooms,” n.d.). This includes many trans, non-binary and gender-non-conforming individuals, who often report washrooms as one of the places they feel least safe in, in addition to individuals with mobility issues or those who require personal support workers or service dogs (“Inclusive Washrooms & Change Rooms,” n.d.). It is important to emphasize that the universal change rooms are available for everyone to use, regardless of their gender identity or presentation (Inclusive Washrooms & Change Rooms,” n.d.).

Despite best intentions to promote inclusivity through use of these change rooms, there appears to be uncertainty among students regarding who exactly can use the facilities at UBC. Due to the recent introduction of these change rooms, there is a lack of knowledge surrounding the patronage and frequency of usage of the universal change rooms. Therefore, the purpose of this report is to better understand patron knowledge, perceptions, and experiences with universal change rooms at the UBC Aquatic Centre through distribution of surveys. The findings will be used to develop recommendations for communication tools such as signage, and modifications to this facility or future facilities.

## Literature Review

Transgender individuals are those who identify with a gender that does not correspond with their birth sex, while non-binary and gender-non-conforming individuals are those who do not identify with the traditional gender binary classification of male or female (American Psychological Association, 2015; Fiani & Han, 2018). Research suggests that compared to their heterosexual counterparts, LGBTQ+ (lesbian, gay, bisexual, transgender, queer etc.) adults experience higher rates of chronic diseases and health concerns, such as diabetes, hypertension and limited mobility (Herrick & Duncan, 2018). Many of these chronic diseases can be prevented or mitigated through regular physical activity (Herrick & Duncan, 2018). Furthermore, many transgender individuals state that being physically active is important to them and helps them cope with their anxiety and depression (Krane, 2018). Unfortunately, LGBTQ+ adults experience significant barriers to physical activity participation, such as discrimination and exclusion, which reduce physical activity levels and exacerbates existing health disparities (Herrick & Duncan, 2018).

Locker rooms in particular have been identified as the most traumatic space for LGBTQ+ individuals (Herrick & Duncan, 2018; Krane, 2018; Wernick, Kulick & Chin, 2017). Specifically, locker rooms in aquatic facilities are known to be particularly anxiety provoking for transgender athletes, as they typically require one to use a gender-segregated locker room in order to gain entry to the sport space (Herrick & Duncan, 2018; Krane, 2018). As a result, transgender individuals in the process of transitioning or those who feel they can not pass as

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their identified gender often stop doing the physical activities they enjoy; swimming is one such activity that individuals often chose to opt out of (Krane, 2018).

Similarly, individuals with disabilities are more likely to be sedentary, have greater health problems and have more physical activity barriers when compared to the general population (Rimmer, Riley, Wang & Rauworth, 2005). Some of the barriers to physical activity are inaccessible environments, such as facilities that have inaccessible access routes or too narrow doorways for wheelchair access (Rimmer, Riley, Wang, Rauworth & Jurkowski, 2004). The larger facility offered by UBC's universal change rooms may increase the accessibility of these facilities by enabling the use of mobility aids within the change rooms.

Providing facilities for all, such as UBC's universal change room, is essential in order to begin to address the health disparities seen in both the LGBTQ+ community and the disabled community (Herrick & Duncan, 2018; Wernick et al., 2017; Rimmer et al., 2005). It is important to note that UBC is not the only university in Canada, or globally, to implement these facilities (Croteau, 2016; "Gender-inclusive signs coming to washrooms," 2016; Lucas, 2018; Rubinoff, 2016; Gretchen, 2018). The University of Waterloo (UW) in Waterloo, Ontario is focusing on gender-free spaces and equipping washrooms with baby-change tables and safe containers for needle disposal to increase accessibility (Latif, 2016). Additionally, the introduction of universal change rooms and washrooms in community leisure centres are becoming increasingly common, as seen at the Crystal Pool in Victoria, B.C., and the Grandview Heights Aquatic Centre in Surrey, B.C. (Cleverley, 2017; "Grandview Heights Aquatic Centre," 2017). However, implementation of these universal facilities has sometimes been met with opposition, with fears that unisex change areas could put women, particularly the vulnerable and those with learning difficulties, at risk ("Designing for Inclusivity," 2018; Sleigh, 2016).

Although there have only been a few past studies done, one similar in design was conducted by Strathcona County in 2017, who conducted a survey to gain feedback on the design of a universal change room after it was implemented ("Universal Change Room Feedback," 2017). This study will look at similar concepts, however will expand by gathering more data on patron demographics. Further, the purpose of this report is to investigate the perceptions of the universal change room patrons, in order to develop recommendations to dispel any misunderstandings and encourage usage of the facilities to promote physical activity for all.

## Methods

### *Study Population and Rationale*

For this study, surveys were conducted at the UBC Aquatic Centre, located at 6080 Student Union Blvd, Vancouver, BC. The target audience were people aged 19 years and older of all genders and ethnicities who use the universal change rooms. The reasoning behind this was to obtain information from all types of users to ensure more diverse information was attained, allowing for generalization of the findings to other universal change rooms. The survey took place between 2:00 pm and 5:00 pm on Wednesday afternoon, as this was within

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the busiest time range as stated by the SEEDS partner Nathan Jesse (personal communication, January 12, 2019). This time period also takes place after general school hours, when many parents and children may be coming to the Aquatic Center and using the change rooms. A public swim and a 25-meter length swim were also open during this time, which was theorized to potentially bring in a higher number of people to survey (“Aquatics Drop-In,” 2019).

