Accessibility Considerations for Choosing a Fitness Centre:

Perspectives from UBC Students with Disabilities

Group 20

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Executive Summary

As university campuses strive to become more inclusive, it is essential to examine the individual experiences and challenges encountered by students with disabilities (SWD) in fitness centres. While research consistently shows that regular physical activity enhances quality of life, a significant number of people with disabilities do not engage in exercise (Rimmer et al., 2004). This research paper investigates the unique perspectives of University of British Columbia's (UBC's) student population living with disabilities and proposes actionable recommendations for UBC Recreation to improve the affordability, accessibility, and atmosphere of their fitness spaces.

This study used a Qualtrics survey to collect both qualitative and quantitative insights from students with disabilities. The survey was distributed through social media platforms such as Discord and Instagram, as well as displayed on posters across campus. Additionally, it was shared with the UBC Centre for Accessibility (CfA) student email list, with the endorsement of the CfA co-director, Sarah Knitter. All data analysis was performed using Qualtrics research tools.

The study identified three key themes that influence the fitness facility experiences of students with disabilities (SWD): accessibility, atmosphere, and affordability. Accessibility concerns were highlighted by factors related to well-designed spatial arrangements, inclusive and disability-informed staff, and accessible workout equipment and machines. Atmospheric barriers encompassed issues like overcrowding, spaciousness, noise levels, and lighting, which can impact the comfort and enjoyment of physical activity. Affordability challenges arose from the mandatory UBC Athletics and Recreation fee, regardless of facility usage, the lack of gym membership coverage in student fees, and inflexible gym membership plans.

Conclusions regarding accessibility highlighted the importance of implementing sensory-sensitive fitness hours. This may involve modifications such as dimmed lighting and reduced noise levels. Such changes will accommodate sensory preferences. We also recommend that the new Student Recreation North Building provide more workout areas, equipment options, and flexible gym hours, easing overcrowding issues and promoting physical activity for SWD.

When addressing barriers related to affordability, a sliding scale fee based on income, subsidized memberships based on financial need, flexible payment options such as pay-per-use or month-to-month, the implementation of a trial period, the introduction of off-peak pricing, and the provision of sensory-sensitive hours covered under the annual UBC Athletics and Recreation fee were suggested to provide more equitable access to UBC's fitness facilities. Finally, our research emphasizes the need for regular inclusivity training for all staff members to ensure that they are well-equipped to create a welcoming environment for all fitness users.

Several limitations of this research study were identified. It was reported that certain elements of our Matrix table survey questions may not be accessible to everyone. Additionally, given the short time frame on which the research was conducted, statistical analysis for this study was limited to simple descriptive statistics. A final limitation identified was that the research was not grounded in any particular theory or model as our team had limited experience running theoretically-driven research studies.

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Introduction and Literature Review

An astonishing amount of research evidence has been discovered about the beneficial effects of exercise on extending life expectancy, as well as preventing a multitude of diseases and chronic conditions such as prevention of hypertension, cardiovascular disease, coronary heart disease, type 2 diabetes, stroke, and cancer (Anderson & Durstine, 2019; Booth et al., 2000; Booth et al., 2012; Fiuza-Luces et al., 2018; Gleeson et al., 2011; Lee et al., 2012; Reimers et al., 2012: Vina et al., 2016; Wen et al., 2011). However, 56% of people with disabilities (PWD) do not engage with exercise (Rimmer et al., 2004). Amongst the UBC population, 36% of undergraduate students have identified as having a disability, including but not limited to physical and neurological disabilities, mental health conditions, and chronic health conditions (Planning and Institutional Research Office [PAIR], 2022). With such a large proportion of students identifying with a disability, understanding potential barriers for those with disabilities is needed to understand why this demographic are unable to integrate and adhere to being physically active (Rimmer et al., 2004).

UBC Recreation has tasked students with identifying factors that influence gym choice, amidst the process of building the Student Recreation North building, a new fitness facility on the Point Grey campus (Rolfsen, 2022). This creates a unique opportunity to research PWD on UBC campuses, to understand barriers when choosing a gym. Therefore, the goal of the literature review is to identify the factors that affect gym choice in PWD. Once factors are identified, they will be sorted into categories or themes and then compiled into a survey to assess which factors are most important to UBC students. From there, the results will be given to UBC Recreation, and can be used to guide the implementation of programming at the new North Building.

Main Themes

Across the literature a variety of factors have been suggested that affect gym choice for PWD, however, the main themes that appear to affect gym choice in those with disability are atmosphere, affordability, and accessibility.

Atmosphere considers environmental influences such as lighting, interior design, music type, volume of music, crowding, spaciousness, and the attitudes of other gym attendees and staff. From the literature, Sharon-David and colleagues (2021), Martin Ginis et al. (2016), Monforte et al. (2021), and Rimmer et al. (2004), expressed that many PWD, especially wheelchair users, are displeased with the lack of space within a gym, due to either overcrowding of people or distance between gym equipment. Sharon-David et al. (2021), Martin Ginis et al. (2016), and Monforte et al. (2021) also commented on how other gym attendees can have negative attitudes towards people with physical disabilities. Gym culture often glorifies the muscular, able-bodied physique, leaving individuals with visible physical disabilities susceptible to judgment and exclusion (Sharon-David et al., 2021). For example, an amputee recounted instances of being stared at in the gym and questioned about their absent limb (Montforte et al., 2021). Additionally, able-bodied gym-goers often displayed insincerely exaggerated sympathy towards them (Montforte et al., 2021). Finally, Sharon-David et al. (2021), Martin Ginis et al. (2016), and Rimmer et al. (2004) collectively highlight the recurring issue of PWD not feeling adequately welcomed by gym staff. This is often attributed to a lack of preparedness and education among staff members regarding how to accommodate and support PWD. These concerns primarily affect individuals with physical disabilities. The following section will discuss how these barriers extend to neurodivergent individuals, such as those with autism or

Attention-deficit hyperactivity disorder (ADHD). Unique challenges faced by neurodivergent gym attendees will also be addressed.

Studies by Donaghy et al. (2023) and Hoare et al (2023) noted that neurodivergent individuals are often more sensitive to their environment, experiencing sensory overload and processing issues, social anxiety, difficulty with routine changes, and executive functioning challenges. As with people with physical disabilities, the authors note how in crowded spaces, feelings of anxiety that may stem from potential stigmatization can further lead to estrangement in PWD. Donaghy et al. (2023) identified that sensory overload in the gym can created through loud music, bright overhead lights, other gym attendees dropping heavy weights instead of gently lowering them, or not carefully re-racking dumbbells. Furthermore, these studies note how fitness centres are likely to change, update, or introduce new fitness programs or gym equipment to maintain subscription rates. In the perspective of growing a business, these changes are logical. However, in the perspective of neurodivergent PWD, changes to routine and predictability can be challenging and cause stress (Donaghy et al., 2023).

Based on this literature, these findings will inform the atmosphere section for our survey. We will create a list of atmosphere factors such as lightning, overcrowding, welcoming staff, and friendly people, in order to rank the top atmosphere factors when choosing a gym. Additionally, these factors will be used to create correlations as to what atmosphere factors are most important to those with specific disabilities.

Accessibility considers features of the environment that are built to increase ease of access, special equipment for PWD, and knowledge and training of gym staff for PWD. To begin with, Rimmer et al., (2004) commented that pre-existing gyms are unlikely to have accessible features, like ramps or elevators, because renovation would be too expensive. Gym owners also

commented that they do not cater to those with disabilities and that they are worried about the consequences and liabilities if they cause injury to someone with disability (Monforte et al., 2021; Rimmer et al., 2004). As well, Sharon-David et al, (2021), Martin Ginis et al., (2016), Monforte et al., 2021, and Rimmer et al., (2004) express how PWD are reluctant to go to the gym because gym staff did not have knowledge about their disability or how to adapt for it. Monforte et al., (2021) highlighted the hesitation of PWD participating in the gym due to the risk and increased likelihood of injury, and that the responsibility may be placed on staff for being inaccessible. As a result of staff's fear, they are less likely to provide adapted equipment used as padding or rope extensions for cable machines to accommodate PWD. Adding on to the environmental issues highlighted by Rimmer et al., (2004), Monforte et al., (2021) stated that some attempts at making a gym more accessible were haphazardous. For example, a ramp was added to a gym entrance in hopes to accommodate wheelchair users; however, this ramp was too steep to be used even though handrails were built as well (Monforte et al., 2021). Neurodivergent PWD main issues with the environment include overstimulating signs (Donaghy et al., 2023). For instance, posters and TV screens in fitness centres have bright flashing lights or quick scene changes (Donaghy et al., 2023).

Based on this literature, there is a lack of gyms that support PWD, and thus a greater need to build an accommodating gym. Therefore, in our survey, we will inquire about the satisfaction of accessible features, such as the aforementioned access of knowledgeable staff, ramps, and elevators within the gyms at UBC. This will help identify accessible features already built within UBC gyms, and where more accessible features need to be added, or changed.

Finally, affordability involves all costs with the gym. Sharon-David et al, (2021), Martin Ginis et al., (2016), Healy et al., (2021) and Rimmer et al., (2004) have expressed how PWD

struggles to pay for the gym. Rimmer et al. (2004) has gone deeper on this topic and talked about how PWD are expected to pay the same fee as able bodied individuals, yet they are unable to access all equipment. Other than affordability in terms of finances, Monfonte et al., (2021) highlighted the affordability of time. This perspective was noted from an interview with a PWD who did not live close to an accessible gym (Monfonte et al., 2021). As a result, PWD are less inclined to attend a gym if the only accessible gym is a long distance away and cannot afford the time for travel (Healy et al., 2021; Monfonte et al., 2021). Other than travel time, PWD are likely to spend more time getting dressed and preparing to leave the house, which is a common challenge for athletes with intellectual impairment (Van Biesen et al., 2017). In short, affordability is an issue for PWD who may not be able to finance memberships, and who may not have time to travel to and from an accessible fitness centre. The next section will discuss affordability in the perspective of the gym.

This information will inform our survey to assess how UBC students find the pricing of the gym, in order to determine if it is also a major factor in gym choice. If gym pricing is a problem, recommendations could be taken from Rimmer et al. (2004) and Martin Ginis et al. (2016) to implement a sliding fee for PWD. Participants in our survey will also be asked if they have suggestions about how to change fees to accommodate those with disabilities.

Limitations & Future Directions

Although a variety of factors that affect gym choice of PWD have been reported by multiple studies, there is limited research on young adult populations. Rimmer et al. (2004) study had a mean age of 40, Martin Ginis et al. (2016) did not specify mean age, but 40% of cited studies were on children and youth, and Sharon-David et al. (2021) included a wide age range

above 18. Future research should focus on studying younger populations of PWD in order for research to better translate to the population of UBC.

Another limitation Sharon-David et al. (2021) mentioned in their review is the lack of studies that focused solely on gym-based exercise. With the limited amount of research available, Sharon-David et al. (2021) included any study that focused on exercise experiences of those with disability, whether that be in the gym or other forms of exercise. Future research must focus solely on gym-based exercise and experiences in order to provide appropriate recommendations when creating a gym.

Finally, there was a lack of representation of the types of disabilities chosen for this literature review. Much of the research done on the relationship between disabilities and factors when choosing a gym are skewed towards physical disability (Sharon-David et al., 2021; Martin Ginis et al., 2016; Rimmer et al., 2004). Moreover, Healy et al., (2021) addressed that PWD should be included in when considering barriers to physical activity. This will help maximize the beneficial outcomes as the accommodations made will be better suited for PWD. Further research should include experiences of those with other types of disabilities, as UBC students have reported a wide range of disabilities, skewing more towards mental disabilities (Planning and Institutional Research Office [PAIR], 2022).

Based on the aforementioned limitations and gaps in previous studies, further research should target the student population at UBC that better reflects the diverse range of disabilities of UBC students. Further research should solely consider ranking the factors that affect gym choice to be inclusive of SWD when creating the Recreation North gym.

Methods

Target Population

The target population of this study included UBC (Vancouver) SWD. Participants were included in the study if they identified themselves as having a disability, including but not limited to physical and neurological disabilities, mental health conditions, and chronic health conditions. Participants were not required to be diagnosed by a qualified medical professional (although 94.17% indicated that they were). This allowed the sample to be a representative cohort of UBC SWD, while also maximizing potential responses and reducing perceptions of gatekeeping. These selection criteria sought to validate the experiences of participants with disabilities who may lack formal documentation to support their diagnoses for reasons that could include cost, time, and accessibility (McColl et al., 2010). Participants were excluded from the study if they did not self-identify with a disability. Aligned with the principle of "nothing about us without us" (Harpur & Stein, 2017), this research prioritized the voices of participants with lived experiences of disabilities, underscoring their pivotal role in shaping the study's insights. This research differs by investigating UBC SWD and intends to make inclusive and accessible recommendations for UBC Recreation fitness centres.

