

Assessing Community Needs and Opportunities: Enhancing UBC Active Kids Programming

Group 3

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Active Kids

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Executive Summary

Background and Purpose

The rising concern over sedentary lifestyles among children and adolescents prompted this investigation into barriers influencing participation in recreational physical activity programs within the UBC Vancouver community such as UBC Active Kids. UBC Active Kids offers a wide variety of youth sports programs. With an increasing focus on the health and well-being of children and adolescents, understanding these barriers are crucial for promoting active and healthy lifestyles.

Methods

A cross-sectional observational study design was employed, using an anonymous online survey administered through Qualtrics. The survey consisted of a mix of open-ended, scale, and close-ended questions, targeting caregivers of children and adolescents between the ages of 1.5 to 18 years old residing on the UBC Vancouver campus. Recruitment aimed to gather a minimum of 60 participants within a three-week timeframe, employing various distribution methods including posters, social media, and email. The survey incorporated elements of the Health Belief Model to gain insights into health behaviors influencing families' experiences in the Active Kids program.

Key Findings

Our findings revealed a significant lack of awareness about the UBC Active Kids program among UBC residents, with only 65% of participants being aware of its existence. Additionally, issues with program availability and registration posed significant barriers to participation. Common barriers included time constraints, financial concerns, and unfamiliarity with available programs. Notably, while cultural, language, and gender-specific barriers were less frequently cited, their impact may be underestimated due to the limited representation of newcomers in our study.

Recommendations

Based on our findings, we propose several recommendations to enhance participation in the Active Kids program. Firstly, increasing program awareness through targeted social media campaigns can address the lack of awareness and understanding of programs. Secondly, optimizing the registration process by prioritizing UBC community members and adjusting registration timings can address issues related to program availability. Thirdly, catering to cultural preferences by introducing culturally specific activities, starting with popular sports like cricket, can enhance inclusivity. Lastly, providing financial support through grants for low-income families can address the significant financial barrier hindering participation.

Conclusion

In conclusion, our study sheds light on the unique and common barriers affecting participation in the Active Kids program among UBC Vancouver residents. By implementing the recommended strategies, we aim to foster a supportive environment that encourages active participation, ultimately promoting the overall health and well-being of children and adolescents in the UBC Vancouver community.

Introduction

Physical activity offers many benefits to children and adolescents, including improved well-being, bone health, and cardiorespiratory fitness (Landry & Driscoll, 2012). Physical activity refers to the movement of the body that encompasses a wide range of activities, including exercise, sports, recreational activities, and activities of daily living (WHO, 2022). Currently, only 7% of Canadian children and youth (McGregor et al., 2019), meet the daily recommendation of 60 minutes of moderate-to-vigorous intensity physical activity for those aged 5-17 years old (WHO, 2022).

With this in mind, it is essential to provide children and adolescents with accessible opportunities to stay active. UBC Active Kids ensures that youth of all ages and abilities have access to tailored physical activity programs (UBC, n.d.b.). They offer several diverse programs, including adaptive sports, multisports, playtime, and competitive programs, as well as drop-in options and discounts, spanning various age groups and financial backgrounds (UBC, n.d.b.).

The objective of this research is to comprehend and address prevalent barriers encountered by parents and caregivers when participating in structured physical activities through the Active Kids Program. In this study, adolescents are defined as those between the ages of 10-18 years old and children are those younger than 10 years old. Additionally, parents or guardians of children and adolescents will be referred to as caregivers. This study aims to identify and develop strategies to overcome barriers, in order to boost participation and enjoyment in the Active Kids program. Through our research, we seek to understand and address the obstacles critical for fostering physical activity, well-being, and physical literacy among the UBC Vancouver campus community. Ultimately, this study is designed to align with the Active

Kids principles of offering enjoyable, inclusive, and developmentally appropriate movement experiences (UBC, 2024).

Literature Review

While various physical activity programs may be designed to promote healthy lifestyles among youth, several barriers can impact participation in them. Therefore, this literature review aims to explore the barriers expressed or experienced by caregivers that prevent their children or adolescents from engaging in physical activity programs.

Barriers

Activity Preferences and Perceptions

Jarrett et al. (2013) highlighted the critical influence of the built environment on child physical activity levels, particularly among preschool children aged 3-5 years old. Despite preschoolers generally being more physically active than older children, they still experience low physical activity levels which can contribute to the rising obesity rates, especially within low-income and minority groups (Jarrett et al., 2013). This study suggests that children spending more time outdoors tend to be more active (Jarrett et al., 2013). Therefore, the availability and maintenance of play spaces like parks and recreational facilities are pivotal, with proximity to these spaces positively correlating with physical activity levels (Jarrett et al., 2013).

Research has also shown that caregivers and preschool children prefer participating in fun outdoor activities and outdoor sport-related activities over indoor activities like watching TV (Lupu et al., 2013). However, for both adolescent and children age groups, the likelihood of caregivers allowing their children to participate in a recreational program is highly dependent on their perceptions of the program providing an enjoyable experience that is beneficial for health (Heitzler et al., 2006). Another study revealed that among outdoor activities, adolescents

preferred performing structured or recreational activities the most (Goldenberg et al., 2010). In this study, adolescent participants stated that good weather along with a fun, exciting, and stress-free environment, were the most important factors in determining their enjoyment of an outdoor recreational program (Goldenberg et al., 2010).

There are several barriers that can impact youth engagement in recreational physical activities at different age levels. One study found the influence of older siblings, the preference of children to participate in sedentary activities, like watching TV, and the priority of academic tasks by caregivers, to be the most common barriers to recreational physical activities identified by caregivers of 4-7 year-olds (Alcántara-Porcuna et al., 2021). Another study focused on both adolescents and children and identified scheduling, time constraints, fear of injury, language barriers, and poor weather as the greatest barriers to participating in recreational physical activities (Pate et al., 2011).

Caregiver Knowledge, Awareness, and Perceptions

Furthermore, caregivers can play a pivotal role in shaping their children's behaviors and attitudes toward physical activity by fostering a healthy home environment that promotes physical activity (Martino & Morelli, 2014). However, a significant barrier emerges from the lack of knowledge or awareness regarding health guidelines among caregivers (Champion et al., 2023). Champion et al. (2023) emphasized this issue, identifying substantial knowledge gaps and discrepancies between caregivers' perceived and actual understanding of health guidelines, particularly among those with adolescent children. To overcome this, Champion et al. (2023) suggest web-based preventive interventions could be used to bridge knowledge gaps on health guidelines and increase adolescents' health behaviors (Champion et al., 2023).

Additionally, caregiver perceptions of neighborhood safety can significantly influence children's outdoor activities (Jarrett et al., 2013). This perception often leads to restrictive caregiving practices, with girls being shielded more than boys due to perceived vulnerabilities (Jarrett et al., 2013). To address the interplay between environmental factors and caregiver perceptions, it is crucial to improve facility availability, maintenance, and safety, while also working to enhance caregivers' awareness and change restrictive parenting practices (Jarrett et al., 2013).