### *Recruitment Process*

16 participants present at the UBC Aquatic Centre during the aforementioned time were surveyed in this study. A loose script was used to engage and explain the study to the participants (Willis & Artino, 2013). In order to collect data that produced an accurate representation of the broader population, eligibility to participate in this study was open to all demographics, with the only criterion being that they were users of the UBC Aquatic Centre universal change room.

Before beginning the survey, potential participants were asked if they had used the universal change room during this visit, or on previous visits. If yes, participants were given a verbal explanation of the research project and were asked to sign a consent form (see Appendix B), before being asked to complete the survey (see Appendix A). Participants were given both the consent form and survey on a clipboard, as well as a second consent form to take home with them if they wanted. The participants were given a chair and table they could complete the survey at, or they were allowed to move to other areas of the Aquatic Centre lobby. The facilitators did not engage with the participants while they were completing the survey to reduce any experimenter biases (Strickland & Suben, 2012).

This recruitment process can be viewed as an ‘opt out’ method rather than an ‘opt in’ method, as it has been demonstrated that an ‘opt out’ method yields higher response rates (Hunt, Shlomo, & Addington-Hall, 2013). As explained in a study done by Hunt et al. (2013), the ‘opt out’ method involves participants receiving the opportunity to participate in the study and complete the survey questions within one session, while the ‘opt in’ method involves agreeing to participate, and then completing the survey at a later date, for example, being sent home with a link to complete the survey online. By providing the facility users the simplest way to complete the survey, it was hoped that this would easily attract participants.

### *Data Collection*

As mentioned previously, patrons experiences with the universal change rooms were collected through surveys. The survey was created to gain an understanding of patrons’ knowledge, perceptions, and experiences with using the universal change rooms in addition to the overall quality of their experience (Riazi, 2018).

The survey was composed of clear, concise questions, to minimize any biases that may make the results less reliable. This was done by primarily using close-ended questions such as multiple-choice and Likert-Scale questions. However, since open-ended questions are valuable

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to gain greater insight in responses (Dolnicar, 2013), two questions where comments could be made were included (see Appendix A).

### *Data Analysis*

After conducting the 21-item survey, all of the collected data was compiled into one excel document to analyze and assess the results. The descriptive statistical data from the quantitative questions were analyzed and displayed using statistical graphics such as pie charts and information tables, (Beniger & Robyn, 1978; Spence, 2005). The open-ended question responses were analyzed using a thematic analysis approach, in which the responses were divided into themes that were identified by looking at patterns within the data (Braun & Clark, 2006; Ryan & Bernard, 2003).

During the analysis, participant results were also examined and analyzed according to age, ethnicity, gender, employment status, household composition and how often and how long they had been using this facility.

### *Challenges*

Several foreseeable challenges were recognized as having the potential to occur during the data collection process. These challenges were mitigated through the development of sound survey questions and in adopting behaviours for participant recruitment on the data collection day. For instance, one challenge that arose during the development of the survey questions was ensuring that questions were designed so that each respondent would interpret them in the same way (Dolnicar, 2013). Actions taken to minimize this risk of misinterpretation of the questions included using common everyday language, having shorter questions, and avoiding the use of double negatives (Dolnicar, 2013). A few participants asked for clarification on some questions, however for the most part the survey questions were clear and concise, and easy to understand for most participants.

Another anticipated challenge was the recruitment of an adequate number of participants. As the recruitment of participants occurred outside the change rooms, this disrupted the daily routine of individuals by asking them to stop and complete the survey. This proved to be a challenge. In addition, there were a limited number of individuals going in and out and using the universal change room, which limited the overall number of participants for survey recruitment. A number of individuals approached the survey station willingly to provide their feedback, however they were not users of the universal change room so they were unable to participate. Due to this, this research study lacks information on non-users. As the universal change room is located on a university campus, it was anticipated that the students and faculty members who use the facility may have other obligatory commitments that could influence their decision to participate. The survey was developed to take no more than ten minutes of the respondents time in order to increase the likelihood of participation, however some individuals still felt they were unable to participate due to the time commitment. In an attempt to overcome this challenge, individuals who did participate in the project were made to feel that their contributions were necessary in order for the success of this study (Visser, Krosnick, &

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Lavrakas, n.d.). The aim was to make them feel as though they were the experts and that the study required their expertise as the main users of the universal change rooms.

Procedural bias, defined as “an unfair amount of pressure that is applied to the subjects, forcing them to complete their response quickly” (Shuttleworth, 2009), was another foreseeable challenge with the potential to arise and skew the data. This type of bias can also result in participants not providing adequate answers to the questions or skipping them completely, as well as being unable to provide their honest opinion and not being fully engaged in the content of the survey (Shuttleworth, 2009). In order to avoid this, participants were given the option to sit down and make themselves comfortable while also being informed that they can take their time to complete the survey. It was noticed that quite a few participants chose to fill out the survey away from the survey table where other individuals were around. This allowed the participants to be in their own space without the distraction of the researchers, as well as enabled them to fill out the questions to the best of their abilities without any added pressure. This could have made them feel more comfortable knowing that no one was watching them or the answers they were providing, allowing them to be more honest and open.

Finally, inclusion bias was another anticipated challenge, which is “often a result of convenience where, for example, volunteers are the only group available, and they tend to fit a narrow demographic range” (Shuttleworth, 2009). As the survey was conducted on campus, 43.8% of the participants identified as students, which is almost half of the data. Having a large number of students and young adults participate makes the final results less generalizable to the broader population, as opinions of varying demographic groups may differ greatly. This was mitigated by attempting to recruit a variety of demographics to complete the survey, however as previously mentioned, this attempt was limited due to the individuals using the universal change room and those who qualified for participation.