Recruitment Target and Plan

The recruitment target for the survey was 110 individuals who identify themselves as having a disability or chronic medical condition. We predicted that a good portion of these students would also be registered with UBC's Centre for Accessibility (CfA), which provides academic accommodations for various accessibility needs (UBC Student Services, n.d.), but this was not a necessary criterion for inclusion. According to Sarah Knitter, the co-director of the CfA, there were approximately 5,500 students registered as of April 2023 (see Figure 1 in

Appendix A). The recruitment target of 110 individuals would have represented 2% of the CfA population, which was a conservative goal given that, after some consultation, Sarah Knitter agreed to share the survey with the CfA student email list. In addition to mass email distribution of the survey, it was shared on the Disabilities United Collective (DUC) Discord server, which is a social media platform for SWD at UBC. We also leveraged our own social media accounts for recruitment purposes. Finally, recruitment posters with a QR code were distributed around the CfA, the two gyms at UBC (ARC and BirdCoop), as well as other popular UBC buildings such as the AMS NEST and LIFE buildings.

The recruitment target of 110 participants took into consideration the percentage of the population that typically responded to similar online surveys directed toward UBC students (Song et al., 2022). Given that the collection period of the survey was less than 2 weeks, we suspected that the number of responses that could be obtained during this period might be limited. The expectation was that the survey would achieve a minimum of 50 responses within this timeframe. However, depending on the efficacy of the recruitment efforts, we hoped that surpassing this minimum and reaching the target of 110 responses would be likely. Data collection began on March 16, 2024 and ended on March 28, 2024. We tried to maximize the exposure of our survey in recognition that a larger response pool would better represent the target population (Clark & Watson, 2016). The margin of error that this study found acceptable fell within the ±10% margin, as our survey was contained within the UBC Vancouver community.

Survey Design

This study employed a self-administered mixed methods survey to gather data from UBC students with self-identified disabilities. The primary outcomes were twofold: firstly, to identify and rank the key factors that influence gym selection, and secondly, to gather specific insights

into three themes: affordability, accessibility, and atmosphere of UBC Recreation fitness facilities. Secondary outcomes included barriers to participating in regular physical activity at a fitness centre and gender-inclusive accessibility topics. The gathered data are presented in this report to inform inclusive recommendations for the design of a new fitness facility, the Student Recreation North Building, situated on the UBC Vancouver campus.

Data collection was facilitated through Qualtrics, a platform capable of anonymous data collection (Qualtrics, n.d.). The utilization of an online survey platform affords participants the flexibility to respond at their convenience while ensuring secure data storage and immediate processing (Lorraine & Chenicheri, 2010). These types of surveys are quick, inexpensive and can be used to collect a variety of different outcomes from a large population (Connelly, 2016). Larger sample sizes are advantageous as they enhance the representativeness of findings, thus bolstering the generalizability of recommendations to society at large (Long, 2021).

The survey predominantly comprised questions designed akin to cross-sectional surveys, facilitating efficient collection of quantitative data. Most questions in the survey employed Matrix tables with Likert scales. Several questions were multiple-choice with a few allowing multiple answers. One question required participants to rank their top five choices. Additionally, several open-ended questions were incorporated to elicit qualitative insights, supplementing the quantitative data and enriching the analytical depth (Creswell et al., 2004).

Demographic Questions

Question 5 in the survey, which inquired about participants' disability sub-categories, was adapted from the UBC Undergraduate Experience Survey (UBC PAIR, 2022) and the UBC Employment Equity & Inclusion Survey (UBC Equity & Inclusion Office, 2021). Gendered demographic questions were asked to deepen understanding of differences across gender with

regards to barriers (Q6 & Q7), as well as understand the perceived importance and satisfaction levels with gender-inclusive washrooms, change rooms, and shower areas (Q15, Q16, Q17, Q18, & Q19). Gender-specific questions were adapted from the UBC Employment Equity and Inclusion Survey (UBC PAIR, 2022), as well as a template by Emily Jarvis (Figure 2, Appendix A), the Physical Activity Coordinator at UBC Recreation.

Data analysis

Survey data addressed two primary outcomes: (1) the key factors that are most important to gym choice, and (2) specific insights about the affordability, accessibility, and atmosphere of UBC Recreation gym facilities. Analyses also considered secondary outcomes, which included perceived barriers and gender-inclusivity issues. Quantitative and qualitative data underwent different analysis methods. Quantitative data, such as ranked factors affecting gym choice, were represented through graphs and tables (Mylavarapu et al., 2019). Likert scale questions underwent analysis via descriptive statistics, indicating measures of central tendency and variability (Boone & Boone, 2012). Qualitative data from open-ended questions underwent thematic analysis to identify key themes and patterns (Braun & Clarke 2012). We had hoped to draw correlations to assess if particular disability subpopulations face specific barriers to fitness facility participation or possess unique accessibility needs. We had also hoped to draw gender correlations to gain insight into comfort levels when exercising in public (Q11), perceived importance of the Women's (Trans Welcome) & 2STNB Fitness Hours (Q15), and perceived importance and satisfaction with gender-inclusive washrooms, change rooms, and shower areas (Q15-Q19). However, due to time constraints, we were unable to draw such correlations. This has been identified as a limitation in our discussion.

Results

Demographic Information

Question 1 identified whether respondents are currently enrolled as students at UBC Vancouver. Participants were asked to respond with Yes (n = 236) or No (n = 6). 242 responses were recorded. For those who responded “No” (n = 6), the survey was terminated.

Question 2 asked respondents whether they identify as a person with a disability. Participants were asked to respond with Yes (n = 212) or No (n = 19). 231 responses were recorded. For those who responded “No” (n = 19), the survey was terminated.

Question 3 asked respondents if they had been diagnosed with a disability or chronic condition by a qualified medical practitioner. Participants were asked to respond with: Yes (n = 194); No (n = 4); or Prefer not to answer (n = 8). A total of 206 responses were recorded.

Question 4 identified whether respondents are registered with the Centre for Accessibility. Participants were asked to respond with: Yes (n = 200); No (n = 4); or Prefer not to answer (n = 2). A total of 206 responses were recorded.

Question 5 asked participants how they would describe their disability or chronic condition. Participants were asked to select from a total of 9 categories provided and the results can be viewed graphically in Figure 4 (see Appendix A). From the 9 options, participants were prompted to select all that apply: Deaf or Hard of Hearing (n = 5); Blind or Visually Impaired (n = 3); Mental Health Condition (e.g., depression, severe anxiety, etc.) [n = 133]; Physical Disability (e.g., severe chronic pain, mobility constraints, etc.) [n = 45]; Neurological Health Condition (e.g., stroke, traumatic brain injury, etc.) [n = 10]; Neurodiverse (e.g., learning disability, ADHD, autism spectrum, dyslexia, OCD, etc.) [n = 112]; Chronic Health Condition (e.g., arthritis, asthma, autoimmune diseases, cancer, diabetes, etc.) [n = 36]; Other (please

specify) [n = 4]; Prefer not to answer (n = 3). For those who selected ‘Other (please specify)’, responses included: “PTSD”, “Tourette’s Syndrome”, “Pre-Menstrual Dysphoric Disorder (PMDD)”, and “Migraine”. 351 responses were recorded, indicating that many participants identified with more than one disability.

Question 6 asked participants about their gender identity. Participants were asked to select from 6 options: Woman (n = 147); Man (n = 33); Non-binary / third gender / queer (n = 21); Two-spirit (n = 0); Other (please specify) [n = 2]; Prefer not to answer (n = 3). For those who selected ‘Other (please specify)’, responses included “Trans man” and “Woman and non binary”. 206 responses were recorded.

Question 7 asked participants whether they have lived experience as a trans person (meaning that their gender identity does not align with their sex assigned at birth). Participants were asked to respond with: Yes (n = 24); No (n = 177); or Prefer not to answer (n = 5). A total of 206 responses were recorded.

Fitness Facility Usage and Preferences

Question 8 asked which fitness facilities participants currently use. Participants were prompted to select all that apply from 6 options: UBC Activities and Recreation Centre (ARC) [n = 49]; UBC BirdCoop Fitness Centre (n = 31); Another fitness facility on campus (n = 46); Another fitness facility off-campus (n = 54); I do not currently attend any fitness facilities (n = 78); Prefer not to answer (n = 2). 260 responses were recorded, indicating that some participants currently attend more than one fitness facility.

Question 9 expanded on Question 8, asking if participants have used the listed fitness facilities in the past. Participants were prompted to select all that apply from 6 options: UBC Activities and Recreation Centre (ARC) [n = 103]; UBC BirdCoop Fitness Centre (n = 67);

Another fitness facility on campus (n = 68); Another fitness facility off-campus (n = 78); I have not attended any fitness facilities (n = 36); Prefer not to answer (n = 5). 357 responses were recorded, indicating that many participants have attended more than one fitness facility in the past. Participants' answers to Questions 8 and 9 determined whether they would receive Questions 15 through 20 inclusive, which are specific to the ARC, BirdCoop, and other facilities. For instance, participants would receive Question 15 if they indicated that they currently attend the ARC (Q8) and/or that they attended the ARC in the past (Q9).

Question 10 gauged how frequently participants exercise at a fitness facility. Participants were asked to select how often they exercised, if at all: 1-2 times per month (n = 35); 1-2 times per week (n = 58); 3-5 times per week (n = 31); 6-7 times per week (n = 12); I do not currently attend a fitness facility (n = 67); Prefer not to answer (n = 0). A total of 203 responses were recorded.

Participants who indicated low physical activity participation, '1-2 times per month' (n = 35) or 'I do not currently attend a fitness facility' (n = 67), were also shown Question 11. Only 102 participants were exposed to Question 11, which asked about barriers to participating in regular physical activity at a fitness centre. Results can be viewed graphically in Figure 5 (see Appendix A). Participants selected all that apply from 16 response options: Lack of time (n = 72); Lack of energy (n = 73); Lack of interest (n = 24); Lack of social support (n = 33); Cost of membership (n = 51); Inconvenient location (n = 21); Inaccessible equipment or machines (n = 9); Inaccessible facility layout our interior design (n = 6); Staff with a limited understanding of disability needs (n = 10); Schedule conflict with hours of operation (n = 18); Dissatisfied with perks or amenities (n = 5); Discomfort exercising in public (n = 62); Dissatisfied with atmosphere (n = 35); Overcrowding (n = 56); Other (please specify) [n = 8]; Prefer not to answer

(n = 0). Those who selected ‘Other (please specify)’ reported answers such as inaccessible fitness programs, inaccessible parking, viral risks, chronic pain, social anxiety, overstimulating sensory environment, lack of interest in the provided activities, lack of knowledge in using exercise equipment, and preference for outdoor physical activity. A total of 483 responses were recorded, indicating that most people selected more than one barrier to participation.

Question 12 gauged participants’ perceived importance of various factors in choosing a fitness facility. Participants were asked to rank their top 5 factors from 1 through 5 (out of 15 total options). Overall, the response count across the top five rankings was highest for the following 10 factors: Cost of membership (n = 162, mean rank = 2.12); Proximity of location to residence, study, or work (n = 159, mean rank = 2.25); Equipment variety and availability (n = 112, mean rank = 2.98); Hours of operation (n = 103, mean rank = 3.40); Cleanliness of facility (n = 101, mean rank = 3.58); Atmosphere (e.g., interior design, spaciousness, colours, lighting, music) [n = 100, mean rank = 3.62]; Flexible membership options (n = 51, mean rank = 3.16); Training options (e.g., group versus individual personal training) [n = 32, mean rank = 3.53]; Amenities (e.g., massages, saunas, tanning beds, smoothies, etc.) [n = 31, mean rank = 4.19]; Staff with a good understanding of inclusive design principles (n = 28, mean rank = 3.04).

Fewer respondents reported the remaining 5 factors among their top five rankings: Accessibility of equipment and machines (e.g., active hands gripping aids, adaptive treadmills, etc.) [n = 23, mean rank = 3.30]; Complimentary perks (e.g., guest passes, free trial period) [n = 18, mean rank = 3.22]; Accessibility of design and layout (e.g., ramps, support rails, accessible washrooms, etc.) [n = 15, mean rank = 3.20]; Other (n = 14, mean rank = 3.29); Accessibility of parking (n = 11, mean rank = 4.18). See Table 1 in Appendix B for more information.

Affordability of Fitness Memberships

Question 13a asked participants how affordable a UBC student fitness membership of $42.50 per term would be for them on a 7-point Likert scale. Participants selected one of the following 7 options: Very unaffordable (n = 13); Somewhat unaffordable (n = 21); Slightly unaffordable (n = 22); Neither affordable or unaffordable (n = 12); Slightly affordable (n = 25); Somewhat affordable (n = 48); Very affordable (n = 51). A total of 192 responses were recorded. The mean score was 4.89 which corresponds to a sentiment of just under 'slightly affordable'. The standard deviation was 1.97.