Time Management and Organizational Barriers

Styles et al. (2007) further emphasized caregiver barriers that can hinder children's physical activity levels. Balancing work and family commitments posed significant challenges in effective time management, with many caregivers struggling to allocate sufficient time for their children's physical activities and healthy meal preparations (Styles et al., 2007). The study found that long working hours frequently limited the amount of family time available for exercise and physical activities, with many caregivers expressing fatigue or time constraints hindering their participation in such activities with their children (Styles et al., 2007).

Additionally, a knowledge gap was evident as caregivers believed there was a lack of clarity on the recommended physical activity levels for children, leading many caregivers to underestimate the required duration and intensity of daily exercise for their children (Styles et al., 2007). Also, some caregivers found it challenging to enforce healthy eating and activity habits (Styles et al., 2007). Moreover, insufficient support and resources from the community and service providers impacted caregivers' efforts to promote healthy lifestyles for their children (Styles et al., 2007). For instance, organizations can provide financial assistance, offer transportation solutions, improve information outreach, and offer flexible program options to

better support newcomer families in accessing sports and physical activity programs (Gosai et al., 2018).

Barriers Experienced by Newcomers

One particular group of people who experience significantly more barriers to structured physical activities in Canada are newcomers (Lane et al., 2021), which refers to immigrants or refugees who have lived in Canada for less than five years (New Youth, 2023). Newcomers in Canada face challenges in recreational physical activities due to unfamiliarity with programs, safety and financial concerns, gender specific barriers, and cultural preferences (Lane et al., 2021). Moreover, physical activity levels among newcomer children and adolescents in Canada tend to be significantly lower than their age-matched domestic peers (Lacoste et al., 2020). Given the increase in the number of immigrants to Canada (Yu et al., 2020) and international students over the last two years at UBC Vancouver (Sadiq & Averill, n.d.), it is crucial to find new ways to support structured physical activities amongst them.

Gaps in the Literature

While it has been identified that the majority of Canadian youth are not meeting Canada's movement guidelines (McGregor et al., 2019), there remains a lack of research addressing specific preferences and challenges faced by newcomer families participating in the Active Kids program on the UBC Vancouver campus. The existing literature sheds light on barriers to physical activity, including environmental factors, caregiver perceptions, time constraints, and financial concerns (Heitzler et al., 2006 ; Jarrett et al., 2013; Pate et al., 2011; Styles et al., 2007). However, there is a need to delve deeper into caregiver perceptions and knowledge gaps among caregivers living on the UBC Vancouver campus, to better understand their roles and needs when it comes to their children's participation in recreational physical activity programs. With the

rising interest in web-based preventative interventions (Champion et al., 2023), it is crucial to investigate the potential need to use digital platforms to promote physical activity awareness among caregivers at UBC. Additionally, while the benefits of physical activity are widely recognized (Landry & Driscoll, 2012), there is a lack of literature focusing on the specific recreational activity preferences, program barriers, and unmet needs of families associated with the Active Kids program at UBC Vancouver. Exploring these aspects could aid in the development of tailored interventions to address the unique challenges faced by the UBC Vancouver campus community.

Research Purpose

The target population for this research study were caregivers living on the UBC Vancouver campus, as they may be able to provide insights on barriers and feedback on the programs offered at Active Kids. This research study aimed to understand and address prevalent barriers faced by caregivers and their youth when engaging in structured physical activities through the Active Kids Program. This study focused on identifying and developing strategies that can strive towards overcoming these barriers, promoting increased participation and enjoyment in the Active Kids program. By doing so, the research aimed to contribute to a broader understanding and addressing of barriers that are crucial for promoting physical activity, well-being, and physical literacy among families at UBC Vancouver. Overall, this study aimed to align with the Active Kids principles of providing fun, inclusive, and developmentally appropriate movement experiences (UBC, 2024).

In conclusion, promoting physical activity among children and adolescents is essential. Therefore, our study will address two questions. Firstly, what are the barriers affecting children and adolescents living on the UBC Vancouver Campus, thereby impeding their participation in

UBC Active Kids programs? And, secondly, how can we attempt to enhance inclusivity and remove barriers for them so they have equal and joyful access to the UBC Vancouver Active Kids programs? Currently, the programs offered at UBC Active Kids have demonstrated exceptional efforts to provide inclusive and diverse physical activity opportunities. However, by addressing the underlying factors influencing experiences or participation in Active Kids, we can attempt to create targeted interventions for UBC Active Kids programs. This in turn, can be used to make an informed effort to promote physical activity and well-being among children and adolescents residing on UBC Vancouver Campus.

Methods

Research Design

A cross-sectional observational study design was implemented in this study. In the health context, cross-sectional observational designs typically use a survey to assess the attitudes, behaviors, and knowledge subjects have regarding a particular health-promoting activity (Kesmodel, 2018). This aligns directly with our goal of identifying barriers or limitations that may be currently preventing subjects from participating in the Active Kids Program and the attitudes subjects have towards certain factors that may promote greater inclusion in the program. A cross-sectional research design allowed survey data to be collected at one point in time to provide an overview of participant responses, making it ideal for the limited time we have for our study (Lau, 2016). This is different from other research models, which are used to measure participant responses at two or more time periods to assess any changes that may have occurred over time (Lau, 2016). With the immediate knowledge gained from a cross-sectional research design, we were able to provide recommendations to the Active Kids program based on

respondents' opinions on the current Active Kids program and potential barriers they may have experienced when engaging in structured physical activities.

Participants

Since we are not able to survey children or adolescents, the target population consisted of caregivers of children and adolescents residing on the UBC Vancouver campus. This means that all caregivers of children and adolescents between the ages of 1.5 to 18 years old who are currently living on campus, were eligible to participate in our study. The exclusion criteria included those unable to read or understand English, since our survey will only be available in English. Additionally, caregivers of children younger than 1.5 years old were excluded from our study since there are no programs available at Active Kids below this age (UBC, n.d.b.).

Recruitment Target

For this study, we have established a recruitment goal of a minimum of 60 participants. This decision was informed by various factors pertinent to our target population. Firstly, the population of caregivers residing on the UBC Vancouver campus constitutes a smaller pool of potential participants. Given the timeframe allotted for data collection was approximately three weeks, aiming for at least 60 participants was both feasible and practical. It is imperative to account for the residential demographics of the campus when determining our sample size, particularly considering our study's focus on caregivers within this specific community. This approach ensured that data collection was systematic and had a clear endpoint, and it allowed us to achieve a meaningful sample size.

A study by Champion et al. (2023) conducted a survey targeting caregivers of children aged eleven to eighteen years residing in Australia and was able to gather 179 completed responses over a three-month period. Similarly, a study by Post et al. (2022) collected data

through a survey targeting caregivers whose youth were in sports programs across the United States and were able to gather 236 completed responses within a one-week timeframe. Given the vast difference in population and demographic characteristics between Australia and the United States, as well as between the UBC campus and the broader Australian population, it is essential to account for these differences when setting our target population for the UBC campus.