## Results/Findings

Sixteen participants completed the survey, ten of which identified as female and six as male (see Figure 1). Half of the participants fell into the 19-30 years of age category, which coincides with the average age of 20 years across UBC’s undergraduate students (Coutts, 2012). Meanwhile 37.5% were aged 31-65 years, and the remaining 12.5% were aged 65 years and older (see Figure 2). 62.5% of the participants were of Caucasian ethnicity, 31.3% represented the combined Asian Heritages and the remaining 6.3% identified as Hispanic or Latino. As suspected, due to the venue being located on the university campus, a large portion of participants were students (43.8%), followed by those employed full-time (25.0%), and those retired (12.5%). The remaining participants identified equally as employed part-time, unable to work/on disability, and other, the explanation being maternity leave; each of these sectors made up 6.3% of the sample (see Figure 3). Of the participants, 68.8% had attained a Bachelor’s degree or higher for education, while 31.3% had some college credit, but no degree; this would include those whose degree was still in progress (see Figure 4). Half of the sample reported as using this facility for 1 to 2 years, while the other half was split equally between 6 months to 1 year, and 3 to 6 months. Half of the participants identified as single (never married), followed by 25.0% who identified as being married or in a domestic partnership, 18.8% married with

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kids, and 6.3% divorced. The number of days per week that survey participants reported using this facility were as follows: one day (43.8%), two days (12.5%), three days (18.8%), four days (6.3%), five days (6.3%), six days (0%), seven days (6.3%), and zero days (6.3%). Over half (56.3%) of the participants said that they had seen universal change rooms at other facilities before this one, most of which were other community or aquatic centers in British Columbia.

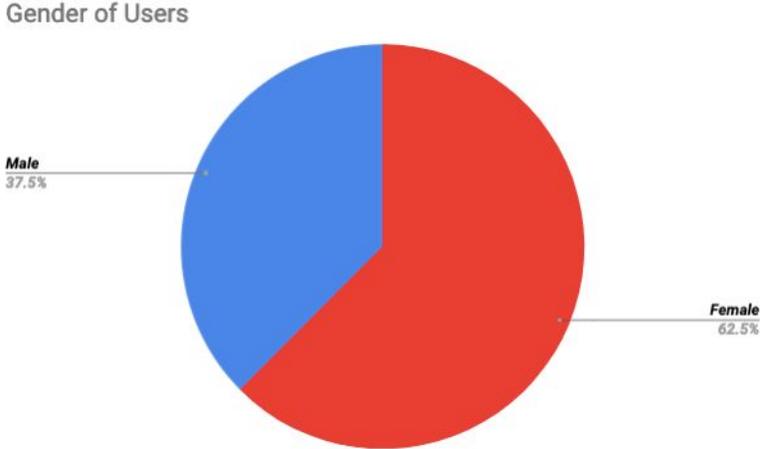


Figure 1. Identified genders of survey participants.

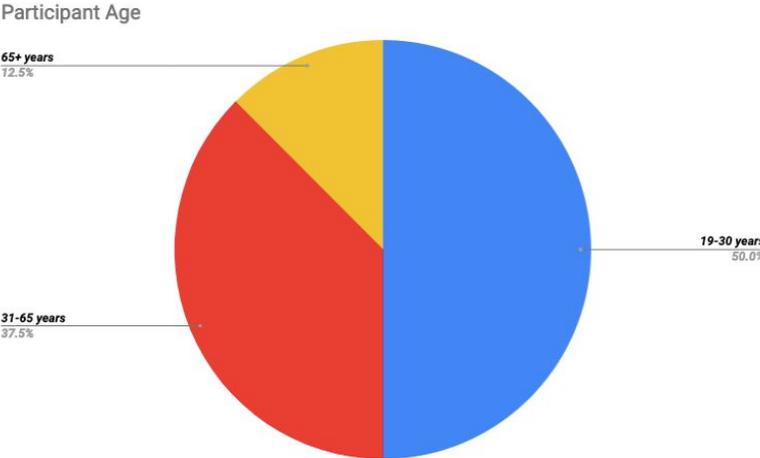


Figure 2. Ages of survey participants.

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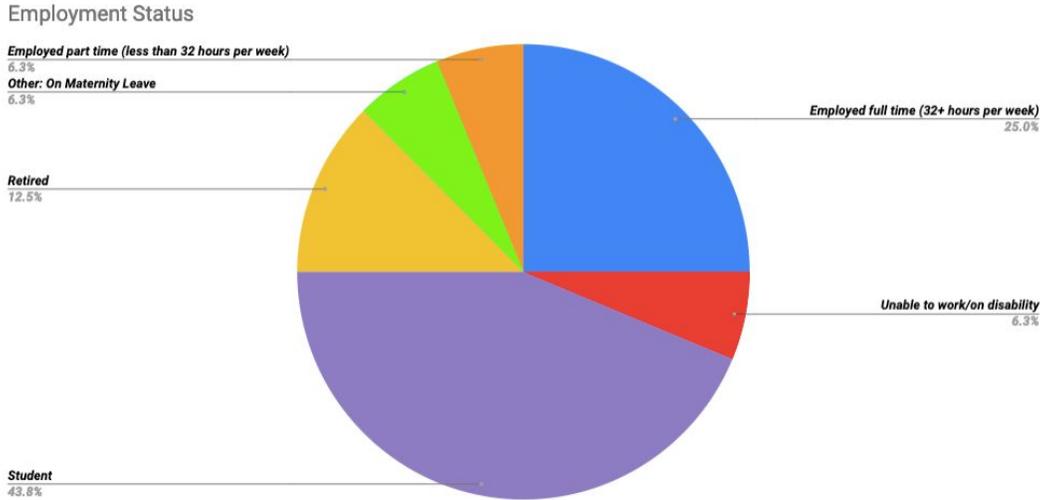


Figure 3. Employment status of survey participants.