Question 13b asked participants about their likelihood of paying for a UBC Recreation fitness membership at various prices: $42.50, $35.00, and $50.00 per term, respectively. Similar to Q13a, 7-point Likert scales were used. The findings are as follows: Likelihood of paying for a membership costing $42.50/term (mean = 4.52 < 'slightly likely', std deviation = 2.08); Likelihood of paying for a membership costing $35.00/term (mean = 5.55 < 'somewhat likely', std deviation = 1.91); Likelihood of paying for a membership costing $50.00/term (mean = 3.48 > slightly unlikely', std deviation = 2.06). A total of 192 responses were recorded for each.

Question 14 was an optional qualitative question with an open-text response box. The question asked the following: "Is there anything you would like to share with us regarding the affordability of fitness memberships at UBC Recreation?" 40 participants provided an answer to this question. 6 of these responses indicated "No" or "N/A". The remaining 34 responses can be grouped into one or more of the following 5 themes: Desire for more flexible membership options (n = 4); Indignation towards the Athletics and Recreation fee and membership costs (n = 19); Crowding and availability concerns (n = 9); Accessibility concerns (n = 3); Full gym membership package affordability (n = 2).

Ⅰ. SWD desire flexible membership options due to chronic conditions that limit the predictability and consistency of their gym attendance (n = 3). For instance, students feel that memberships should allow week-to-week or month-to-month subscriptions that could be cancelled and restarted easily. Alternatively, a pay-per-use membership could be instated (e.g., the ability to load up 5-10 sessions that can be used anytime). One participant suggests that UBC Recreation offer a 1 term "free trial" to all students who pay the Athletics and Recreation fee, starting at a time of the student's choosing (n = 1).

II. SWD expressed indignation towards the annual UBC Athletics and Recreation fee of $249.84 per Winter Term (n = 13), as well as the unaffordability of gym memberships (n = 6). Students point out that it is unappealing and unfair to pay for gym memberships at UBC Recreation when students are already being charged the annual Athletics and Recreation fee. Participants believe gym membership should be free (covered by student fees), similar to the UBC Aquatic Centre (n = 9). Other students advocate for the choice to opt out of the perceived high-priced Athletics and Recreation fee, suggesting that it should only apply to those who utilize UBC Recreation facilities (n = 2). The current membership fee structure is perceived as misleading given the higher overall student fees (n = 2). Yet other students speak to affordability more broadly, perceiving significant financial barriers and opting instead for the Aquatic Centre, covered through student fees, while also believing that UBC Recreation should remove its membership fees as other universities offer free gym memberships (n = 4). Two students said they might consider paying $35 and $30 for a membership, respectively (n = 2).

III. While some students have expressed that UBC Recreation memberships are affordable compared to other places (n = 6), some claim that UBC Recreation memberships do not currently provide equivalent value relative to their price (n = 4). The extreme crowding of the

gyms makes wait times and use of the machines and equipment undesirable (n = 9). Moreover, a student with trans experience expressed uncertainty about using the changerooms amidst the busyness of the gym facilities (n = 1).

Ⅳ. Students assert that affordability is instrumental to the accessibility of fitness facilities (n = 1), and advocate for vouchers to support people with disabilities and other marginalized groups (n = 1). Moreover, there is room for enhancement in disability awareness among fitness trainers at UBC Recreation. Despite being cheaper than some other facilities, one student chose not to frequent UBC Recreation facilities in favour of alternative facilities featuring more proficient trainers capable of supporting their unique accessibility needs (n = 1).

V. Students express a desire for increased affordability regarding the full gym membership of $127.50 per term, which includes access to classes (n = 1), suggesting package discounts that would mitigate the high combined cost of the basic membership plus the fitness class membership (n = 1).

Accessibility of Fitness Facilities

Question 15 used a 7-point Likert scale to gauge the importance of 14 accessibility features to the access and participation levels of participants at the ARC Fitness Centre. Participants received this question if they indicated current or past attendance at the ARC on Questions 8 and/or 9. Results demonstrate that the seven most important accessibility features conducive to student access and participation at the ARC include the following: Gendered and Universal washrooms, shower stalls, and change areas (n = 88, mean = 5.35 > ‘slightly important’); ARC Lower Level Studio location of Women’s (Trans Welcome) & 2STNB Fitness Hours (n = 80, mean = 5.19 > ‘slightly important’); 2 squat racks and 1 Smith Machine are accessible at grade (n = 74, mean = 5.03 > ‘slightly important’); Accessible washroom stalls,

shower stalls, and change areas (n = 86, mean = 5.03 > ‘slightly important’); Main doors to the ARC on the basement level are automatic and accessible (n = 88, mean = 4.93 < ‘slightly important’); Individuals can request use of a variety of straps and grips from Active Hands to assist with accessible weight training (n = 76, mean = 4.86 < ‘slightly important’); Identified areas in the functional area provides space for accessible training (n = 84, mean = 4.85 < ‘slightly important’). See Table 2 in Appendix B for more information.

Question 16 used a 7-point Likert scale to gauge the importance of 10 accessibility features to the access and participation levels of participants at the BirdCoop Fitness Centre. Participants received this question if they indicated current or past attendance at BirdCoop on Questions 8 and/or 9. The results are as follows, listed in order of importance: Universal and accessible washrooms and change rooms across the hall from the BirdCoop (n = 55, mean = 4.53 < ‘slightly important’, std deviation = 2.11); Change rooms with accessible gendered shower stalls and washroom stalls (n = 55, mean = 4.44 > ‘neither important nor unimportant’, std deviation = 2.03); Areas in the SRC Studio and BirdCoop Fitness Centre offer functional accessible areas (n = 51, mean = 4.41 > ‘neither important nor unimportant’, std deviation = 1.81); 2 squat racks with accessible ramps for access (n = 49, mean = 4.29 > ‘neither important nor unimportant’, std deviation = 2.02); SYNRGY cable unit is accessible (n = 46, mean = 4.26 > ‘neither important nor unimportant’, std deviation = 1.98); BirdCoop Fitness Centre has an accessible gate (n = 52, mean = 4.21 > ‘neither important nor unimportant’, std deviation = 1.96); Elevator to the second level of the SRC/gymnasiums (n = 51, mean = 4.16 > ‘neither important nor unimportant’, std deviation = 1.91); Individuals can request use of a variety of straps and grips from Active Hands to assist with accessible weight training (n = 49, mean = 4.14 > ‘neither important nor unimportant’, std deviation = 1.83); Automatic doors at the North

entrance for accessibility (n = 52, mean = 4.06 > ‘neither important nor unimportant’, std deviation = 2.08); Ramps leading to the North and West entrances of the Student Recreation Centre (SRC) [n = 49, mean = 3.73 < ‘neither important nor unimportant’, std deviation = 2.10).

Question 17 used a 7-point Likert scale to gauge participants’ satisfaction levels with 5 categories of accessibility features provided by the ARC and/or BirdCoop Fitness Centres. Participants received this question if they indicated (on Q8 and/or Q9) that they currently or previously attend(ed) one or both of the facilities. Results are as follows: Accessible entrances and pathways (mean = 5.28 > ‘slightly satisfied’, std deviation = 1.40); Accessible washrooms, change rooms, and shower areas (mean = 5.24 > ‘slightly satisfied’, std deviation = 1.35); Gender-inclusive washrooms, change rooms, shower areas, and other spaces (mean = 5.35 > ‘slightly satisfied’, std deviation = 1.41); Accessible workout equipment and machines (mean = 4.70 < ‘slightly satisfied’, std deviation = 1.47); Inclusive and disability-informed staff members (mean = 4.63 < ‘slightly satisfied’, std deviation = 1.56). Ignoring responses of “I have not previously accessed or used this feature”, the number of participants who indicated a measure of satisfaction on the 7-point Likert scale for each of the five accessibility features were 86, 89, 91, 82, and 75, respectively.

Question 18 used a 7-point Likert scale to gauge the importance of 5 categories of accessibility features to the access and participation levels of participants at the fitness centres they visit (or have visited), excluding those operated by UBC Recreation. Participants received this question if they indicated (on Q8 and/or Q9) that they currently or previously attend(ed) on- or off-campus fitness facilities (not including the ARC or BirdCoop). Results are as follows: Accessible entrances and pathways (n = 102, mean = 4.47 > ‘neither important nor unimportant’, std deviation = 1.99); Accessible washrooms, change rooms, and shower areas (n = 112, mean =

4.96 < ‘slightly important’, std deviation = 1.89); Gender-inclusive washrooms, change rooms, shower areas, and other spaces (n = 110, mean = 4.45 > ‘neither important nor unimportant’, std deviation = 2.02); Accessible workout equipment and machines (n = 103, mean = 4.99 < ‘slightly important’, std deviation = 1.96); Inclusive and disability-informed staff members (n = 105, mean = 5.26 > ‘slightly important’, std deviation = 1.84).

Question 19 used a 7-point Likert scale to gauge participants’ satisfaction levels with 5 categories of accessibility features offered by the fitness centres they visit (or have visited), excluding those operated by UBC Recreation. Participants received this question if they indicated (on Q8 and/or Q9) that they currently or previously attend(ed) on- or off-campus fitness facilities (not including the ARC or BirdCoop). The same accessibility features from Question 18 were provided. Results are as follows: Accessible entrances and pathways (n = 88, mean = 5.03 > ‘slightly satisfied’, std deviation = 1.45); Accessible washrooms, change rooms, and shower areas (n = 94, mean = 4.78 < ‘slightly satisfied’, std deviation = 1.59); Gender-inclusive washrooms, change rooms, shower areas, and other spaces (n = 91, mean = 4.52 < ‘slightly satisfied’, std deviation = 1.49); Accessible workout equipment and machines (n = 83, mean = 4.69 < ‘slightly satisfied’, std deviation = 1.53); Inclusive and disability-informed staff members (n = 89, mean = 4.52 < ‘slightly satisfied’, std deviation = 1.60).

Question 20 was an optional qualitative question with an open-text response box. The question asked the following: “Is there anything you would like to share with us regarding the accessibility features of the fitness centres you visit (or have visited), excluding those operated by UBC Recreation?” 25 participants provided an answer to this question. 8 of these responses indicated “No” or “N/A”. The remaining 17 responses can be grouped into one or more of the following 5 themes: Overcrowding (n = 5); Knowledgeable and disability-informed staff (n = 5);

Availability of standard, assistive, and wheelchair-accessible gym equipment (n = 2); Private and gender inclusive washrooms, changerooms, and showers (n = 2); Other miscellaneous responses (n = 4).

I. Students express concerns with overcrowding and the lack of spaciousness at UBC Recreation gym facilities compared to other available gyms (n = 2). Other students also point out that overcrowding can elicit anxiety and is inherently inaccessible (n = 2). One student spoke in general about their unique needs for adequate washroom availability (n = 1). Another student may have implied that limiting the number of people who access a gym at a time may help with overcrowding issues (n = 1).

II. Students appreciate interactions with well-trained, knowledgeable, and disability-informed staff (n = 5). For instance, one student values the staff at their off-campus gym facility because they do not get asked "odd or intrusive questions, [and they] don't get treated differently" (n = 1). Another student identifies that "interactions with staff and other members [are] just as important as the space being physically accessible" (n = 1).

III. Students appreciate a wide range of available equipment to meet their needs (n = 1), although one student expresses frustration with having to consistently advocate for themselves when wheelchair-accessible equipment is already in use by non-wheelchair users (n = 1).

IV. Students expressed satisfaction with the inclusion of private showers at the UBC Aquatic Centre (n = 1). Another student stated that they have "not seen many [recreation facilities] with gender inclusive or private washrooms/change rooms/showers" (n = 1).

V. Other miscellaneous responses involved sentiments regarding dissatisfaction with the hours of operation at UBC Recreation facilities (n = 1), a desire for spacious facilities in general (n = 2), and a lack of energy to exercise (n = 1).

Question 21 was an optional qualitative question with an open-text response box. The question asked: "Is there anything you would like to share with us regarding the accessibility of fitness facilities operated by UBC Recreation?" All participants were exposed to this question, regardless of their current or past attendance at the ARC or BirdCoop fitness centres. Of the 35 responses to the question, 14 participants responded with a variation of "No" or "N/A". The remaining 21 responses can be grouped into the following 4 themes: Overcrowding (n = 8); Women and genderqueer spaces (n = 3); Disability-informed staff (n = 3); and Other miscellaneous responses (n = 5).