Considering the smaller demographic size of the UBC campus and our need to gather data within a shorter window of three weeks, our target of 60 participants was designed to ensure a representative sample from the campus community. This approach allowed us to explore the behaviors, attitudes, and perceptions surrounding structured physical activity programs within our specific demographic group within a manageable timeframe, while still receiving meaningful insights.

Data Collection

The data was collected through an anonymous and non-invasive online survey consisting of open-ended, scale and close-ended questions (see Appendix A). The survey was administered through a Qualtrics link, which complies with the BC Freedom of Information and Protection of Privacy Act, to ensure that the data is secure and remains anonymous. The survey was distributed in several ways, including a poster, social media post, and e-mail (see Appendix B). The poster was placed on bulletin boards at the gymnastics gym located at Osborne as well as in residential buildings, such as Westbrook and Arcadia Park.. The poster included a scannable QR code and link that directly took the participants to the online survey. Additionally, we went door to door at Arcadia Park and Wesbrook Village to distribute the poster to potential participants. The social media post also included a digital version of the poster and was shared on Facebook at the UBC roommates and housing page. Additionally, the link and the poster to the survey was

sent by the Outreach Office Supervisor through an email blast. The Connected Community Coordinator also assisted in the distribution of the survey by sharing the link with the Volunteers & Newcomers Program Coordinator and the University Neighborhoods Association (UNA) Newcomers Group. Furthermore, participants were informed on the poster of the chance to win one of two Lululemon yoga mats and one of four UBC athletic prize packs upon completion of the survey, as an incentive to complete the survey.

Survey Questions

The survey began with a consent form (see Appendix C) and followed with a series of questions to filter out participants who meet the exclusion criteria. In the first question, participants identified if they are a parent or caregiver of a child between the ages of 1.5 to 18 years old. This filtered out individuals who are not a parent or caregiver of a child between the ages of 1.5 to 18 years old. The next question asked participants if they currently live on the UBC Vancouver campus to filter out individuals who are not UBC residents. The following questions were a mix of close-ended, open-ended, and scale questions. In general, these questions focused on the respondent's awareness of the Active Kids program, engagement with the UBC Vancouver community, perceived benefits of physical activity, and perceptions surrounding cultural sensitivity.

Quantitative data was collected from the multiple choice and scale questions, while qualitative data was collected from the open-ended questions. The quantitative questions began with multiple-choice questions that asked participants if they had experienced any common barriers that have been known to prevent structured physical activity in other studies. This allowed us to assess if these barriers are also applicable to caregivers living on the UBC Vancouver campus. For example, participants answered if language barriers and time constraints

(Pate et al., 2011), as well as cultural preferences, financial concerns, and unfamiliarity with programs (Lane et al., 2021), have prevented them from placing their children in the Active Kids program. Additionally, participants identified how the influence of others, the preference for sedentary activities and the priority of academic tasks may have impacted their participation in the Active Kids program.

Scale-based questions were used to address the extent to which certain barriers have been experienced by participants. These questions were in the format of a Likert scale, which is useful for assessing the attitudes and feelings individuals have towards a particular activity (Batterton & Hale, 2017). Likert scale responses usually involve the following five possible answers: strongly disagree, disagree, undecided or neutral, agree, and strongly agree (Batterton & Hale, 2017). Therefore, in our scale-based questions, participants selected the extent to which they agreed with a certain statement. On the other hand, the open-ended questions allowed participants to provide information about barriers or limitations that have not yet been stated in the previous studies. In these questions, participants were given questions that allowed them to elaborate on barriers and limitations that may be specific to them or their experiences in the Active Kids program. The responses to qualitative questions were used to make recommendations to the Active Kids program based on the specific needs of caregivers living on campus.

The HBM was integrated into several questions to provide a greater understanding of health behaviors. This theory originally included the constructs of perceived susceptibility, perceived severity, perceived benefits and perceived barriers (Janz & Becker, 1984). Over time, the HBM has evolved to include additional constructs such as cues to action and self-efficacy, which play crucial roles in shaping health-related decisions and behaviors (Janz & Becker, 1984). In our survey, we asked questions that incorporated elements of the HBM to gain insight

into the factors influencing families' experiences in Active Kids. For instance, questions on perceived susceptibility assessed participants' awareness of health risks linked to physical inactivity, while inquiries on perceived severity measured their perception of the seriousness of these risks. Additionally, assessing perceived barriers gave insight into the challenges that hinder engagement in physical activities, while questions on self-efficacy assessed individuals' confidence in overcoming these barriers. We also inquired about cues to action, aiming to understand external factors motivating or facilitating participation in health-promoting behaviors. By aligning our survey with the HBM, we aimed to gain insight into key determinants of health behaviors among families living on campus.

Data Analysis

We used two data analysis methods to help us process the data we collected. The first method we used is the descriptive qualitative analysis method. As discussed in class, descriptive qualitative analysis is conducted by coding responses to our open-ended survey questions. For effective coding of our survey responses, we used deductive coding, which as discussed in class, is when we scan for responses that we were looking for in advance because of the research we previously conducted on the topic. Specifically, since our survey included open-ended questions, our deductive coding focused on “physical activity barriers” in their responses. Thematic analysis was also used to systematically analyze the responses obtained from our open-ended survey questions. Thematic analysis is a qualitative data analysis method used to identify, analyze and interpret patterns or themes within textual data. Our decision to use thematic analysis is supported by its effectiveness in uncovering meaningful insights from qualitative data, particularly in exploring complex phenomena such as physical activity barriers among caregivers residing on the UBC Vancouver campus.

Moreover, thematic analysis has been validated and utilized in previous research studies, including a systematic review conducted by Lakshman and colleagues in 2013. In their study, Lakshman et al. (2013) employed thematic analysis to investigate determinants and correlates of obesity-related dietary and physical activity behaviors in young children. By utilizing thematic analysis, Lakshman and his colleagues were able to systematically analyze a diverse range of qualitative evidence, identify key themes, and generate comprehensive insights into the factors influencing children's dietary and physical activity behaviors which is why this method had allowed us to uncover common themes and understand the nuances of participants' perceptions and experiences regarding physical activity barriers. By employing both thematic analysis and deductive coding, we aimed to systematically analyze the survey data to gain insight into the various barriers encountered by caregivers residing on the UBC campus in engaging in physical activity, specifically with UBC Active Kids. A thematic analysis also helped identify overarching themes between barriers that were not found in literature and those that were, while deducting coding allowed us to focus specifically on responses related to physical activity barriers, aligning with the objectives of our research and facilitating a comprehensive analysis of the data.

We then downloaded our responses and highlighted any phrases that mentioned physical activity barriers through deductive coding. In addition to conducting the descriptive qualitative analysis method, we used the descriptive statistical analysis method. According to our class content, a descriptive statistical analysis method is appropriate to apply to our simple closed-ended questions because descriptive statistical analysis describes a dataset and the spread of responses to closed-ended questions. We then used the Qualtrics report function to help graph and display results to our simple close-ended questions. This allowed us to view the spread of responses to each multiple-choice question. In addition to understanding the spread, we used a

descriptive statistical analysis method to describe a set of responses to our Likert scale questions to better understand the barriers that our respondents face. To visualize the data we collected from the Likert scale questions and created a bar graph to see the overall spread of responses to each question. Additionally, the visualization that is created from a bar graph allowed us to analyze the frequency distribution of the responses to effectively display which responses were the most favored amongst our participants. To generate the bar graph for the Likert scale questions, we used the Qualtrics “report” function.