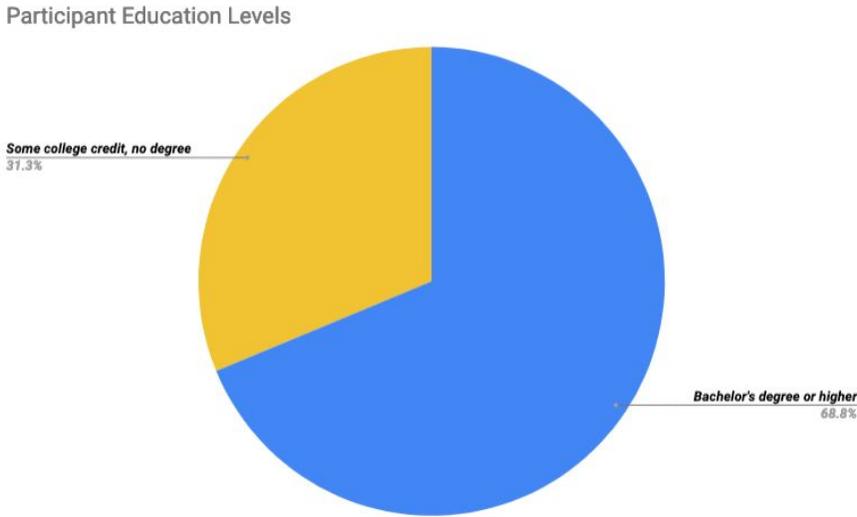


Figure 4. Completed education levels of survey participants.

For the 5-point Likert Scale questions of the survey, descriptive statistics were used for analysis. The mean and standard deviation of each question are displayed in Table 1.

Table 1.

*Descriptive statistics for 5-point Likert Scale survey questions.*

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	<b>Question:</b>	<b>Mean:</b>	<b>Standard Deviation:</b>
1.	I am satisfied with UBC's Universal Change Room facilities	4.50	0.52
2.	I would recommend the universal change rooms to friends & family	4.81	0.40
3.	It is clear who is able to use the universal change rooms	4.56	0.73
4.	The facility would benefit from signage making clear who the universal change rooms are to be used by	3.63	1.31
5.	It is important to me to have private changing stalls	4.06	1.24
6.	I felt there are a sufficient number of private changing stalls	3.81	0.98
7.	UBC should install more universal change room facilities throughout campus	4.00	0.89
8.	I prefer using the universal change room rather than the traditional male/female ones	3.88	0.96

Based on participant responses and input in the open-ended suggestion and comment questions, two significant themes arose. The first theme was the importance of privacy; a large majority, 81.25% of the participants indicated that they used the universal change rooms because they prefer using the private stalls, which the single-sex change rooms do not offer. The second theme was the feeling of safety; it was reported that those who do not identify with the dichromatic sex of the single-sex change rooms felt safer and more accepted in the universal change room. Additionally, smaller themes arose such as the want for more private changing stalls and showers, making lockers more accessible and easier to use, and improving the overall cleanliness of the facilities.

## Discussion

As mentioned, three broad themes emerged during analysis of the data: (1) Importance of privacy; (2) feelings of safety and (3) trends in the demographics of the sample. An in-depth analysis of each of these themes will be discussed below.

### 1. Importance of Privacy

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Privacy was an integral reason for using the universal change room, as 81.25% of participants stated that the private stalls were a main reason they preferred using the universal change rooms over the single-sex change rooms. Several studies have demonstrated that athletes can feel uncomfortable in gendered spaces if they do not identify with the gender they were assigned at birth and feel uncomfortable changing in front of others (Krane 2018; Herrick & Duncan, 2018; Porta, Gower, Mehus, Yu, Saewyc & Eisenberg, 2017). They may also feel that others may be uncomfortable in their presence; the privacy of the private stalls eliminates this fear for athletes (Krane, 2018). Universal change rooms can play a large part in what facilities LGBTQ+ people choose to use. In one study it was stated that some LGBTQ+ users would travel farther to use the universal washrooms and the private, individual stalls as they were more comfortable (Herrick & Duncan, 2018). Universal change rooms can eliminate worries about changing in front of others, which can make it difficult for LGBTQ+ individuals to fully participate in activities such as swimming or other sports (Porta et al., 2017).

Additionally, the LGBTQ+ community is not the only population that can benefit from the privacy of universal change rooms, as people who struggle with their body image or self-esteem may prefer more privacy than others in order to feel comfortable and confident while changing (Noles, Cash & Winstead, 1985). Therefore, the absence of private stalls may prohibit this population from engaging in physical activity. Consequently, personal privacy is an important feature of whether or not people use the universal change room, and an integral part of whether or not they engage in physical activity, subsequently impacting their health and wellbeing.

Lastly, one issue that was brought up during discussion with participants and staff was concern over the lack of clothing in the universal change room and inappropriate sexual behaviour (personal communication, March 13, 2019). This could contribute to individuals feeling uncomfortable sharing the universal change rooms with a member of the opposite sex (“Designing for Inclusivity,” 2018).