I. Students are thoroughly dissatisfied with the state of overcrowding at the gym facilities operated by UBC Recreation (n = 8). One student expressed that they felt their membership was a "waste of money" due to overcrowding, as they "paid approximately $120 for 4 months" despite being unable to use the facilities as much as they would have liked (n = 1). Another student suggested an online signup option to limit the number of people in the facility at a given time (n = 1). In one extreme case, a student with a movement disorder described getting "shoved or hit by other members (not staff) . . . caus[ing] injury" and leading to them not "want[ing] to go anymore" (n = 1).

II. Students have expressed a desire for modifications to the existing women and genderqueer spaces (n = 3). One student expressed a desire for the Women Only Fitness Hours to encompass a larger variety of heavy-weight training equipment (n = 1). Some respondents seem to be unsatisfied with the current state of the Women and 2STNB Fitness Hours

because they feel that this group does not adequately represent their complex gender identity (n = 1).

III. Students have expressed the need for more disability-informed staff (n = 3). One student filled out an application for personal training at UBC Recreation through the website, listing their disabilities and the extra help they would need; however, they received no follow-up from staff despite getting confirmation that the form was received (n = 1). Another student believes that staff should enforce rules regarding the use of accessible spaces; for instance, by giving disabled gym attendees priority access to special equipment (n = 1).

IV. Other miscellaneous responses involved sentiments regarding logistical challenges at the UBC Aquatic Centre (n = 1), old equipment at the BirdCoop Fitness Centre (n = 1), a desire for UBC Recreation to support more outdoor activities (n = 1), more accessibility support for temporary disabilities (n = 1), and the overstimulating environment of the UBC Recreation fitness facilities (n = 1).

Question 22 asked participants to indicate their level of familiarity with and use of three inclusive resource forms listed on the UBC Recreation website. A total of 172 responses were recorded. The large majority of people selected “Not familiar and have not used before” in response to all three resource forms: Care Attendant Request Form (a.k.a. Inclusion Attendant Form) [n = 158 = 90.80% of 174]; Support or Accommodation Form (a.k.a. Exceptionalities Request and Inquiry Form) [n = 143 = 82.18% of 174]; Inclusivity and Accessibility Feedback Form (n = 140 = 80.46% of 174).

Question 23 asked participants to indicate their level of satisfaction with the inclusive resource forms that they had used before. Participants received this question if they had indicated

familiarity and/or use of the same forms from Question 22. Ignoring responses of "Not applicable", the number of participants who indicated a measure of satisfaction on the 7-point Likert scale for each of the three inclusive resource forms were 22, 27, and 29, respectively. Results showed the following satisfaction levels: Care Attendant Request Form (a.k.a. Inclusion Attendant Form) [mean = 4.32 > 'Neither satisfied nor dissatisfied']; Support or Accommodation Form (a.k.a. Exceptionalities Request and Inquiry Form) [mean = 4.67 < 'slightly satisfied']; Inclusivity and Accessibility Feedback Form (mean = 4.52 < 'slightly satisfied').

Question 24 was an optional qualitative question with an open-text response box. The question asked the following: "Is there anything you would like to share with us regarding the inclusive resource forms listed on the UBC Recreation website?" Of the 23 responses that were collected, 16 participants answered with a variation of "No" or "N/A". Three participants indicated that they had not previously known that the forms existed (n = 3), and two of these participants expressed gratitude for their existence (n = 2). One student was only familiar with the forms due to having worked for UBC Athletics and Recreation (n = 1). Two students expressed an interest (or prior experience) in using the forms for the UBC Aquatic Centre (n = 2), and two other students believe that the forms should be better advertised (n = 2).

Atmosphere of Fitness Facilities

Question 25 asked participants to indicate, considering the atmosphere of their ideal gym choice, how important various factors are or would be to their participation on a 7-point Likert scale. Of the 8 factors that were provided, importance levels are as followsin order of importance: Crowding (n = 169, mean = 6.71 < 'Very important', std deviation = 0.78); Spaciousness (n = 171, mean = 6.36 > 'Somewhat important', std deviation = 0.97); Friendly people (n = 168, mean = 6.07 > 'Somewhat important', std deviation = 1.11); Welcoming staff (n

= 171, mean = 6.04 > ‘Somewhat important’, std deviation = 1.18); Noise level (n = 170, mean = 5.85 < ‘Somewhat important’, std deviation = 1.38); Lighting (n = 170, mean = 5.62 < ‘Somewhat important’, std deviation = 1.29); Colours (n = 170, mean = 4.68 < ‘Slightly important’, std deviation = 1.54); Music (n = 170, mean = 4.50 < ‘Slightly important’, std deviation = 1.78).

Question 26 asked participants to indicate, considering the atmosphere of UBC Recreation’s fitness facilities, their level of satisfaction with a variety of factors on a 7-point Likert scale. Participants received this question if they had indicated current or past attendance at the ARC or BirdCoop on Questions 8 and/or 9. Satisfaction levels are as follows, in order from most to least: Welcoming staff (n = 90, mean = 4.57 < ‘Slightly satisfied’, std deviation = 1.55); Lighting (n = 88, mean = 4.49 > ‘Neither satisfied nor unsatisfied’, std deviation = 1.48); Colours (n = 88, mean = 4.48 > ‘Neither satisfied nor unsatisfied’, std deviation = 1.31); Friendly people (n = 90, mean = 4.34 > ‘Neither satisfied nor unsatisfied’, std deviation = 1.47); Music (n = 84, mean = 4.25 > ‘Neither satisfied nor unsatisfied’, std deviation = 1.11); Noise level (n = 87, mean = 3.76 < ‘Neither satisfied nor unsatisfied’, std deviation = 1.45); Spaciousness (n = 89, mean = 2.69 < ‘Slightly unsatisfied’, std deviation = 1.67); Crowding (n = 91, mean = 2.19 > ‘Somewhat unsatisfied’, std deviation = 1.36). Responses of “Not applicable” were not included in the Likert analysis; hence why the response counts are not uniform for each item.

Question 27 provides information about the UBC Aquatic Centre’s Sensory Sensitive Swim Time, which occurs every Wednesday morning from 9:00-10:15 AM. A question follows, asking participants to indicate how likely they would be to use a Sensory Sensitive Fitness Hour if UBC Recreation were to implement one at their gym facilities. From the 7-point Likert scale provided, results are as follows: Very likely (n = 36); Somewhat likely (n = 26); Slightly likely (n

= 35); Neither likely nor unlikely (n = 14); Slightly unlikely (n = 8); Somewhat unlikely (n = 13); Very unlikely (n = 19). After excluding 'Not applicable/prefer not to say' (n = 14) and 'Other (please specify)' [n = 6] from the Likert analysis, the following trends emerged: mean = 3.31 < 'Slightly likely', std deviation = 2.03. Due to technical issues, the coded values for each Likert item were inverted such that 1 corresponded to 'Very likely' and 7 corresponded to 'Very unlikely'. This is the opposite of the rest of the results. Participants who selected 'Other (please specify)' indicated possible schedule conflicts, concerns that the hour(s) would be too early in the day, and possibilities of feeling out of place if they do not have sensory concerns. Others indicated that such sensory hour(s) may not create meaningful access if the facility only offers times when most people are not attending, and that UBC Recreation should make efforts to include students with physical disabilities as well.

Question 28 was an optional qualitative question with an open-text response box. The question asked the following: "Is there anything you would like to share with us regarding the atmosphere of UBC Recreation's fitness facilities?" All participants were exposed to this question, regardless of their current or past attendance at UBC Recreation fitness centres. Of the 33 responses collected, 11 participants indicated a variation of "No" or "N/A". The remaining 22 responses can be grouped into the following themes: Overcrowding (n = 11); Sensory overload and desire for sensory-sensitive fitness hours (n = 8); and Other miscellaneous responses (n = 5).

I. Students express a strong dislike of the overly crowded atmosphere within UBC Recreation fitness facilities (n = 11). Students comment on the limited existing space relative to the large population of students with gym memberships (n = 2). Participants discuss how crowded spaces trigger their anxiety and make them feel uncomfortable or

overwhelmed (n = 7). Moreover, students dislike the long wait times for accessing specific equipment (n = 3).

II. Participants voice distress regarding the excessive sensory stimulus within the UBC Recreation fitness facilities (n = 7), and many would like to see Sensory Sensitive Fitness Hours (n = 4). For instance, a participant with a traumatic brain injury and subsequent epilepsy expressed excitement with the prospect of a possible sensory-sensitive program (n = 1). Another student feels that sensory-sensitive fitness times should involve no music (n = 1).

III. Miscellaneous responses included semantic clarifications of previous quantitative answers (n = 1), noting that Matrix survey questions are not very accessible for people with a range of disabilities (n = 1), reiterating that Women Only Fitness Hours should include access to more heavy-weight training equipment (n = 1), and that they haven't used the facilities (n = 1). One student also pointed out that the accessibility of the facilities at UBC Recreation are comparable to the rest of UBC (n = 1), meaning that "able bodied people think it's good enough and disabled people can technically participate (with great effort)."

Discussion

This study delves into the multifaceted elements influencing gym selection among UBC SWD. This investigation sheds light on the intricate balance between accessibility, atmosphere, and affordability as central factors in the decision-making process, offering insights into the challenges and preferences of this demographic. The findings from this study are pivotal for informing future policies and practices aimed at enhancing inclusivity in fitness environments, particularly within academic settings.

Accessibility emerged as a nuanced construct in our analysis, not limited to physical adaptations, but encompassing a broader spectrum of considerations including sensory-friendly environments, spatial arrangements, and the availability of specialized equipment. This expanded definition underscores the necessity of adopting a holistic approach to inclusivity, one that is reflective of the diverse needs of the university's student body. Consistent with prior research by Rimmer and colleagues (2004), our study identified significant accessibility barriers that extend beyond physical modifications such as ramps and automatic doors, to include issues related to sensory environments and the availability of specialized equipment. This broader understanding of accessibility suggests that successful interventions need to address a range of sensory and cognitive needs, which are often overlooked in traditional approaches to physical accessibility (Sharon-David et al., 2021). Furthermore, the slightly underwhelming satisfaction levels by participants with regard to inclusive and disability-informed staff members echoes findings by Martin Ginis et al. (2016), highlighting an ongoing gap in the preparedness of fitness centre staff to engage with and support individuals with disabilities effectively.

Findings from Question 12 were interesting because the response count for accessibility features was comparatively lower than for other factors like cost, location, equipment variety and availability, hours of operation, cleanliness, atmosphere, flexible membership options, training options, and amenities. However, for respondents whose top five rankings did comprise accessibility factors, the mean rankings were sometimes even higher than for the more “popular” factors. For instance, while only 28 respondents selected “Staff with a good understanding of inclusive design principles” among their top five factors, the average ranking was 3.04. For these participants, this accessibility factor outranks the perceived importance of other factors, including hours of operation, cleanliness of facility, atmosphere, flexible membership options,

training options, and amenities. Similarly, while “Accessibility of equipment and machines” and “Accessibility of design and layout” were only chosen as top five factors by 23 and 15 participants respectively, their mean ranks of 3.30 and 3.20 exceed the rankings for more “popular” factors including hours of operation, cleanliness of facility, atmosphere, training options, and amenities. This indicates that, while explicit accessibility factors are not directly important to most participants, they are considerably important to the people who need them.

The study emphatically demonstrates that a welcoming and friendly atmosphere is of critical importance in fitness centres, especially for SWD. These findings align with the work of Sharon-David et al. (2021), which found that staff attitudes and social climate profoundly influence how individuals with disabilities perceive their gym environment. Indeed, some of our participants reported adverse or less-than-ideal interactions with other gym-goers and staff, underlining a salient point: true inclusivity in fitness facilities is not merely a matter of physical accommodation but also hinges on the cultivation of an inclusive culture and environment that welcomes and supports all users. Overall, participants were (less than) slightly satisfied with welcoming staff and felt (more than) neutral satisfaction with friendly people at UBC Recreation’s fitness facilities. Environmental elements such as crowding levels, spaciousness, noise levels, and lighting also ranged from very to somewhat important to students’ gym experiences. However, while participants considered crowding levels and spaciousness to be the most important of all atmospheric factors, satisfaction levels for these were rated the lowest at UBC Recreation gym facilities (somewhat and slightly unsatisfied, respectively).

Affordability presented a critical barrier to accessing fitness facilities for SWD. Although the current cost of a basic student membership at UBC Recreation was deemed (just under) slightly affordable on average, cost of membership was cited as the fifth greatest barrier to

regular participation at a fitness facility by students who are not currently physically active or those who exercise 1-2 times per month. The findings reveal that financial constraints are not limited to the upfront cost of membership but also encompass the ancillary expense of the UBC Athletics and Recreation fee, which is an automatic obligatory expense of all students at UBC, regardless of facility usage. Many SWD believe gym membership should be covered by student fees, similar to the UBC Aquatic Centre. Participants also desire more flexible membership options, as chronic conditions may limit the predictability and consistency of their gym attendance. These insights call for a re-evaluation of pricing strategies and the exploration of subsidy models to alleviate the financial burden on SWD, ensuring equitable access to fitness resources.