Results

Demographic Summary

Our Survey had a total of 101 recorded responses. Table D1 displays the ethnic backgrounds of the participants who answered question 6 of our survey (see Appendix D). We found that most of our participants are of a South Asian 36% (n=24) background. Additionally, European 19% (n=13), American 16% (n=11), East Asian 15% (n=10), Latin American 3% (n=2), and other 4% (n=3) made up the remaining nationalities of our participants. Table D1 also displays the percentage of respondents who live on the UBC Vancouver campus. We found that 74% (n=67) of our participants who responded to that question live on the UBC Vancouver campus. Lastly, table D1 displays the participant responses regarding newcomer status. Of the responses gathered, we can see that 68% (n=42) of our responses indicated that they have not moved to Canada in the last 5 years. Whereas 32% (n=20) of responses indicated that they have moved to Canada within the last 5 years.

Perception of Health

The majority of respondents agreed 30% (n=16) or strongly agreed 69% (n=37) that having children participate in physical activity prompts health benefits. Furthermore, the vast

majority of participants either agreed 55% (n=31) or strongly agreed 32% (n=31) that their child felt capable of engaging in physical activities. Most participants also either agreed 58% (n=30) or strongly agreed 25% (n=13) that their child felt confident engaging in physical activities. Our survey results also show the physical activity levels of the children. 91% (n=49) of participants reported that their child engages in physical activity for more than 30 minutes a day, and 50% of them (n=27) fell in the 30-60 minutes per day mark.

These findings highlight caregivers' awareness of the critical role physical activity can play in their children's health and their efforts to promote active lifestyles while reducing sedentary behaviours. This high amount of awareness can serve as a motivating factor, encouraging caregivers to involve their children in various forms of physical activity. This is reflected in the high rates of enrolment in the Active Kids program, where 32 of the 40 participants who had stated they or their child had heard of Active Kids, were previously or currently enrolled in Active Kids.

Moreover, insights were gathered on caregivers' views regarding the importance of participating in physical activity programs that respect their cultural background. The findings revealed that 37 % (n=20) respondents agreed and 19% (n = 10) strongly agreed with it, whereas only 7% of them (n=4) disagreed. These results highlight the impact of caregivers' perspectives on cultural sensitivity in the context of physical activity. Cultural sensitivity refers to an awareness of cultural diversity, and an understanding of how culture can shape an individual's values, beliefs, and attitudes (Brooks et al., 2019). These findings suggest that caregivers' preferences and motivations for engaging in physical activity may be deeply rooted in their cultural values and preferences.

Barrier Findings

As shown in figure D1 (see Appendix D), financial concerns emerged as the most significant barrier, with 17% (n=9) of respondents indicating it was "very impactful." Additionally, financial concerns had a relatively high percentage of responses for impactful (32%, n=17) and slight impact (24%, n=13). Secondly, the time constraints barrier had the second most responses for "very impactful" (13%, n=7). Additionally, time constraints had an equal amount of responses for impactful (38%, n=21) and slight impact (38%, n=21). Furthermore, barriers that shared high percentages for "slight impact" are unfamiliarity with programs (40%, n=21) and fear of injury (39%, n=21). For language and gender-specific barriers, the dominant response was "slight impact," with 24% (n=14) and 25% (n=13) of respondents selecting these options, respectively. It is important to mention, the percentage of participants that listed a particular barrier as "no impact", "slight impact", "impactful" or "very impactful", is based on the total number of responses for that particular barrier. For instance, in regards to the "unfamiliarity with programs" barrier, 52 people either chose "no impact", "slight impact", "impactful" or "very impactful". However, fear of injury had a total of 55 responses, meaning 55 people either selected "no impact", "slight impact", "impactful", or "very impactful".

As illustrated in Figure D2 (see Appendix D), among the 28 responses to Question 16, the lack of available registration spaces emerged as the dominant barrier identified by survey participants. Financial issues also received a significant number of responses. To code for the barrier types amongst the responses, we grouped responses by keywords. For instance, responses mentioning terms like "costs" or "too expensive" were classified under the "financial issues" barrier. In order to do this, we color-coded responses in our Excel data sheet by highlighting these keywords in participants' responses. Then, we analyzed the highlighted keyword to decide which barrier type the response should be grouped to. Some participants identified multiple

barriers, leading to the categorization of their responses into multiple groups. This accounts for the discrepancy between our categorized responses and the total of 28 survey replies.

Additionally, participants were asked to assess the availability of resources or support services to aid them in overcoming physical activity barriers at UBC. Only 26% (n=15) agreed that sufficient support was accessible, while 21% (n=12) disagreed, and 37% (n=21) remained neutral. In a subsequent question about potential support services or resources, 47% (n=31) highlighted financial support, and 29% (n=19) emphasized the importance of social support. Participants also provided insights into the extent to which they or their child agree that there are sufficient resources or support services available to help them overcome barriers to physical activities at UBC. In response to this question, only 26% (n=15) of participants agreed with this statement, while 21% (n=12) disagreed and 37% (n=21) selected neutral.

Factors Impacting participation

Our survey aimed to understand the factors influencing caregivers' decisions to enroll their children in programs offered by UBC Active Kids or within the broader UBC Vancouver community. The findings have revealed four primary factors that impact their participation in the program.

Firstly, a majority of the respondents 34% (n=36) indicate 'financial costs' as one of their main concerns that significantly reduce their interest in registering their kids in Active Kids programs. This indicates that families facing financial constraints may struggle to afford their children's participation in Active Kids programs, potentially leading to decreased sports involvement among these children from lower socio-economic backgrounds.

Secondly, 29% (n=31) and 28% (n=30) of the responders indicated 'time commitments' and 'lifestyle adjustments' as factors impacting their interest in having their youth enrolled in

programs like Active Kids. Many youth or caregivers may already have busy schedules due to academic, work, or extracurricular commitments. Conflicts between existing commitments, priorities, sports programs may make it challenging for caregivers and children to allocate additional time. Moreover, lifestyle adjustments required by such programs can disrupt a child's established routine, affecting their leisure time and habits.

When considering participation in programs at UBC Active Kids or UBC Vancouver, 30% (n=32) of respondents emphasized 'program interest' as a crucial factor. Similarly, 'positive social influence' was deemed important by 26% (n=28) of respondents. Many caregivers prioritize social factors for their child's overall well-being and development, including social interactions, building friendships, and fostering a positive social environment. These social interests are closely tied to caregivers' decisions regarding their child's participation in sports.