### 2. Feelings of Safety

Another important theme that arose came from a participant who stated that they felt safer and more accepted using the universal change rooms. They had shared that, “sometimes [they] get ‘looks’ for [their] gender expression. The universal change rooms avoids [this], making things easier for me,” (personal communication, March 13, 2019) This supports the literature around barriers many in the LGBTQ+ community face, as transgender individuals often stop participating in the physical activities they enjoy due to the anxiety they experience from being forced to use a gender-segregated locker room (Krane, 2018). Part of this anxiety can come from individuals feeling as though they cannot pass as their identified gender (Krane, 2018). Furthermore, locker rooms in aquatic centres are known to be particularly anxiety provoking, which could be due to the revealing nature of the sports uniform (Krane, 2018). Therefore, providing spaces where individuals feel comfortable is essential in order to encourage those in the LGBTQ+ community to become more physically active and keep doing

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the activities they enjoy, and to begin to address the health disparities present (Herrick & Duncan, 2018).

None of the participants who completed the survey had any visible disabilities. While there is a lack of literature regarding feelings of safety when using change rooms for this population, one of the most frequently mentioned barriers to participation is the inaccessibility of the built environment (Rimmer et al., 2004). UBC's universal change rooms were created to address these commonly encountered barriers by providing automatic doors and enough space to accommodate mobility devices ("Inclusive Washrooms & Change Rooms," n.d.). Nevertheless, future research is needed in order to better understand the disabled communities experiences with using UBC's universal change rooms in order to understand how to better serve this community. Several participants also mentioned that the cleanliness of the change rooms could be improved, and one participant complained of bed bugs found in the locker room. The importance of maintaining a clean facility is very important not only for aesthetics but also to ensure safety, as a common safety hazard is slippery floors (Rimmer et al., 2004).

### 3. Trends in the Sample Demographics

Through the data analysis there were multiple small themes that emerged regarding tendencies seen in sex, age, occupation, and education level. Of the 16 participants, 62.5% identified as female. This is consistent with research findings that women are generally more likely to participate in surveys (Smith, 2008). This sex bias could also be due to the fact that a majority of UBC's student population is female ("Demographics Overview," n.d.). Large portions of the participants identified as between the ages of 19-30 years, and as a student. This was a demographic theme that was anticipated due to the fact that the facility at which the survey took place was located on UBC's campus. This adheres to the average ages of students at UBC, as the average ages for undergraduate and master students are 21 and 30 years respectively ("Demographics Overview," n.d.). A great majority of the participants (68.8%) had completed an education of a bachelor degree or higher. This theme was found to be surprising as it was expected most of the participants, especially considering the generally young age group, would be in progress of completing their bachelor degree. It is however not surprising that the results support the idea that people who are more educated are more likely to participate in physical activity and a healthy lifestyle (Shaw & Spokane, 2008).

## Recommendations

After conducting the survey on patron experience with using the universal change room at the UBC Aquatic Centre, three main recommendations for moving forward with this facility and future facilities have been made.

### 1. Implementation of a Code of Conduct

The survey results revealed participants felt relatively neutral about the change rooms benefiting from signage designating who can use the space, with a mean of 3.63 out of 5 on the

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Likert Scale. Furthermore, participants strongly agreed that it is clear who can use the universal change rooms, with a mean of 4.56 out of 5. However, there appears to be some concerns regarding appropriate usage of the universal space, as participants brought up concerns that other users of the change room were inappropriately using the space by walking around undressed (personal communication, March 13, 2019). Additionally, there have been reports to the staff regarding inappropriate sexual behaviour occurring within the change rooms (personal communication, March 13, 2019).

As personal privacy has been found to be an important facilitator for using the universal change rooms, the facility could benefit from signage displaying a code of conduct for behaviours appropriate within the change rooms. HCMA Architecture + Design support using signage to clarify and reinforce the appropriate use of shared spaces (“Designing for Inclusivity,” 2018). Some of their suggestions include implementing signs indicating that clothing is required in locker areas and to remind everyone to be mindful of the amount of time they spend occupying the stalls and showers (“Designing for Inclusivity,” 2018). Establishing a code of conduct may also help address some of the fears that universal change rooms could place women and children at risk (Sleigh, 2016; “Designing for Inclusivity,” 2018).

Additionally, some individuals have expressed that sharing change rooms with members of the opposite sex is uncomfortable or strange (“Designing for Inclusivity,” 2018). A code of conduct could help to address these concerns by establishing a code of behaviour meant to encourage appropriate usage of the facilities and to enhance patrons security, comfort and privacy. Having staff conduct hourly check ins may also help reduce the reported incidences of inappropriate sexual activity.

### 2. Future Facility Modifications

#### a. Bigger and more lockers available

Participants voiced enjoying having larger lockers to store their belongings while using the facility, with one participant stating that they use the universal change room purely because the lockers are larger than the ones in the men’s change room. Having additional lockers available for patrons to use and store their belongings would also help address shortages as the facility can get quite busy during times when there are various activities and programs being conducted. Therefore, this facility would benefit from having a larger quantity of lockers that are bigger in size compared to regular sized lockers that are typically found in men’s and women’s change rooms. Individuals would be able to store their belongings with an increased level of confidence and security, and would not have to worry about whether or not they will have to store their valued belongings somewhere else while using the amenities that the UBC Aquatic Centre has to offer.

#### b. More private changing stalls/more showers

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With over 80% of participants saying that they use the universal change rooms solely because they like the private stalls (see Appendix C), having more of them would improve the experience of patrons while utilizing the facility, by making them feel more comfortable. Individuals tend to prefer a private changing room compared to an open communal changing space, which is the layout in the men's and women's change rooms. Additionally, having more showers available to use would positively benefit the facility and the needs of the patrons as they may use the facility on more of a regular basis knowing that showering is available to them. For example, individuals going for a drop-in swim prior to going to work or school may be more inclined to go if they are assured that they can have a shower once they are done with their swim. If it is not guaranteed that a shower would be available for them to use, this may impact their decision on whether they will use the facility or not.