Flexible Pricing Models

The desire for flexible membership options reflects an understanding that disabilities may affect the consistency of gym usage and the use of a one-size-fits-all model disregards the nuanced needs of this demographic. Implementing flexible pricing strategies such as pay-per-use memberships (e.g., the ability to load up 5-10 sessions that can be used anytime, without expiry) or month-to-month subscriptions could cater to this variability in usage and reflect a more equitable billing approach. Moreover, results demonstrate that participants were “somewhat likely” to pay for a UBC Recreation fitness membership at $35 per term, compared to “slightly likely” to pay for the same membership at $42.50/term.

Subsidy Models

The notion of providing subsidies or a sliding scale for gym memberships resonates with the broader principle of equity. Such models could involve financial assistance for those under a certain income threshold or who demonstrate financial need, ensuring that fitness facilities are

accessible to all, irrespective of their financial status. Vouchers or subsidized rates could alleviate the financial strain, thereby enhancing gym participation rates among SWD.

Value Proposition and Opt-Out Options

The findings suggest a disconnect between the perceived value offered by UBC Recreation memberships and their costs, especially compared to amenities covered by student fees, like the Aquatic Centre. Students advocate for the option to opt-out from the Athletics and Recreation fee, or the inclusion of free gym membership within its coverage, suggesting a demand for a more transparent and fair allocation of student funds. Universities must reassess the value proposition of their fitness facilities and consider more inclusive funding structures that align with students' expectations and needs.

Beyond cost of membership, the largest barriers to regular participation in physical activity at a fitness facility included lack of energy and time, discomfort exercising in public, overcrowding, dissatisfaction with atmosphere, and lack of social support (see Figure 5 in Appendix A). Many of these barriers are intrapersonal; however, UBC Recreation might consider its role in creating fitness facilities that are judgment-free and socially supportive through the use of specific programs that target and attract marginalized groups (including but not limited to SWD).

Implications

The implications of this study extend beyond the immediate context of UBC, offering valuable insights for the broader academic and recreational communities. By integrating the principles of affordability, accessibility, and atmosphere into the design and operation of fitness centres, institutions can significantly improve the physical activity engagement of SWD. This, in

turn, has the potential to foster a more inclusive campus culture that values and supports diversity in all its forms.

Limitations

There are several limitations to this research project. One qualitative response noted that several of our Matrix table survey questions were not very accessible for people with a range of disabilities. This was illuminating and educational for our limited-experience team, as well as situationally ironic, given that the intentions behind our work are to increase accessibility for disabled populations.

A second limitation is that there was not enough time to run more comprehensive statistical analyses (such as correlations) beyond simple descriptive statistics. Ideally, our team would have liked to compare responses between participants from different categories of disability. For instance, it would have been interesting to see the difference in importance ratings for accessible equipment and machines for students with physical disabilities versus students with mental health conditions. We then could have applied subgroup analysis by teasing out relevant responses based on disability type and making more nuanced recommendations for UBC Recreation. Similarly, we were unable to run correlational analyses for gender-specific nuances, which we had previously identified as a secondary outcome in our methods section.

A third limitation is that the research was not grounded in a particular theory or model, such as the Social Ecological Model (Bronfenbrenner, 1979). This model would have been great to use because it addresses multiple interconnected spheres wherein health is experienced and produced, including intra- and interpersonal levels, organizational and community levels, as well as contexts of public policy and physical environment. At the intrapersonal level, research focus could have been on quantitative concepts like discomfort exercising in public, lack of energy,

lack of time, and lack of interest (see Figure 5 in Appendix A), as well as qualitative insights such as chronic pain and lack of knowledge in using exercise equipment. At the interpersonal level, focus could have been on quantitative concepts such as lack of social support, staff with a limited understanding of disability needs, inclusive and disability-informed staff members, friendliness of people, and welcoming(ness) of staff, as well as qualitative insights such as viral risks and social anxiety. At the organizational level, focus could have been on UBC Recreation factors including cost and flexibility of memberships, the Athletics and Recreation fee, the possibility of having sensory-sensitive fitness hours, and intangible atmospheric factors like music, lighting, colours, and noise levels. At the community level, the study could have addressed the unique roles and possible contributions of interrelated community groups such as the Centre for Accessibility, the UBC AMS, the UBC Disabilities United Collective (DUC), and the UBC Disability Affinity Group (DAG). At the level of public policy, the study could have discussed accessibility legislation at the federal, provincial, and municipal levels. Finally, the physical environment could have considered the new UBC Recreation North Building, the ARC, BirdCoop, the physical gym equipment and machines within these facilities, and the optional accessible gym equipment that are available upon request. Physical environment could have also encompassed crowding and spaciousness levels, accessible entrances and pathways, as well as accessible and gender-inclusive washrooms, change rooms, and shower areas.

Recommendations

This study has identified several key areas that UBC Recreation, as well as other university fitness centres, can focus on to improve accessibility and inclusivity for SWD. The following recommendations are proposed based on our findings:

Sensory-Sensitive Fitness Hours

The introduction of sensory-sensitive fitness hours can make fitness centres more accessible to students who may experience sensory overload. These hours would involve modifications such as dimmed lighting, reduced noise levels, quiet zones, and minimized use of public announcement systems. By incorporating sensory-sensitive hours into the operation schedule, fitness centres can cater to a broader range of sensory preferences and create an inclusive environment that acknowledges the needs of neurodiverse individuals and those with sensory processing challenges. On average, participants indicated that they would be slightly likely to use a sensory-sensitive fitness hour if UBC Recreation were to implement one at their gym facilities. Qualitative analysis revealed a suggestion that UBC Recreation should make efforts to include students with physical disabilities as well; extrapolating on this, we might suggest the possibility of an additional fitness hour that specifically targets students with special mobility needs. We advise this with cautious optimism because we recognize that more research may be needed to gauge interest levels, inclusive naming conventions (of the program), and logistical viability.

Addressing Overcrowding

The new Student Recreation North Building presents an opportunity to alleviate the issue of overcrowding identified in existing facilities. By expanding the space dedicated to gym areas and strategically scheduling gym hours to distribute patron usage, UBC Recreation can enhance the workout experience for all students. The addition of new workout areas, providing more equipment options, and utilizing outdoor spaces can ensure that all students, including those with disabilities, have equal access to facilities without the discomfort and barriers created by overcrowding.

Membership Cost and Flexibility

In light of the financial barriers highlighted by students, it is recommended that UBC Recreation re-evaluate its membership pricing structure. A sliding scale fee based on income, subsidized memberships for students with documented financial need, and flexible payment options such as pay-per-use or month-to-month memberships could provide more equitable access to fitness resources. Implementing a trial period for new students, potentially at the start of their enrollment, could also encourage greater participation and retention, while allowing students to assess the value of services relative to cost. Additionally, introducing off-peak pricing as an option for lower fees during non-peak hours could potentially offset both the financial and scheduling burdens of students with more rigid budgets and availability. The provision of sensory-sensitive fitness hours (as recommended above), funded by the annual UBC Athletics and Recreation fee, could create more equitable access for SWD who may be unable to reap the benefits of other "covered" fitness offerings. For instance, students with mobility challenges may be unable to meaningfully access "free" skating, despite having paid their Athletics and Recreation fee. Offering one or more "free" sensory-sensitive fitness hours would ensure that SWD could benefit from the fee, leveling the playing field between them and their able-bodied, neurotypical peers. Finally, the process for opting out of the UBC Athletics and Recreation fee should be simplified, particularly for SWD who may face unique barriers to participation.

Staff Training and Education

Our research underlines the necessity for regular, comprehensive staff training on disability awareness, etiquette, and communications. Training programs should focus on increasing understanding of the diverse needs of SWD, improving communication skills, and providing practical knowledge on assisting with specialized equipment. Inclusivity training

should be an ongoing requirement for all staff members, ensuring that they are equipped to create a supportive and understanding environment for all gym users. It will also be beneficial to encourage staff to understand the unique challenges faced by SWD who utilize the fitness facilities through empathy-building exercises.

Conclusion

In this research study, we delved into the lived experiences of UBC SWD who engage with fitness facilities on campus. Our findings shed light on the multifaceted challenges faced by these students and emphasize the need for proactive measures to enhance their inclusion. While conducting our research, it has become apparent that students grapple with the decision to disclose their disabilities. The visibility of disability influences their comfortability and interactions within fitness spaces. While UBC Recreation has made strides in providing accommodations, gaps still persist which have been identified within the responses of our survey. Tailored and adapted support services are crucial for ensuring equitable access to all students who want to utilize fitness facilities on campus.

Our conservative recruitment target of 110 individuals, representing 2% of the CfA population, was met through our efforts of consulting Sarah Knitter, Kuan Foo, and Dickson Ng to share the survey with the CfA student email list, as well as sharing the survey on personal social media platforms, the Disabilities United Collective (DUC) Discord server, and the distribution of our posters throughout main hubs of UBC campus. After applying exclusion criteria to 242 participants who attempted the survey, the survey received 206 eligible responses which provided our study with ample qualitative and quantitative data.

This study illuminates the critical factors influencing gym choice among SWD at UBC, providing a foundational understanding that can guide the development of more inclusive fitness

environments. It calls for a collaborative effort among university administrators, fitness centre designers, and policymakers to address the identified barriers, ensuring that the benefits of physical activity are accessible to all members of the university community. In our pursuit of health and well-being, ensuring that fitness facilities become spaces where every student, regardless of ability, feels welcomed, supported, and empowered, is of utmost importance. By addressing the barriers identified within this study, we can create a campus environment that truly embodies the principles of accessibility and inclusion. By acknowledging the valued perspectives of SWD with regards to affordability, accessibility, and atmosphere, we strive to inform and empower UBC Recreation to implement meaningful, positive, and actionable improvements to their fitness facilities, addressing both tangible and intangible aspects.

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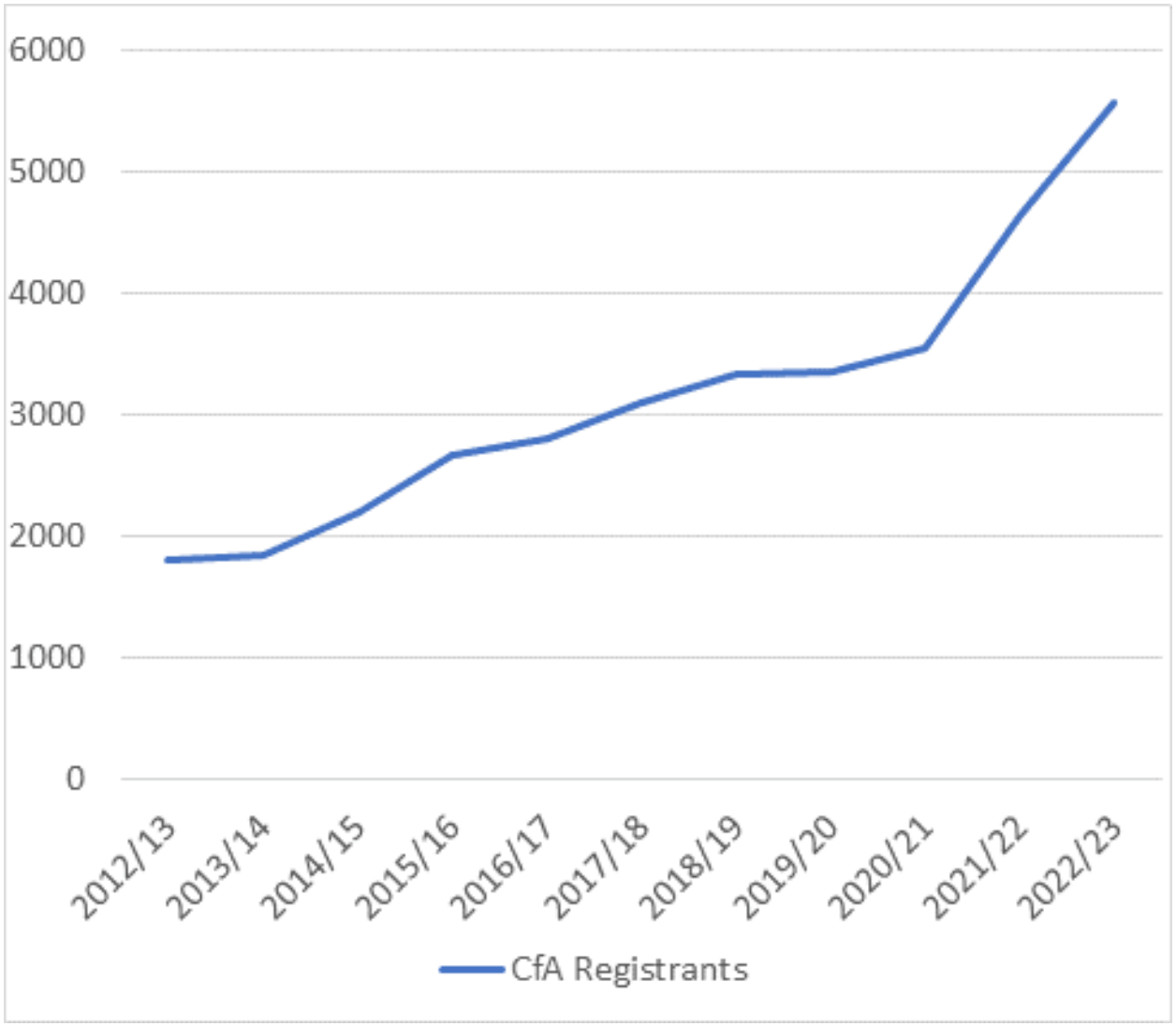
Appendix A: Figures and Graphs