Additionally, 23% (n=24) of respondents considered their child's 'current skill level' when deciding on participation or enrollment in physical activity programs. As mentioned earlier, a child's interest and motivation plays a crucial role in their level of sport involvement, and their proficiency could significantly influence their engagement in different sports.

Factors That Make Children Feel Like Outsiders

The factors contributing to children feeling like outsiders when participating in physical activities within the UBC community are shown in Figure D3 (see Appendix D). This figure displays a total of 21 responses to question 21. The most common answer amongst survey participants in response to question 21 was that they felt there were "No Factors" that made their child feel like an outsider when participating in physical activities within the UBC community. However, those who selected "other" specified a lack of friends in the activity as well as cultural differences were factors.

To better understand the factors potentially causing feelings of exclusion among children on the UBC Vancouver campus, we examined question 20 from our survey (see Appendix D). Here, participants selected factors influencing their child's sense of inclusion or exclusion. The leading response was that a friendly environment helped their child feel welcomed (34%, n=49). This was followed by feeling acknowledged and heard when sharing thoughts or ideas (26%, n=38), having opportunities to collaborate with others (20%, n=29), being around others who speak their first language (11%, n=16), and being around others of the same ethnicity/nationality (8%, n=12).

Given that Figure D3 (see Appendix D) involved an open-ended question, we employed the descriptive qualitative analysis method for data interpretation. This method aligns with our approach for Figure D2 (see Appendix D), utilizing identical coding guideline methods. By highlighting keywords in the survey responses, we categorized them into relevant groupings. Much like Figure D2 (see Appendix D), many responses selected more than one factor and thus responses were categorized across several categories. Therefore, our graph displayed more factors than the number of survey participant responses as survey participants could list multiple factors in their answer.

Participation in UBC Vancouver Community Events

Figure D5 (see Appendix D) presented an open-ended question regarding prior or ongoing participation in UBC Vancouver physical activity events or programs. Following the methodology used for Figure D2 and Figure D3 (see Appendix D). We applied consistent coding methods to identify keywords and categorize responses.

Firstly, the dominant response from respondents fit into the “other” category through our coding. Additionally, the second most common response indicated that their children had not

participated in any community events at UBC Vancouver, either currently or previously. Among the activities mentioned, UBC Vancouver's gymnastics and swimming community events emerged as the most cited.

Furthermore, participants were asked to specify their reasons for selecting the activities listed in Figure D4 (see Appendix D). In response to this question, the majority of participants stated that the program aligned with their child's interests and hobbies (20%, n=30), contributed to their child's health and wellbeing (19%, n=29), offered a chance to learn or improve skills (17%, n=26) or was convenient in terms of time, location, or accessibility (15%, n=22).

Discussion

The purpose of our study was to understand and address prevalent barriers to participation in recreational physical activities among caregivers and those under 18 years old in the UBC Vancouver Community. Previous studies identified barriers and limitations to exercise that many caregivers and their children typically experience. However, in the present study, we assess the extent to which these barriers are applicable to caregivers living on the UBC Vancouver campus, in addition to assessing the unique needs this population may have. In general, the quantitative questions allowed participants to identify certain characteristics about themselves or their child, and which common barriers to exercise they experienced. On the other hand, qualitative questions gave participants the ability to identify and elaborate on unique barriers that they experienced as UBC residents. The data from our survey can assist in identifying areas of focus when developing strategies to promote increased participation and enjoyment in the Active Kids program.

Barriers

Research question one involved examining the barriers affecting children and adolescents living on the UBC Vancouver Campus, thereby impeding their participation in UBC Active Kids programs.

Barriers Unique to UBC Residents

The present study showed that the vast majority of caregivers living on the UBC Vancouver campus believed their child was capable of performing exercise and wanted their child to participate in physical activities for the health benefits of exercise. Despite this, the findings also highlight that there remains a gap in actual participation due to unique barriers. Perhaps the greatest barrier to participation in the Active Kids program was the lack of awareness of the Active Kids program. Our survey showed that only 40 participants, or 65% of participants who completed this question, had heard about Active Kids. Additionally, of those who had heard of Active Kids, about 44% (n=16) did not feel adequately informed about the programs available at Active Kids. Another common barrier to participation in the Active Kids program included difficulties in registering for the program due to it filling up quickly. Given these findings, this may indicate a potential gap in communication or marketing strategies aimed at reaching UBC Vancouver residents specifically.

Common Barriers

Most of the barriers experienced by the majority of UBC residents were the same as those identified in previous studies. The barriers to participation in recreational physical activities among UBC residents in the order of most common to least common are as follows: time constraints, financial concerns, unfamiliarity with programs, fear of injury, cultural preferences, language barriers, and lastly gender-specific barriers. Gender-specific barriers, language barriers and cultural preferences were the least common barriers with 26% (n=14), 29% (n=17) and 40%

(n=23) of participants, respectively, stating that these barriers had an impact. However, we believe this may have been due to the relatively low newcomer population (32%, n= 20) in our survey respondents' demographics. Therefore, we believe that our findings suggest that gender-specific barriers, language barriers and cultural preferences are major barriers to physical activity among newcomer populations since the percentage of participants that selected them as a barrier is relatively large when considering the percentage of newcomers in our study. However, there is no way to confirm that these barriers were selected by newcomers.

In general, the barriers to exercise in our study are consistent with those found in previous studies, as Styles et al. (2007) highlighted time constraints and financial concerns as major barriers to physical activity among families. Additionally, Lane et al. (2021) noted unfamiliarity with programs, language barriers, cultural preferences, and gender-specific barriers as major barriers to exercise among newcomers. Lastly, Pate et al. (2011) highlighted the fear of injury as a major barrier to exercise among children and youth.

Factors Impacting Program Interest

Survey participants stated that their interest in the program (e.g. types of sports, the preference for sedentary activities like watching TV), was the factor that had the greatest impact on their child's decision to participate in UBC recreational physical activity programs. The second greatest factor was the positive social influence (e.g. school, caregivers, peers, etc.) children and youth experienced, followed by their current skill level and lastly negative social influence (e.g. school, caregivers, peers, etc.). These findings are similar to those of Alcántara-Porcuna et al. (2021), who stated that the preference for sedentary activities and the influence of caregivers and siblings, play a significant role in impacting children's participation in physical activities. Many survey participants (28%, n=16) also believed there was a lack of

resources or support services available to overcome barriers to physical activity participation at UBC. This is consistent with the findings of Styles et al. (2007) who stated that insufficient support and resources from the community and service providers prevented caregivers from placing their children in recreational physical activity programs.

Strategies to Enhance Inclusivity and Remove Barriers:

The second research question explores strategies to enhance inclusivity and remove barriers, aiming to provide equal and joyful access to the UBC Vancouver Active Kids programs. The study offers insights into the factors influencing participation in UBC Active Kids and other physical activity programs, emphasizing individual interests, positive social influences, and the need for adequate resources and support services. With these insights, we can aim to make informed suggestions and potential strategies to overcome barriers and promote inclusivity.