### c. Cleanliness

A number of participants commented that the cleanliness of the facility could be improved overall. As suggested by Rimmer et al. (2004), neglected cleanliness of facilities, such as slippery floors, can pose a safety hazard to users, especially for those with disabilities. One participant in particular elaborated on her concern of the cleanliness, as she shared that she had found bed bugs within the lockers. As a result, she said that she stores her change of clothing in a plastic bag when using the lockers. This could indicate an investigation into the cleaning protocol of the lockers is needed in order to assess these concerns. Implementing additional protocols for staff to monitor the cleanliness more frequently would be beneficial for all users.

## 3. Additional Facilities

When asked during the survey whether participants think UBC should install more universal change rooms around campus, the average answer was 4.0 out of 5.0 on the Likert Scale. This signified that participants think more facilities should be built around campus. This is something to consider when building new facilities on campus or renovating pre-existing facilities. Having more facilities would increase accessibility for those who need, or feel more comfortable using the universal change rooms. Literature has shown that people will go out of their way to use facilities that contain a universal change room (Herrick & Duncan, 2018); providing more facilities would allow for easier access for these populations.

## Conclusion

In conclusion, this research project surveyed users of the universal change rooms at the UBC Aquatic Centre, in attempt to understand the patron usage and experiences. The results from the surveys showed the general demographic of users, which consisted largely of females, young adults, those of Caucasian ethnicity, and students. The more in-depth answers portrayed

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that privacy and safety were the two main themes among participants. The information gathered will be used to further improve patron experiences through further research, facility modifications, and additional facilities built on campus. It is important to note, however, that the ability to generalize these findings to the broader population is limited due to the demographic that was surveyed.

For future research on this topic, more options in the multiple choice survey questions should be included. For example, in this study participants either had to select employed or student, but could not select both, which would have best reflected a larger number of participants. Additionally, more options for family status could have been offered, such as single with kids. Most importantly, future research about the universal change rooms should include surveying non-users, in addition to the users. Including non-users' experiences and opinions would be beneficial in helping researchers and facility staff to better understand why some people choose not to use the universal change rooms. With this information, the UBC universal change rooms could be better made to provide for all, subsequently encouraging physical activity and healthy lifestyles.

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## Appendices

### Appendix A. Universal Change Room Survey

Thank you for agreeing to take part in this survey, which is meant to improve patron experiences with UBC's universal change rooms. The survey was made in collaboration between SEEDS Sustainability Program and 4th year Kinesiology students in KIN 464. It should take no more than 10 minutes to complete. Your answers will be kept in full confidentiality.

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1. What is your age?
  - a. 19-30 years
  - b. 31-65 years
  - c. 65+ years
  
2. Which gender do you identify most with?
  - a. Male
  - b. Female
  - c. Gender Fluid
  - d. Non-Binary
  - e. Transgender
  - f. Other: \_\_\_\_\_
  
3. Please select the racial or ethnic background that you identify most with:
  - a. White/Caucasian
  - b. Asian - Central/South Asian Heritage
  - c. Asian - East Asian Heritage
  - d. Middle Eastern
  - e. African Canadian or African Heritage
  - f. Hispanic or Latino
  - g. Aboriginal
  - h. Other: \_\_\_\_\_
  
4. Employment Status: Are you currently...
  - a. Employed full time (32+ hours per week)
  - b. Employed part time (less than 32 hours per week)
  - c. Unemployed and currently looking for work

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- d. Unemployed and not currently looking for work
  - e. Student
  - f. Retired
  - g. Unable to work/on disability
  - h. Other: \_\_\_\_\_
5. What is your education level?
- a. No schooling completed
  - b. Some high school
  - c. High school graduate, diploma or the equivalent
  - d. Some college credit, no degree
  - e. College certificate or diploma
  - f. Bachelor's degree or higher
  - g. Other: \_\_\_\_\_
6. How long have you been using the UBC Aquatic Centre facilities? (Multiple Choice)
- a. < 3 months
  - b. 3 - 6 months
  - c. 6 months - 1 year
  - d. 1 - 2 years
7. Which of the following best describes your household composition?
- a. Single (never married)
  - b. Married/domestic partnership
  - c. Widowed
  - d. Divorced
  - e. Single parent
  - f. Married with kids
8. How many days do you use the universal change room in an average week?
- a. 0
  - b. 1
  - c. 2
  - d. 3

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- e. 4
- f. 5
- g. 6
- h. 7

9. Was UBC's facility your first experience with the universal change rooms?

- a. Yes
- b. No
- c. If no, where else have you seen this? \_\_\_\_\_

10. Why do you like using the universal change room? (Please select all the apply)

- a. I prefer using the private stalls
- b. I like using the larger facility
- c. I am able to use my mobility devices or support workers
- d. I feel more welcome or safe compared to using the male/female ones
- e. It fits more with my gender identity
- f. It fits more with my sexual identity
- g. Other: \_\_\_\_\_

11. Have you had any negative experiences using the universal change rooms?

- a. Yes
- b. No, I have not have any negative experiences

12. If yes to the previous question, which negative experiences have you had?

- a. I don't feel safe
- b. I don't feel welcomed
- c. Physical harassment
- d. Verbal harassment
- e. Other: \_\_\_\_\_

13. Would you make any suggestions for the improvement of the change rooms?

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## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

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The following questions are to be answered based on your agreeance or disagreeance with the statement:

(1 - strongly disagree, 2- disagree, 3 - neutral, 4 - agree, 5 - strongly agree)