Figure 1

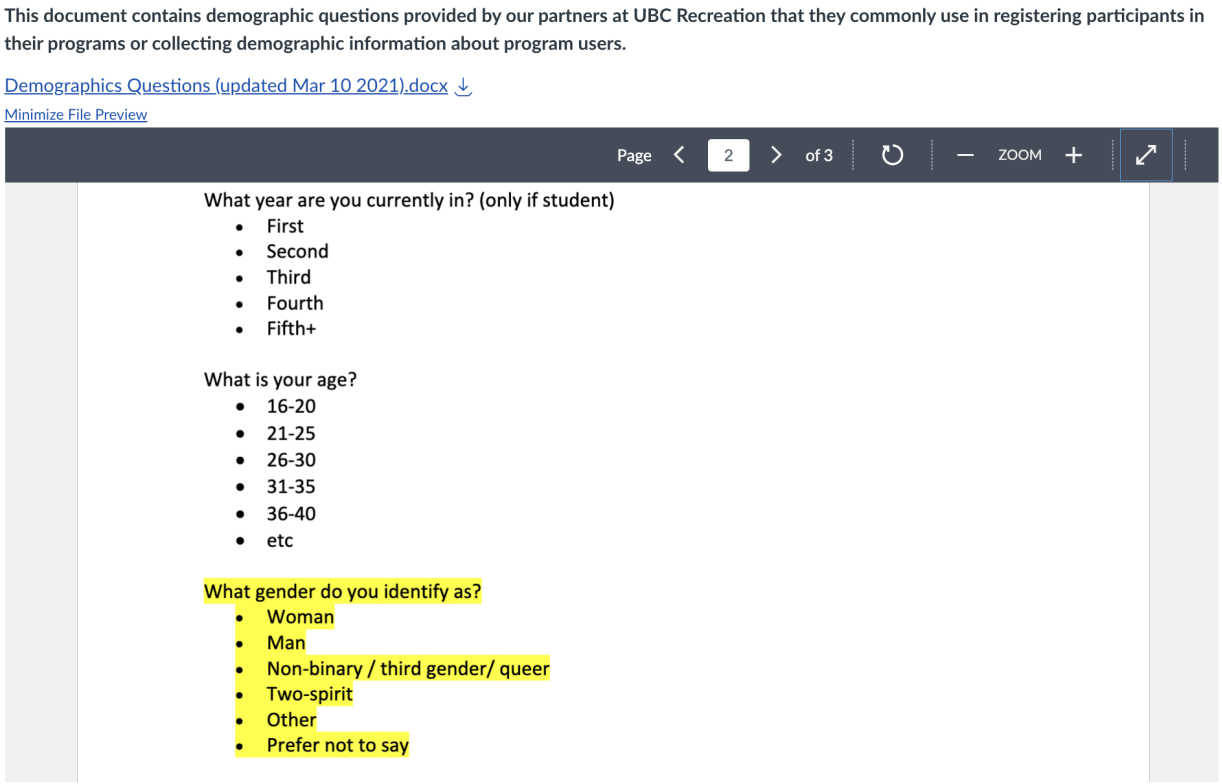
Number of Students Registered with the Centre for Accessibility by Year



Note. From Sarah Knitter, Co-director of the UBC Centre for Accessibility, 2024.

Figure 2

Template for Asking Gender-Inclusive Demographic Questions on Surveys



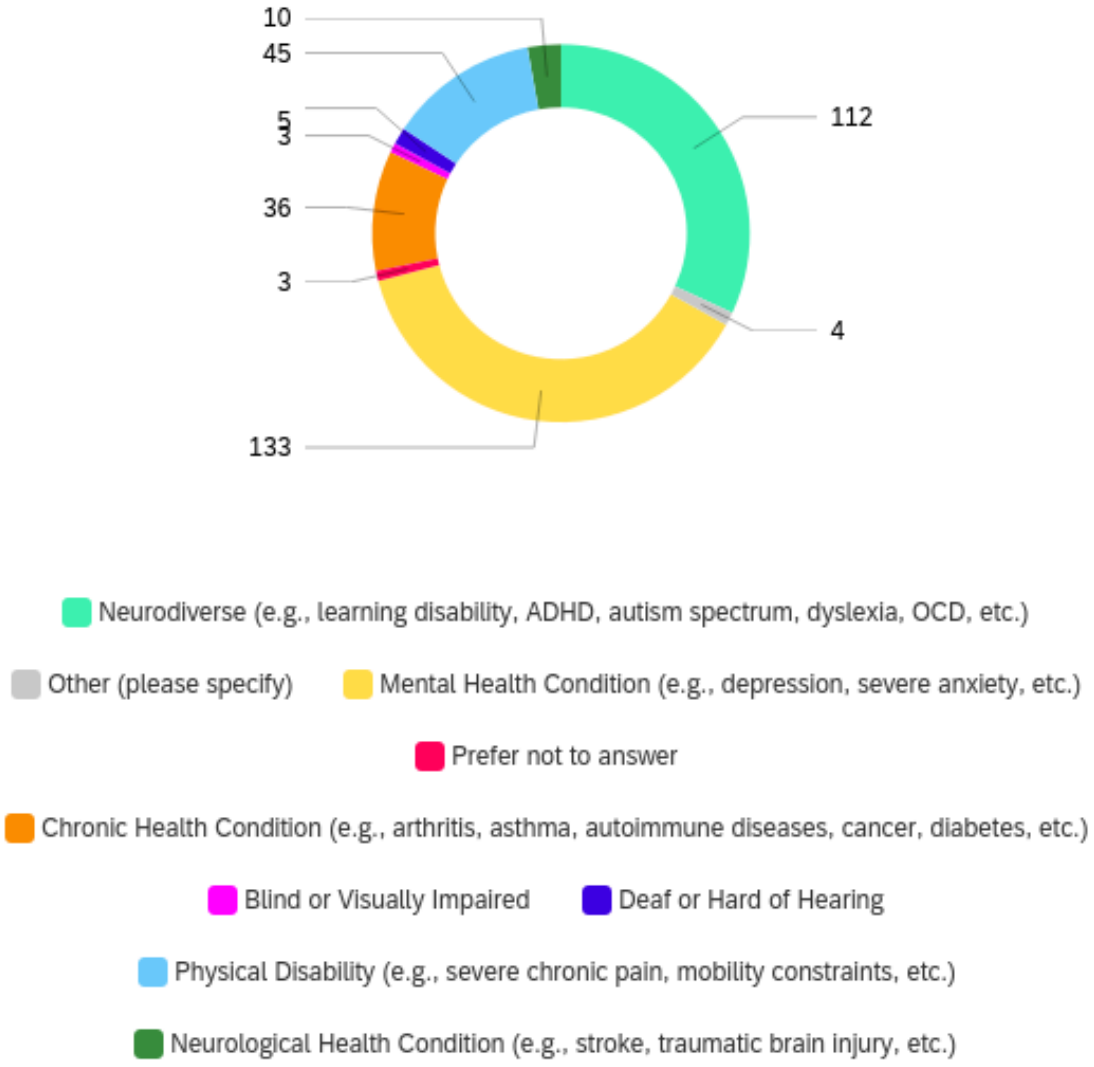
Note. From Emily Jarvis, Physical Activity Coordinator at UBC Recreation, 2021.

Figure 3

Qualtrics Survey Recruitment Poster

Figure 4

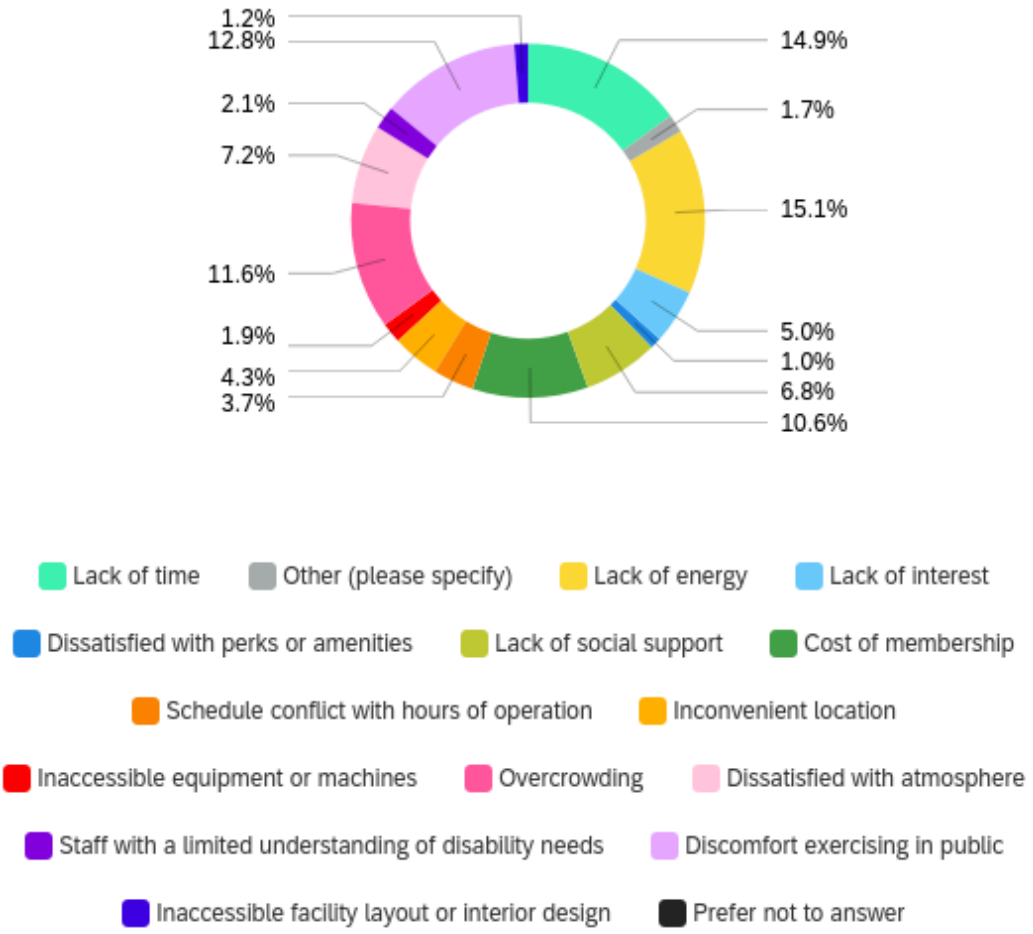
Disability Type by Number of Participants



Note. From Group 20 - Disability Considerations for Choosing a Fitness Centre; Question 5 - "How would you describe your disability or chronic health condition? (please select all that apply)". UBC Qualtrics, 2024.

Figure 5

Barriers to Participating in Regular Physical Activity at a Fitness Centre by Percentage



Note. From Group 20 - Disability Considerations for Choosing a Fitness Centre; Question 11 - "What barriers prevent you from participating in regular physical activity at a fitness centre? (please select all that apply)". UBC Qualtrics, 2024.