Enhanced Communication and Awareness

Respondents highlighted the need for improved communication and increased awareness about available programs and support services to overcome the unfamiliarity barrier. Implementing targeted communication strategies, utilizing platforms popular among UBC residents, and actively promoting program offerings can enhance program visibility and accessibility, directly addressing the lack of awareness barrier.

Resource and Support Services

The demand for increased resources and support services highlights the importance of enhancing available resources and establishing partnerships with community organizations, healthcare providers, and educational institutions. Offering additional support, guidance, and assistance can help families navigate challenges and facilitate participation, thereby promoting inclusivity.

Tailored Strategies for Newcomer Families:

The significant prevalence of certain barriers among the newcomer population emphasizes the importance of developing tailored strategies to support this demographic effectively. Accommodating diverse cultural preferences, addressing language barriers, and considering gender-specific needs are pivotal steps towards fostering inclusivity and ensuring equal access to Active Kids programs for newcomers.

Inclusive and Welcoming Environment

Creating a welcoming and inclusive environment that recognizes and celebrates diversity is essential. By fostering an atmosphere where all feel comfortable, valued, and included in the programs, we can promote equal and joyful access for all participants. Embracing diversity, providing culturally sensitive programming, and promoting understanding and acceptance among participants can help cultivate a supportive and inclusive community environment.

Addressing Common Barriers

Consistent with findings from previous studies, addressing common barriers such as time constraints, financial concerns, unfamiliarity with programs, and fostering social support remains crucial. Implementing initiatives to mitigate these challenges, offering flexible scheduling options, financial assistance, and supportive environments can help enhance participation and engagement among families.

Challenges and Limitations

A challenge that was encountered was the lack of awareness about the Active Kids program among the respondents. This made it challenging to identify and reach potential participants, impacting the amount of insights received on previous experiences. Initially, there was an interest in understanding the perspectives of participants who had prior experiences with

the Active Kids program. We aimed to explore why some participants might have discontinued their participation and to gain insights into the aspects of the program that were particularly effective or enjoyable for them. However, the limited awareness of the program among the respondents impacted our ability to gain insights on their experiences. With fewer participants who had prior experiences with Active Kids, insights into the program's strengths and weaknesses may have been affected. This may have limited our ability to identify specific program elements that were particularly impactful or areas that might require improvement. Additionally, this created challenges in conducting a comparative analysis between different participant groups. This comparative perspective may have been crucial for understanding the program's broader appeal and identifying areas where targeted improvements could be made.

Future research may consider focusing on gaining more specific insights on those who have had experience participating in Active Kids programs. Investigating the reasons behind families discontinuing participation and evaluating the program's strengths and weaknesses from the perspectives of current and former participants can provide specific insights into improving participant retention and engagement. Additionally, examining the comparisons between different participant groups, such as newcomers vs. long-term residents or active vs. non-participants, can help understand the program's broader appeal and identify targeted improvements. Exploring the influence of cultural preferences, language barriers, and gender-specific needs on participation rates and satisfaction levels, and developing culturally sensitive and inclusive programs and support services, is crucial for addressing the unique needs of diverse communities. Continuously assessing and adapting the program based on participant feedback, emerging trends, and best practices, and conducting longitudinal studies to evaluate the long-term impact of the program on participants' physical activity habits, social connections, and

overall well-being, can further inform the development of effective strategies to enhance inclusivity, remove barriers, and promote equitable access to physical activity opportunities for all children and adolescents in the UBC Vancouver community.

Lack of Insights on the Facilitators of Physical Activity

Furthermore, a limitation of our study was not gathering insights on the preferred time slots for caregivers and their youth, which could have offered valuable insights into the factors that facilitate or hinder participation in UBC Active Kids programs. Understanding preferred timings may have shed light on the scheduling constraints faced by families and help tailor program offerings to better suit their needs and availability. For instance, insights into preferred times could guide the scheduling of Active Kids program sessions to align with times when families are most likely to participate, thereby increasing program accessibility.

In future research, incorporating more open-ended questions specifically focused on scheduling preferences could be beneficial. By directly asking participants about their preferred times for physical activity, researchers could gain a deeper understanding of the logistical challenges faced by families in balancing work, school, and other commitments with participation in structured physical activity programs. This information could inform the development of more flexible scheduling options or alternative program formats that accommodate a wider range of family schedules.

By further exploring what aspects of the program participants found most enjoyable, effective, or beneficial, researchers could identify key program features that contribute to positive experiences and outcomes. This could include factors such as program content, instructor quality, facility amenities, or social aspects like peer interactions. By identifying and

emphasizing these facilitators, program administrators could make targeted improvements to enhance the overall participant experience, satisfaction, and ultimately, program success.

Survey Design

Another limitation of our study pertains to the survey design, specifically the inability for participants to revisit or modify their responses to previous questions. This design feature may have limited the accuracy and completeness of participants' responses, particularly for questions that required more thoughtful consideration or reflection. Participants might have felt rushed or pressured to complete the survey without fully exploring their thoughts or providing detailed explanations for their choices.

It is important to acknowledge that potential limitations may have arisen when some participants chose not to answer the open-ended question. As a result, we cannot definitively determine whether they encountered no barriers or simply chose not to answer the question. It is also important to mention when assessing how common a certain barrier was found to be, the impact of the variable was not taken into account (i.e. slightly impactful, impactful, and very impactful), rather the number of participants that stated that the barrier had at least a slight impact was only considered. This means that although financial concerns were the most selected answer for very impactful, time constraints were still considered more common since more participants stated that time constraints had at least a slight impact.

Additionally, a potential limitation with some survey questions was the wording of the question. This may be a limitation because many responses to open-ended questions stated “Yes” without expanding on what UBC Vancouver community events their child is involved in or has been involved in previously. Thus, some questions failed to get an open-ended response from participants which may impact the validity of some findings.

In future research, incorporating a more flexible survey platform that allows participants to review and revise their answers before final submission could enhance data quality and participant engagement. This feature could encourage participants to take their time and carefully consider each question, leading to more thoughtful and accurate responses. Additionally, providing clear instructions and examples for each question could help participants better understand the context and purpose of the survey, further improving data quality and research outcomes.

Lastly, a potential limitation of our study relates to the language barriers experienced by participants. Our survey was conducted in English, and non-English speakers or those who are not proficient enough in English were excluded from completing the survey. As a result, the reported prevalence of language barriers in our findings might underestimate the actual extent of this barrier among the broader UBC Vancouver community. Future research should consider incorporating multilingual surveys to ensure inclusivity and capture more comprehensive insights from diverse language-speaking populations within the community.

Recommendations

Our recommendations consist of both ones that can be readily implemented and ones that are more aspirational or long-term. Our first recommendation revolves around increasing the awareness of Active Kids through social media and can be implemented immediately. Our second recommendation can also be implemented immediately, and it involves making changes to the current registration format to help members of the UBC community secure a seat in the program. On the other hand, our third recommendation is more long-term, and it involves creating a program designed to encourage newcomers to participate in Active Kids. However, we believe this may take some time, therefore we recommend beginning with a single event that can

be implemented more readily. Our fourth recommendation is also long-term and it involves adding more time slots to the programs that were found to be popular in our survey results. Lastly, our fifth recommendation is to create a grant for those who qualify as a low-income family and this can be readily implemented.