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | I am satisfied with UBC's Universal Change Room facilities  | 1 | 2 | 3 | 4 | 5 |
| 2. | I would recommend the universal change rooms to friends & family                                      | 1 | 2 | 3 | 4 | 5 |
| 3. | It is clear who is able to use the universal change rooms   | 1 | 2 | 3 | 4 | 5 |
| 4. | The facility would benefit from signage making clear who the universal change rooms are to be used by | 1 | 2 | 3 | 4 | 5 |
| 5. | It is important to me to have private changing stalls   | 1 | 2 | 3 | 4 | 5 |
| 6. | I felt there are a sufficient number of private changing stalls                                       | 1 | 2 | 3 | 4 | 5 |
| 7. | UBC should install more universal change room facilities throughout campus                            | 1 | 2 | 3 | 4 | 5 |
| 8. | I prefer using the universal change room rather than the traditional male/female ones                 | 1 | 2 | 3 | 4 | 5 |

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

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Any additional comments: \_\_\_\_\_

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Thank you for taking the time to complete this survey!

**Appendix B. Consent Form**

KIN 464: Health Promotion and Physical Activity

Participant Consent Form

**Principal Investigator(s):**

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

**The purpose of the class project:**

To gather knowledge and expertise from community members on topics related to universal change rooms and their impact on the community.

**Study Procedures:**

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

**Project outcomes:**

The information gathered from 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>

## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

### **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 the universal change rooms and will provide us 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. As there is a list of questions, the person you are surveying is 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 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](mailto: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

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the UBC Office of Research Ethics at 604-822-8598 or e-mail [RSIL@ors.ubc.ca](mailto:RSIL@ors.ubc.ca) . or call toll free 1-877-822-8598.

### **Consent:**

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

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: \_\_\_\_\_

# IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

## Appendix C. Universal Change Room Raw Data

Also viewable at:

<https://docs.google.com/spreadsheets/d/1MWOJrC0J2l4te1XlGECBxeE4rpT-D59PBHtcRYBHBiQ/edit?usp=sharing>

<b>PARTICIPANT</b>	<b>AGE</b>	<b>GENDER</b>
1	19-30 years	Female
2	31-65 years	Female
3	19-30 years	Female
4	19-30 years	Female
5	19-30 years	Male
6	19-30 years	Female
7	65+ years	Male
8	65+ years	Male
9	31-65 years	Female
10	19-30 years	Female
11	31-65 years	Male
12	31-65 years	Male
13	19-30 years	Male
14	31-65 years	Female
15	19-30 years	Female
16	31-65 years	Female

## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

<b>PARTICIPANT</b>	<b>ETHNICITY</b>	<b>EMPLOYMENT STATUS</b>
1	Asian - East Asian Heritage	Employed full time (32+ hours per week)
2	White/Caucasian	Unable to work/on disability
3	White/Caucasian	Student
4	White/Caucasian	Student
5	White/Caucasian	Student
6	White/Caucasian	Student
7	Asian - Central/South Asian Heritage	Retired
8	White/Caucasian	Retired
9	Hispanic or Latino	Student
10	Asian - East Asian Heritage	Student
11	White/Caucasian	Employed full time (32+ hours per week)
12	White/Caucasian	Employed full time (32+ hours per week)
13	White/Caucasian	Student
14	White/Caucasian	Other: On Maternity Leave
15	Asian - East Asian Heritage	Employed full time (32+ hours per week)
16	Asian - Central/South Asian Heritage	Employed part time (less than 32 hours per week)

<b>PARTICIPANT</b>	<b>EDUCATION</b>	<b>HOW LONG HAVE YOU BEEN USING THIS FACILITY</b>
1	Bachelor's degree or higher	1-2 years

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

2	Bachelor's degree or higher	1-2 years
3	Some college credit, no degree	3-6 months
4	Some college credit, no degree	1-2 years
5	Some college credit, no degree	6 months-1 year
6	Bachelor's degree or higher	3-6 months
7	Bachelor's degree or higher	6 months-1 year
8	Bachelor's degree or higher	1-2 years
9	Bachelor's degree or higher	6 months-1 year
10	Some college credit, no degree	6 months-1 year
11	Bachelor's degree or higher	1-2 years
12	Bachelor's degree or higher	1-2 years
13	Some college credit, no degree	1-2 years
14	Bachelor's degree or higher	3-6 months
15	Bachelor's degree or higher	1-2 years

## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

16	Bachelor's degree or higher	3-6 months
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<b>PARTICIPANT</b>	<b>HOUSEHOLD COMPOSITION</b>	<b>HOW MANY DAYS A WEEK DO YOU USE THIS FACILITY</b>	<b>IS UBC THE FIRST PLACE YOU HAVE SEEN UNIVERSAL CHANGE ROOMS</b>
1	Single (never married)	One	No - Watermania
2	Divorced	Two	No - Hillcrest
3	Single (never married)	Three	Yes
4	Single (never married)	One	Yes
5	Single (never married)	Zero	No - Kelowna
6	Single (never married)	One	Yes
7	Married/domestic partnership	Three	Yes
8	Married/domestic partnership	Seven	No - Hillcrest Pool
9	Single (never married)	Five	No- other community centres
10	Married/domestic partnership	Two	No - UVIC
11	Married/domestic partnership	Four	Yes
12	Married with kids	One	No - other pools
13	Single (never married)	One	No
14	Married with kids	One	No - in Paris
15	Single (never married)	Three	Yes
16	Married with kids	One	Yes

## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

PARTICIPANT	WHY DO YOU LIKE USING THE UNIVERSAL CHANGE ROOMS
1	I prefer using the private stalls
2	I like using the larger facility
3	I prefer using the private stalls - able to talk to friends while changing
4	Other: generally no difference, but sometimes I don't like being confined to stalls and feel being naked in the women's is more acceptable
5	I prefer using the private stalls
6	I prefer using the private stalls
7	I prefer using the private stalls
8	I prefer using the private stalls - I like using the larger facility - other: rented locker in universal
9	I prefer using the private stalls/ i feel more welcome or safe compared to using the male/female ones/ it fits more with my sexual identity
10	I prefer using the private stalls/I like using the larger facility, I feel more welcome or safe compared to using the male/female ones
11	I prefer using the private stalls/I like using the larger facility/Its cleaner
12	I prefer using the private stalls/ I like using the larger facility
13	I prefer using the private stalls
14	I prefer using the private stalls/I like using the larger facility
15	I like using the larger facility
16	I prefer using the private stalls/ I feel more welcome or safe compared to using the male/female ones

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

PARTICIPANT	HAVE YOU HAD ANY NEGATIVE EXPERIENCES IN THIS FACILITY	IF SO, WHAT NEGATIVE EXPERIENCES
1	No, I have not have any negative experiences	N/A
2	No, I have not have any negative experiences	N/A
3	No, I have not have any negative experiences	N/A
4	No, I have not have any negative experiences	N/A
5	No, I have not have any negative experiences	N/A
6	No, I have not have any negative experiences	N/A
7	No, I have not have any negative experiences	N/A
8	No, I have not have any negative experiences	N/A
9	No, I have not have any negative experiences	N/A
10	No, I have not have any negative experiences	N/A
11	No, I have not have any negative experiences	N/A

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12	No, I have not have any negative experiences	N/A
13	No, I have not have any negative experiences	N/A
14	No, I have not have any negative experiences	N/A
15	No, I have not have any negative experiences	N/A
16	No, I have not have any negative experiences	N/A

<b>PARTICIPANT</b>	<b>ANY SUGGESTIONS FOR IMPROVEMENT?</b>
1	N/A
2	Lockers could lock more easily - private change rooms could be cleaner - especially when many kids have used in a day or on weekend
3	More showers & stalls - free lockers/different pay options
4	N/A
5	N/A
6	Lockers are hard to use
7	Some lockers not working and locked by private locks
8	1. Move hand dryers in bathrooms so that they do not start when you use the toilet - 2. Fix cubicle doors that are not working making the cubicles unaccessible for months
9	More stalls I guess
10	They're great! More shower stalls would be awesome
11	Clean better/Have better showers
12	N/A
13	T.V.'s
14	Free lockers

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

15	N/A
16	More showers

<b>PARTICIPANT</b>	<b>I AM SATISFIED WITH UBC’S UNIVERSAL CHANGE ROOM FACILITIES</b>
1	4
2	4
3	5
4	5
5	5
6	5
7	5
8	4
9	4
10	5
11	4
12	4
13	4
14	5
15	5
16	4

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 4.5

<b>PARTICIPANT</b>	<b>I WOULD RECOMMEND TO FAMILY AND FRIENDS</b>
1	4
2	4
3	5
4	5
5	5
6	5
7	5
8	5
9	5
10	5
11	5
12	4
13	5
14	5
15	5
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 4.8125

<b>PARTICIPANT</b>	<b>IT IS CLEAR WHO IS ABLE TO USE THEM</b>
1	5
2	5
3	4
4	5
5	5
6	5
7	4
8	5
9	5
10	5
11	3
12	4
13	5
14	5
15	3
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 4.5625

<b>PARTICIPANT</b>	<b>FACILITY WOULD BENEFIT FROM SIGNAGE</b>
1	5
2	2
3	4
4	1
5	3
6	3
7	5
8	2
9	3
10	3
11	3
12	4
13	5
14	5
15	5
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 3.625

<b>PARTICIPANT</b>	<b>IMPORTANT TO HAVE PRIVATE CHANGING STALLS</b>
1	5
2	4
3	5
4	1
5	3
6	5
7	5
8	2
9	5
10	4
11	3
12	4
13	5
14	5
15	4
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 4.0625

PARTICIPANT	SUFFICIENT NUMBER OF PRIVATE CHANGING STALLS
1	4
2	3
3	4
4	5
5	5
6	4
7	3
8	3
9	2
10	3
11	3
12	4
13	5
14	5
15	3
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 3.8125

<b>PARTICIPANT</b>	<b>SHOULD INSTALL MORE UNIVERSAL CHANGEROOMS</b>
1	4
2	3
3	5
4	4
5	3
6	5
7	3
8	3
9	5
10	5
11	3
12	4
13	5
14	3
15	4
16	5

IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 4

PARTICIPANT	I PREFER USING THE UNIVERSAL OVER THE TRADITIONAL MALE/FEMALE ONES
1	3
2	4
3	5
4	3
5	3
6	5
7	2
8	3
9	5
10	4
11	4
12	4
13	3
14	5
15	4
16	5

## IMPROVING PATRON EXPERIENCE WITH UNIVERSAL CHANGE ROOMS

	Mean: 3.875

<b>PARTICIPANT</b>	<b>ANY ADDITIONAL COMMENTS</b>
1	N/A
2	This facility is superior to Hillcrest - bedbug incident
3	N/A
4	N/A
5	N/A
6	N/A
7	N/A
8	I rented a locker in the universal because it is bigger than in the mens (my umbrella did not fit in the mens locker)
9	Although I have no negative experience per se using female change rooms, sometimes I get "looks" for my gender expression. The universal change rooms avoids all of these making things easier.
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	One concern is the scale of the usage: managing the number of people vs. number of available facilities
16	N/A