Appendix B - Tables

Table 1

Factors in Choosing a Fitness Facility Ranked from 1 Through 5

#	Factors in Choosing a Fitness Facility	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Cost of membership	1.00	5.00	2.12	1.33	1.77	162
2	Flexible membership options	1.00	5.00	3.16	1.33	1.78	51
3	Proximity to location of residence, study, or work	1.00	5.00	2.25	1.23	1.51	159
4	Accessibility of equipment and machines (e.g., active hands gripping aids, adaptive treadmills, etc.)	1.00	5.00	3.30	1.27	1.60	23
5	Accessibility of design and layout (e.g., ramps, support rails, accessible washrooms, etc.)	1.00	5.00	3.20	1.33	1.76	15
6	Staff with a good understanding of inclusive design principles	1.00	5.00	3.04	1.40	1.96	28
7	Hours of operation	1.00	5.00	3.40	1.14	1.31	103
8	Equipment variety and availability	1.00	5.00	2.98	1.27	1.61	112
9	Training options (e.g., group versus individual personal training)	1.00	5.00	3.53	1.09	1.19	32
10	Atmosphere (e.g., interior design, spaciousness, colours, lighting, music)	1.00	5.00	3.62	1.35	1.82	100
11	Cleanliness of facility	1.00	5.00	3.58	1.28	1.65	101
12	Complimentary perks (e.g., guest passes, free trial period)	1.00	5.00	3.22	1.18	1.40	18
13	Amenities (e.g., massages, saunas, tanning beds, smoothies, etc.)	1.00	5.00	4.19	0.96	0.93	31
14	Accessibility of parking	1.00	5.00	4.18	1.27	1.60	11
15	Other (please specify)	1.00	5.00	3.29	1.62	2.63	14

Note. From Group 20 - Disability Considerations for Choosing a Fitness Centre; Question 12 - "If you were choosing a fitness facility, which factors would be most important to you? (rank your top 5 factors from 1 through 5)". UBC Qualtrics, 2024.

Table 2

Importance of ARC Accessibility Features to Participant Access and Participation

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Accessible gate to the ARC Fitness Centre	1.00	7.00	4.22	1.95	3.79	79
2	SYNRGY cable unit provides accessible cable training options	1.00	7.00	4.24	1.90	3.60	72
3	Identified areas in the functional area provides space for accessible training	1.00	7.00	4.85	2.00	4.01	84
4	Concept 2 Ski Erg provides accessible upper body cardio and strength training	1.00	7.00	4.25	2.05	4.19	72
5	Matrix Krankcycle provides an accessible option for upper body cardio and strength training	1.00	7.00	4.15	1.98	3.94	74
6	2 squat racks and 1 Smith Machine are accessible at grade	1.00	7.00	5.03	1.99	3.95	74
7	Individuals can request use of a variety of straps and grips from Active Hands to assist with accessible weight training	1.00	7.00	4.86	1.98	3.91	76
8	UBC Life Building is accessible with automatic doors at the north and south sides of the building	1.00	7.00	4.85	1.86	3.47	89
9	Elevator from the Main Level of the UBC Life Building to the basement level where the ARC is located	1.00	7.00	4.82	1.90	3.62	84
10	Main doors to the ARC on the basement level are automatic and accessible	1.00	7.00	4.93	1.83	3.34	88
11	Gendered and Universal washrooms, shower stalls, and change areas available	1.00	7.00	5.35	1.90	3.61	88
12	Accessible washroom stalls, shower stalls, and change areas in all gendered and universal areas	1.00	7.00	5.03	1.84	3.38	86
13	ARC Main Level Spin Studio accessible from east side of UBC Life Building (no automatic doors)	1.00	7.00	4.49	2.01	4.05	80
14	ARC Lower Level Studio location of Women's (Trans Welcome) & 2STNB Fitness Hours	1.00	7.00	5.19	1.94	3.78	80

Note. From Group 20 - Disability Considerations for Choosing a Fitness Centre; Question 15 - "Please indicate how important each of these features are (or have been) to your access and participation at the ARC Fitness Centre". UBC Qualtrics, 2024.

Appendix C: Qualtrics Survey

Group 20 - Disability Considerations for Choosing a Fitness Centre

Start of Block: Default Question Block - Landing Page

Q0
CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)
Participant Consent Form - Disability Considerations for Choosing a Fitness Centre - Group 20
Project ID: H17-03560-A017
Principal Investigator: Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)

The purpose of the class project: To gather knowledge and expertise from community members on accessible and disability-informed approaches to design and programming delivery in fitness facilities. Currently, UBC Recreation manages two fitness centres on campus (ARC & BirdCoop), with the opening of the Student Recreation North Building scheduled for 2025, expanding gym options on campus. This student-led research project seeks to understand how fitness centres can effectively attract and retain users with disabilities while informing the design of the new UBC recreation facility. We are particularly interested in the experiences of students with disabilities on the Vancouver campus. To operationalize this demographic, we invite responses from UBC students who self-identify as having a disability, regardless of formal diagnosis. Through this research, we aim to enhance and expand accessibility options within UBC's fitness and recreational spaces.

Study Procedures: With your permission, we are asking you to participate in a survey. You may only complete each survey once. With the information gathered, students will critically examine how different individuals understand or engage in health promoting activities or health promotion initiatives.

Project outcomes: The information gathered will be part of a written report for the class project. The written report will be shared with campus partners involved with the project. Summaries of findings will also be posted on the following websites. UBC SEEDS

Program Library:
https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library No personal information/information that could identify participants will be included in these reports or shared with campus partners.

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 the research is paramount, and no names of participants will be linked to the data collected. At the completion of the course, all data (i.e. notes) and signed consent forms will be stored on a secure electronic drive by Dr. Bundon. All data and consent forms will be destroyed 1 year after completion of the course.

Risks: The risks associated with participating in this research are minimal. There are no known physical, economic, or social risks associated with participation in this study. You should know that your participation is completely voluntary and you are free to withdraw from the study and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study: If you have any questions about this class project, you can contact Andrea Bundon by email at andrea.bundon@ubc.ca

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

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

By proceeding with this survey, I am confirming I have read the above information and agree to participate in this research project.

End of Block: Default Question Block - Landing Page

Start of Block: Block 1 - Demographic Profile

Q1a Are you currently enrolled as a student at UBC Vancouver?

- o Yes (1)
- o No (2)

Display This Question:

If Q1a = No

Q1b Thank you for your participation. At this time we are only accepting responses from current UBC students who attend the Vancouver campus.

Display This Question:

If Q1a = Yes

Q2a Do you identify as a person with a disability?

- o Yes (1)
- o No (2)

Display This Question:

If Q2a = No

Q2b Thank you for your participation. At this time we are only accepting responses from students with disabilities.

Display This Question:

If Q2a = Yes

Q3 Have you been diagnosed with a disability or chronic condition by a qualified medical practitioner?

- o Yes (1)
- o No (2)
- o Prefer not to answer (4)

Display This Question:

If Q2a = Yes

Q4 Are you registered with the Centre for Accessibility?

- o Yes (1)
- o No (2)
- o Prefer not to answer (4)

Display This Question:

If Q2a = Yes

Q5 How would you describe your disability or chronic condition? (please select all that apply)

- ▢ Deaf or Hard of Hearing (2)
- ▢ Blind or Visually Impaired (1)
- ▢ Mental Health Condition (e.g., depression, severe anxiety, etc.) (5)
- ▢ Physical Disability (e.g., severe chronic pain, mobility constraints, etc.) (3)
- ▢ Neurological Health Condition (e.g., stroke, traumatic brain injury, etc.) (4)
- ▢ Neurodiverse (e.g., learning disability, ADHD, autism spectrum, dyslexia, OCD, etc.) (9)
- ▢ Chronic Health Condition (e.g., arthritis, asthma, autoimmune diseases, cancer, diabetes, etc.) (7)
- ▢ Other (please specify) (6) _____
- ▢ Prefer not to answer (8)

Page Break

Display This Question:

If Q2a = Yes

Q6 What is your gender identity?

- o Woman (1)

- o Man (2)
- o Non-binary / third gender / queer (3)
- o Two-spirit (4)
- o Other (please specify) (5) _____
- o Prefer not to answer (6)

Display This Question:

If Q2a = Yes

Q7 Do you have lived experience as a trans person (meaning that your gender identity does not align with your sex assigned at birth)?

- o Yes (1)
- o No (2)
- o Prefer not to answer (3)

Page Break

Q8 Do you currently attend any of the following fitness facilities?

- ▢ UBC Activities & Recreation Centre (ARC) (1)
- ▢ UBC BirdCoop Fitness Centre (2)
- ▢ Another fitness facility on campus (6)

- ▢ Another fitness facility off-campus (7)
- ▢ I do not currently attend any fitness facilities (4)
- ▢ Prefer not to answer (5)

Q9 Have you ever attended any of the following fitness facilities in the past?

- ▢ UBC Activities & Recreation Centre (ARC) (1)
- ▢ UBC BirdCoop Fitness Centre (2)
- ▢ Another fitness facility on campus (3)
- ▢ Another fitness facility off-campus (4)
- ▢ I have not attended any fitness facilities (5)
- ▢ Prefer not to answer (6)

End of Block: Block 1 - Demographic Profile

Start of Block: Block 2 - Fitness Facility Questions

Display This Question:

If Q2a = Yes

Q10 How frequently do you exercise at a fitness facility?

- o 1-2 times per month (1)
- o 1-2 times per week (2)

- o 3-5 times per week (3)
- o 6-7 times per week (4)
- o I do not currently attend a fitness facility (5)
- o Prefer not to answer (6)

Display This Question:

If Q10 = 1-2 times per month

Or Q10 = I do not currently attend a fitness facility

Q11 What barriers prevent you from participating in regular physical activity at a fitness centre? (please select all that apply)

- ▢ Lack of time (1)
- ▢ Lack of energy (2)
- ▢ Lack of interest (3)
- ▢ Lack of social support (4)
- ▢ Cost of membership (5)
- ▢ Inconvenient location (6)
- ▢ Inaccessible equipment or machines (8)
- ▢ Inaccessible facility layout or interior design (13)
- ▢ Staff with a limited understanding of disability needs (15)
- ▢ Schedule conflict with hours of operation (7)
- ▢ Dissatisfied with perks or amenities (12)

- ▢ Discomfort exercising in public (16)
- ▢ Dissatisfied with atmosphere (9)
- ▢ Overcrowding (14)
- ▢ Other (please specify) (10) _____
- ▢ Prefer not to answer (11)

Page Break

Display This Question:

If Q2a = Yes

Q12 If you were choosing a fitness facility, which factors would be most important to you? (please rank your **top 5** factors from 1 through 5):

_____ Cost of membership (1)
_____ Flexible membership options (4)
_____ Proximity to location of residence, study, or work (2)
_____ Accessibility of equipment and machines (e.g., active hands gripping aids, adaptive treadmills, etc.) (3)
_____ Accessibility of design and layout (e.g., ramps, support rails, accessible washrooms, etc.) (12)
_____ Staff with a good understanding of inclusive design principles (13)
_____ Hours of operation (5)
_____ Equipment variety and availability (6)
_____ Training options (e.g., group versus individual personal training) (7)
_____ Atmosphere (e.g., interior design, spaciousness, colours, lighting, music) (8)

_____ Cleanliness of facility (15)
_____ Complimentary perks (e.g., guest passes, free trial period) (9)
_____ Amenities (e.g., massages, saunas, tanning beds, smoothies, etc.) (10)
_____ Accessibility of parking (14)
_____ Other (please specify) (11)

Page Break

Display This Question:

If Q2a = Yes

Q13a According to the UBC Recreation website listed below, UBC student fitness memberships cost $42.50 per term in the regular winter session. This membership provides unlimited access to the ARC and BirdCoop fitness centres.

https://recreation.ubc.ca/fitness-classes/memberships/

Regardless of your current membership status, please indicate how affordable this is (or would be) for you on the following scale:

	Very unaffordable (1)	Somewhat unaffordable (2)	Slightly unaffordable (3)	Neither affordable nor unaffordable (4)	Slightly affordable (5)	Somewhat affordable (6)	Very affordable (7)

How affordable is a gym membership that would cost you $42.50 per term? (14)	o	o	o	o	o	o	o

Display This Question:

If Q2a = Yes

Q13b Please answer the following additional questions related to the cost of a fitness membership at UBC Recreation:

	Very unlikely (1)	Somewhat unlikely (2)	Slightly unlikely (3)	Neither likely nor unlikely (4)	Slightly likely (5)	Somewhat likely (6)	Very likely (7)
How likely are you to pay for a gym membership that costs	o	o	o	o	o	o	o

$42.50/term? (1)							
How likely would you be to pay for a gym membership that costs $35/term? (2)	o	o	o	o	o	o	o
How likely would you be to pay for a gym membership that costs $50/term? (4)	o	o	o	o	o	o	o

Display This Question:

If Q2a = Yes

Q14 Is there anything you would like to share with us regarding the affordability of fitness memberships at UBC Recreation?