Awareness

Given that about 36% (n=22) of the survey participants have not heard about Active Kids, our first recommendation is to increase the awareness of the Active Kids program through social media. Although Active Kids currently shares information regarding events and programs through UBC related pages, like the “UBC school of kinesiology” and the “Utown at UBC” pages on Facebook, there currently is not a UBC Active kids program account on Facebook. A study by (Bayne & Cianfrone, 2013) highlighted the importance of creating a Facebook account dedicated to promoting a recreational sporting event on campus. In this study, the Facebook account created to promote the event resulted in a significantly higher increase in the awareness of the event among college students when compared to a control condition that involved having fliers about the event spread throughout campus (Bayne & Cianfrone, 2013). Therefore, we recommend that a UBC Active Kids Facebook page is created. In addition to creating a UBC Active Kids page on Facebook, we believe that an Instagram account will also help target individuals who may not have Facebook. The pages on Instagram and Facebook will not only increase the awareness of the Active Kids program as a whole, but they can also share key information about all the events or programs offered at Active Kids. For example, information regarding the skill level, age range, and date for a particular program can be shared through each post. This will allow people visiting the page to scroll through various events to see which ones their child can participate in. Having a page dedicated to showcasing and providing details of all

the programs and events in Active Kids will also help improve the familiarity individuals have with the programs offered at Active Kids. This is especially important since about 65 % (n=34) of survey participants stated that unfamiliarity with programs had at least a slight impact, when it came to their child's engagement in the programs offered at Active Kids. Although it is important to mention, this percentage also includes individuals who had not heard of the program. However, only about 56% (n= 20) of participants who had heard about Active Kids agreed (39%, n=14) or strongly agreed (17%, n=6) to feeling adequately informed about the programs in Active Kids. Likewise, only about 43% (n=16) of participants who had heard about Active Kids agreed (32%, n=12) or strongly agreed (11%, n=4) to their child feeling adequately informed about the programs in Active Kids.

Registration

In the qualitative portion of our survey, multiple survey participants elaborated on how they were unable to register for programs due to the programs being full. In the follow up question that asked participants what they believed can help them overcome this barrier, participants suggested making more programs available to UBC residents and to prioritize UBC residents when signing up. Given that the focus of Active Kids is to serve those in the UBC community, such as those who study, live, or work on campus, we recommend prioritizing members of the UBC community in the selection process (UBC, n.d.b.). This can be implemented immediately during the registration process by having participants identify if they are a member of the UBC community when creating an account. In other words, during the registration process, participants can state whether or not they live, work or study on the UBC Vancouver campus. This would give members of the UBC community a much greater chance of getting a seat in a particular program or event in situations where the number of people

registering exceeds the number of spaces available. Additionally, in our survey participants stated that online registration is at an inconvenient time, especially in situations where both caregivers of the child are working. Therefore, we also recommend changing the online registration and in-person registration times to Saturday. For instance, the registration period for soccer programs can open at Saturday match 2nd 9:00am instead of March 4th 9:am. We believe this will increase the likelihood of at least one parent being available to register during the time of registration.

Program for Newcomers

Given that a large percentage of the participants of our survey were newcomers (32%, n=20), we recommend creating various cultural events or programs that may be interesting to newcomers as a long-term goal. We came to this recommendation based on responses to multiple survey questions. When participants were asked the extent to which various barriers impacted their engagement in recreational programs, 41% (n=23) of participants stated that cultural preferences had at least a slight impact. Additionally, 9% (n=5) of participants stated that cultural preferences were very impactful. When participants were later asked about certain factors that impact their or their children's participation in community recreational programs, 30% (n=32) listed their interest in the program as an answer. Additionally, when answering why they participated in community related physical activities in the past, most participants selected because the activity aligned with their child's interests and hobbies. Not to mention, when participants were asked to elaborate on factors that make their child feel like outsiders when engaging in physical activities, a few number of participants stated that a different cultural background played a role. Taken together, we believe this data supports the basis of having a more culturally specific activity or event within the Active Kids program to interest newcomers.

We understand that it may be difficult to immediately implement a new activity or sport that spans multiple sessions. Therefore, as a short-term goal, a single event can be created and readily implemented. The event itself can be a family drop-in, since we believe this can create a unique opportunity for newcomer caregivers to play a culturally specific structured sporting event with their children. This event can be used to gauge participant interest and engagement in the particular activity, which in turn can support the development of a more long-term program that spans multiple sessions. The events or programs that take place can be any sport or activity that is popular amongst a certain group or background. Because the vast majority of our survey participants were South Asian (32%, n=24), we recommend beginning with cricket, which is particularly popular in India and Pakistan but is also popular across South Asia as a whole (Sheikh et al., 2013). Not to mention, cricket can be played outdoors, which has been shown to be preferred over indoor family recreational sporting events (Alcántara-Porcuna et al., 2021).

Gymnastics Programs

Another recommendation that we believe can help remove barriers to participation in the Active Kids program, is the addition of a few gymnastics programs in the fall and spring and a slight adjustment to the time structuring of these programs. The data from our survey showed that the Gym Kids program (29%, n=19) and the family drop in (up to 13 years old) (15%, n=10) programs were among the most participated in programs. Not to mention, about 8% (n=6) of survey participants stated that they participated in the parent & tot gymnastics program when elaborating on “other” programs that were not included in our options. Therefore, we believe the percentage of survey participants that participated in the parent & and tot gymnastics programs may have been even greater, if we had included “parent & tot” as an option. Our data also showed that the most popular age range was the 4-5 years old range (35% or 30 children fell in

this range) but the 1–3-year-old range was also common (20%, n=17). Moreover, when stating the extent to which certain barriers impacted their child’s participation in recreational physical activities at UBC, about 89% (n=49) of participants stated that time constraints had at least a slight impact. Then when elaborating on which other barriers also had an impact, multiple participants explained how registration was difficult due to the programs getting full almost immediately. Therefore, due to the popularity of the Gym Kids program and family drop-ins (up to 13 years old), and the large number of children between the ages of 1-5 years old, we believe more time slots should be created for the Gym Kids 1, parent & tot (for 1.5-3 year-olds), preschool (for 3-4 year-olds) and family drop-in (up to 13 years-old) gymnastics programs. In other words, we believe that additional sessions to these programs will give people that were previously unable to register due to the programs getting full, an opportunity to register. The new Gym kids 1 program sessions can take place on Monday, Wednesday, and Friday from 3:30pm-4:15pm, which means that all programs currently scheduled on these days need to be moved to 15 minutes later to create space. For instance, on Mondays, the current Gym Kids 1 program that begins at 4pm will need to be moved to 4:15 pm and the Gym Kids 2 program can then begin at 5:15pm as opposed to 5pm. It is important to mention, Active Kids currently has gymnastics programs beginning at 3:30pm on Tuesdays and Thursdays only (UBC School of Kinesiology, n.d.). Furthermore, the new parent & tot program sessions and preschool program sessions can take place on Tuesday and Thursday at 10:00am-10:45am. The new family drop-in sessions can take place on Tuesday and Thursday at 11:00am-12:00pm, and on Saturday from 7:00pm-8:00pm. Not only do we believe the addition of these time slots can help more people register for a program, but they may also fit better into some peoples schedules to help mitigate time constraints.