_____

_____

_____

_____

_____

Page Break

Display This Question:

If Q2a = Yes

And Q8 = UBC Activities & Recreation Centre (ARC)

Or If

Q2a = Yes

And Q9 = UBC Activities & Recreation Centre (ARC)

Q15 According to the UBC Recreation website listed below, the ARC Fitness Centre provides several accessibility features.

https://recreation.ubc.ca/2023/08/14/ability-accessibility-accommodations/

Please indicate how **important** each of these features are (or have been) to your access and participation at the **ARC Fitness Centre**:

	Very unimportant (1)	Somewhat unimportant (2)	Slightly unimportant (3)	Neither important nor unimportant (4)	Slightly important (5)	Somewhat important (6)	Very important (7)	Not familiar/Not applicable (8)
Accessible gate to the ARC Fitness Centre (1)	o	o	o	o	o	o	o	o
SYNRGY cable unit provides **accessible cable training** options (2)	o	o	o	o	o	o	o	o
Identified areas in the functional area provides **space for accessible training** (3)	o	o	o	o	o	o	o	o

Concept 2 Ski Erg provides **accessible upper body** cardio and strength training (4)	o	o	o	o	o	o	o	o
Matrix Krankcycle provides an **accessible option for upper body** cardio and strength training (5)	o	o	o	o	o	o	o	o
2 squat racks and **1 Smith Machine** are **accessible at grade** (6)	o	o	o	o	o	o	o	o

Individuals can request use of a variety of **straps and grips** from **Active Hands** to assist with **accessible weight training** (7)	o	o	o	o	o	o	o	o
UBC Life Building is accessible with **automatic doors at the north and south sides** of the building (8)	o	o	o	o	o	o	o	o

Elevator from the **Main Level of the UBC Life Building to the basement level** where the ARC is located (9)	o	o	o	o	o	o	o	o
Main doors to the ARC on the basement level are **automatic and accessible** (10)	o	o	o	o	o	o	o	o

Gendered and Universal washrooms, shower stalls, and change areas available (11)	o	o	o	o	o	o	o	o
Accessible washroom stalls, shower stalls, and change areas in all gendered and universal areas (12)	o	o	o	o	o	o	o	o

ARC Main Level Spin Studio accessible from east side of UBC Life Building **(no automatic doors)** (13)	o	o	o	o	o	o	o	o
ARC Lower Level Studio location of **Women's (Trans Welcome) & 2STNB Fitness Hours** (14)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

And Q8 = UBC BirdCoop Fitness Centre

Or If

Q2a = Yes

And Q9 = UBC BirdCoop Fitness Centre

Q16 According to the UBC Recreation website listed below, the BirdCoop Fitness Centre provides several accessibility features.

https://recreation.ubc.ca/2023/08/14/ability-accessibility-accommodations/

Please indicate how **important** each of these features are (or have been) to your access and participation at the **BirdCoop Fitness Centre**:

	Very unimportant (1)	Somewhat unimportant (2)	Slightly unimportant (3)	Neither important nor unimportant (4)	Slightly important (5)	Somewhat important (6)	Very important (7)	Not familiar/Not applicable (8)
Ramps leading to the **North and West entrances** of the Student Recreation Centre (SRC) (1)	o	o	o	o	o	o	o	o

Automatic doors at the **North entrance** for accessibility (2)	o	o	o	o	o	o	o	o
Universal and accessible washrooms and change rooms across the hall from the BirdCoop (3)	o	o	o	o	o	o	o	o
Change rooms with **accessible gendered shower stalls and washroom stalls** (4)	o	o	o	o	o	o	o	o
Elevator to the **second level** of the SRC/gymnasiums (5)	o	o	o	o	o	o	o	o
BirdCoop Fitness Centre has an **accessible gate** (6)	o	o	o	o	o	o	o	o

Areas in the **SRC Studio** and **BirdCoop** Fitness Centre offer **functional accessible areas** (7)	o	o	o	o	o	o	o	o
2 squat racks with **accessible ramps** for access (8)	o	o	o	o	o	o	o	o
SYNRGY cable unit is **accessible** (9)	o	o	o	o	o	o	o	o
Individuals can request use of a variety of **straps and grips** from **Active Hands** to assist with **accessible weight training** (10)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

And Q8 = UBC Activities & Recreation Centre (ARC)

Or If

Q2a = Yes

And Q9 = UBC Activities & Recreation Centre (ARC)

Or If

Q2a = Yes

And Q8 = UBC BirdCoop Fitness Centre

Or If

Q2a = Yes

And Q9 = UBC BirdCoop Fitness Centre

Q17 Please indicate your **level of satisfaction** with each of the accessibility features provided by the ARC and/or BirdCoop fitness centres:

	Very unsatisfied (1)	Somewhat unsatisfied (2)	Slightly unsatisfied (3)	Neither satisfied nor unsatisfied (4)	Slightly satisfied (5)	Somewhat satisfied (6)	Very satisfied (7)	I have not previously accessed or used this

								feature (8)
Accessible entrances and pathways (1)	o	o	o	o	o	o	o	o
Accessible washrooms, change rooms, and shower areas (2)	o	o	o	o	o	o	o	o
Gender-inclusive washrooms, change rooms, shower areas, and other spaces (5)	o	o	o	o	o	o	o	o
Accessible workout equipment and	o	o	o	o	o	o	o	o

machines (3)								
Inclusive and disability-informed staff members (4)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

And Q8 = Another fitness facility on campus

Or If

Q2a = Yes

And Q9 = Another fitness facility on campus

Or If

Q2a = Yes

And Q8 = Another fitness facility off-campus

Or If

Q2a = Yes

And Q9 = Another fitness facility off-campus

Q18 Please indicate how **important** each of the following accessibility features are (or have been) to your access and participation at the fitness centres you visit (or have visited), **excluding** those operated by UBC Recreation:

	Very unimportant (1)	Somewhat unimportant (2)	Slightly unimportant (3)	Neither important nor unimportant (4)	Slightly important (5)	Somewhat important (6)	Very important (7)	I have not previously accessed or used this feature (8)
Accessible entrances and pathways (1)	o	o	o	o	o	o	o	o
Accessible washrooms, change rooms, and shower areas (2)	o	o	o	o	o	o	o	o

Gender-inclusive washrooms, change rooms, shower areas, and other spaces (5)	o	o	o	o	o	o	o	o
Accessible workout equipment and machines (3)	o	o	o	o	o	o	o	o
Inclusive and disability-informed staff members (4)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

And Q8 = Another fitness facility on campus

Or If

Q2a = Yes

And Q9 = Another fitness facility on campus

Or If

Q2a = Yes

And Q8 = Another fitness facility off-campus

Or If

Q2a = Yes

And Q9 = Another fitness facility off-campus

Q19 Please indicate your **level of satisfaction** with the accessibility features offered by the fitness centres you visit (or have visited), **excluding** those operated by UBC Recreation:

	Very unsatisfied (1)	Somewhat unsatisfied (2)	Slightly unsatisfied (3)	Neither satisfied nor unsatisfied (4)	Slightly satisfied (5)	Somewhat satisfied (6)	Very satisfied (7)	I have not previously accessed or used this feature (8)

Accessible entrances and pathways (1)	o	o	o	o	o	o	o	o
Accessible washrooms, change rooms, and shower areas (2)	o	o	o	o	o	o	o	o
Gender-inclusive washrooms, change rooms, shower areas, and other spaces (5)	o	o	o	o	o	o	o	o
Accessible workout equipment and machines (3)	o	o	o	o	o	o	o	o

Inclusive and disability-in formed staff members (4)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

And Q8 = Another fitness facility on campus

Or If

Q2a = Yes

And Q8 = Another fitness facility off-campus

Or If

Q2a = Yes

And Q9 = Another fitness facility on campus

Or If

Q2a = Yes

And Q9 = Another fitness facility off-campus

Q20 Is there anything you would like to share with us regarding the accessibility features of the fitness centres you visit (or have visited), excluding those operated by UBC Recreation?

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_____

Display This Question:

If Q2a = Yes

Q21 Is there anything you would like to share with us regarding the accessibility of fitness facilities operated by UBC Recreation?

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_____

_____

_____

_____

Page Break

Display This Question:

If Q2a = Yes

Q22 The UBC Recreation website, listed below, contains several resource forms for inclusive recreation.

https://recreation.ubc.ca/home/inclusive-rec/

Please indicate your **level of familiarity** with and **your use of** the following inclusive resource forms listed on the UBC Recreation website:

	Not familiar and **have not used** before (1)	**Familiar** but **have not used** before (2)	**Familiar** and **have used** before (3)
Care Attendant Request Form (a.k.a. Inclusion Attendant Form) (1)	o	o	o

Support or Accommodation Form (a.k.a. Exceptionalities Request and Inquiry Form) (2)	o	o	o
Inclusivity and Accessibility Feedback Form (3)	o	o	o

Display This Question:

If Q22 = Familiar and have used before

Or Q22 = Familiar but have not used before

Q23 Please indicate your **level of satisfaction** with the inclusive resource forms that you have used before:

	Very unsatisfied (1)	Somewhat unsatisfied (2)	Slightly unsatisfied (3)	Neither satisfied nor unsatisfied (4)	Slightly satisfied (5)	Somewhat satisfied (6)	Very satisfied (7)	Not applicable (8)

Care Attendant Request Form (a.k.a. Inclusion Attendant Form) (1)	o	o	o	o	o	o	o	o
Support or Accommodation Form (a.k.a. Exceptionalities Request and Inquiry Form) (2)	o	o	o	o	o	o	o	o
Inclusivity and Accessibility Feedback Form (3)	o	o	o	o	o	o	o	o

Display This Question:

If Q2a = Yes

Q24 Is there anything you would like to share with us regarding the inclusive resource forms listed on the UBC Recreation website?

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Page Break

Display This Question:

If Q2a = Yes

Q25 Considering the atmosphere of your **ideal gym choice**, please indicate how **important** each of the following factors are (or would be) to your participation:

	Very unimportant (1)	Somewhat unimportant (2)	Slightly unimportant (3)	Neither important nor unimportant (4)	Slightly important (5)	Somewhat important (6)	Very important (7)	Not applicable (8)
Music (2)	o	o	o	o	o	o	o	o

Lighting (1)	o	o	o	o	o	o	o	o
Colours (5)	o	o	o	o	o	o	o	o
Noise level (3)	o	o	o	o	o	o	o	o
Crowding (6)	o	o	o	o	o	o	o	o
Spaciousness (4)	o	o	o	o	o	o	o	o
Friendly people (8)	o	o	o	o	o	o	o	o
Welcoming staff (7)	o	o	o	o	o	o	o	o

Display This Question:

If Q2a = Yes

And Q8 = UBC Activities & Recreation Centre (ARC)

Or If

Q2a = Yes

And Q8 = UBC BirdCoop Fitness Centre

Or If

Q2a = Yes

And Q9 = UBC Activities & Recreation Centre (ARC)

Or If

Q2a = Yes

And Q9 = UBC BirdCoop Fitness Centre

Q26 Considering the **atmosphere** of UBC Recreation's fitness facilities (ARC and BirdCoop), please indicate your **level of satisfaction** with the following factors:

	Very unsatisfied (1)	Somewhat unsatisfied (2)	Slightly unsatisfied (3)	Neither satisfied nor unsatisfied (4)	Slightly satisfied (5)	Somewhat satisfied (6)	Very satisfied (7)	Not applicable (8)
Music (2)	o	o	o	o	o	o	o	o
Lighting (1)	o	o	o	o	o	o	o	o
Colours (5)	o	o	o	o	o	o	o	o

Noise level (3)	o	o	o	o	o	o	o	o
Crowding (6)	o	o	o	o	o	o	o	o
Spaciousness (4)	o	o	o	o	o	o	o	o
Friendly people (8)	o	o	o	o	o	o	o	o
Welcoming staff (7)	o	o	o	o	o	o	o	o

Page Break

Display This Question:

If Q2a = Yes

Q27 According to the UBC Recreation website listed below, the UBC Aquatic Centre offers a Sensory Sensitive Swim Time every Wednesday morning from 9:00-10:15 AM.

https://recreation.ubc.ca/2023/09/18/new-2stnb-sensory-sensitive-swim-times/

If gym facilities at UBC Recreation added a Sensory Sensitive Fitness Hour to their weekly operations, how **likely** would you be to utilize it?

- o Very likely (1)
- o Somewhat likely (2)
- o Slightly likely (3)
- o Neither likely nor unlikely (4)
- o Slightly unlikely (5)
- o Somewhat unlikely (6)
- o Very unlikely (7)
- o Not applicable/prefer not to say (8)
- o Other (please specify) (9) _____

Page Break

Display This Question:

If Q2a = Yes

Q28 Is there anything you would like to share with us regarding the atmosphere of UBC Recreation's fitness facilities?

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_____

_____

_____

_____

End of Block: Block 2 - Fitness Facility Questions

Start of Block: Block 3

Q29 Thank you for completing the survey. The following page will redirect you to a new survey where you can enter the draw for prizes (2 lululemon yoga mats and 4 UBC Athletics Prize Packs).

You will need our group number to enter the draw - GROUP 20

End of Block: Block 3