Grant

Another recommendation based on our findings is to provide a grant that individuals can apply for prior to the beginning of a program. One of the barriers that survey participants stated had the most impact when it came to their child's engagement in the Active Kids program, was the pricing of the programs. When asked the extent to which certain barriers impacted their child's engagement in physical activities, 72% (n=39) of participants stated that financial concerns had at least a slight impact. Not to mention, the most selected answer for the "very impactful" barrier category was financial concerns with 17% (n=9) of survey participants selecting this answer. Then when participants were later asked to elaborate on the barriers, multiple participants stated that the cost of the program was too expensive. Furthermore, when participants were asked which support services will help their child overcome barriers to physical activity participation, the most selected answer was financial support (47%, n=31). Therefore, as a long-term goal, we recommend providing a grant to individuals based on their economic status. The most recent after-tax low-income measure thresholds by Statistics Canada (see Table D2 in Appendix D) are as follows: an income of \$37,480 for a 2-person household, \$45,904 for a 3 person household, \$53,005 for a 4 person household, and \$59,261 for a five person household (Statistics Canada, 2021). If individuals qualify and apply for the grant, they will be given a certain amount of money for that year and will need to apply again next year in order to receive the grant again. We believe that a grant of \$200 per year can be sufficient to help individuals overcome financial barriers since many programs in Active Kids fall between the \$150-\$250 price range.

Conclusion

This study set out to investigate the barriers influencing participation in recreational physical activity programs, specifically focusing on the UBC Active Kids initiative, within the UBC Vancouver community. Recognizing the increasing concern surrounding sedentary lifestyles among children and adolescents, our research aimed to shed light on the challenges that may impede engagement in these health-promoting activities.

Through a cross-sectional observational study design, we gathered insights from caregivers of children and adolescents residing on the UBC Vancouver campus. Our findings underscored several key barriers to participation, both common and unique to this specific community. Notably, a significant portion of participants were unaware of the UBC Active Kids program, highlighting the importance of enhancing awareness to foster greater participation. Additionally, prevalent barriers such as time constraints, financial concerns, and program unfamiliarity were consistent with those identified in previous literature. However, our research also revealed the potential influence of cultural preferences, language barriers, and gender-specific concerns, particularly among newcomer populations, suggesting a need for tailored strategies to address these specific challenges.

Our study's integration of the Health Belief Model (HBM) provided a comprehensive framework for understanding the factors shaping families' experiences and perceptions regarding physical activity. By aligning our survey questions with the HBM constructs, we gained valuable insights into perceived susceptibility to health risks, perceived barriers, and self-efficacy, contributing to a deeper understanding of health behaviours among families living on campus.

In conclusion, this study contributes valuable insights into the existing literature regarding barriers to recreational physical activity participation among children and adolescents

within the UBC community. These findings emphasize the need for targeted strategies to enhance program awareness, address specific barriers, and promote inclusivity in physical activity initiatives. Future research may consider focusing on evaluating the effectiveness of these strategies and exploring additional interventions to foster active and healthy lifestyles among younger generations in similar community contexts.

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Appendix A

Survey Questions

Appendix A includes all the survey questions that respondents to the survey were asked to answer.

Eligibility questions

Are you the parent or caregiver of a child between the ages of 1.5 to 18 years old?

- Yes
- No

Do you and your family currently live on the UBC Vancouver campus?

- Yes
- No

Demographics

What are the age ranges of your child or children?

- 1-3 years old
- 4-5 years old
- 6-9 years old
- 9-12 years old
- 13-18 years old

Have you or your child moved to Canada in the last 5 years?

- Yes
 No

What is your nationality or country of origin? Select all that apply:

- East Asian (eg. Chinese, Japanese, Korean, Vietnamese)
 South Asian (eg. Indian, Pakistani, Sri Lankan, Bangladeshi)
 Southeast Asian (eg. Filipino, Indonesian, Thai, Malaysian)
 Middle Eastern (eg. Iranian, Iraqi, Syrian, Lebanese)
 European (eg. British, German, Italian, French)
 American (eg. Canada, American, Mexican)
 African (eg. Nigerian, Ethiopian, Somali, South African)
 Latin American (eg. Brazilian, Colombian, Peruvian, Chilean)
 Miscellaneous (eg. Australian, Russian, Ukrainian, other European countries)
 Other. Please Specify:

Which languages does your family speak at home? Select all that apply:

- English
 French
 Mandarin
 Cantonese
 Punjabi
 Hindi
 Urdu
 Tagalog
 German
 Italian
 Portugese
 Spanish

- Arabic
- Other. Please specify:

UBC ActiveKids Awareness

UBC Active Kids offers various recreational gymnastics, sports, and physical literacy classes tailored to suit the developmental needs of individuals across all age groups. The UBC Active Kids program aims to foster positive sporting experiences and promoting lifelong engagement in physical activities. With certified instructors and helpful volunteers, they prioritize teaching essential sport and movement skills within a secure, enjoyable, and dynamic setting, encouraging active participation throughout.

Have you or your child heard of Active Kids?

- Yes
- No

How did you hear about UBC Active Kids? Select all that apply:

- Online website/google search
- Friends or Family
- Paper brochure/poster
- UBC residential group newsletter
- Other. Please specify:

Was your child previously or currently enrolled in Active Kids?

- Yes
- No

In which ways have you participated in programs or activities facilitated by UBC Active Kids? Select all that apply:

- Family drop in (up to 13 YRS)
- Teen & adult drop in (14+ YRS)
- Interactive birthday parties with instruction and games (Saturdays & Sundays)
- Soccer (3-5 & 6-9 YRS)
- Basketball (8-12 & 12-16 YRS)
- Multi-Sport and Playtime (1.5-3 YRS)
- Multi-Sport and Physical Literacy (3-5 YRS)
- Homeschool Multisport (5-8 & 9-12 YRS)
- Gym Kids (5-10)
- Trampoline & Tumbling (8-14 YRS)
- Homeschool Gymnastics (5-10 YRS)
- Weekly Gymnastics Classes (11-19 YRS)
- High School Competitive Gymnastics (13-17 YRS)
- Adults Gymnastics (18+ YRS)
- Private Lessons
- Other. Please specify:

My child feels adequately informed about the programs in Active Kids available in the UBC Vancouver community.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Indicate the extent to which each of the following barriers has affected your child's engagement in recreational physical activity programs at UBC Vancouver. Select all that apply:

	No Impact	Slight Impact	Impactful	Very Impactful
Language barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time constraints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of injury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cultural preferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial concerns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	No Impact	Slight Impact	Impactful	Very Impactful
Gender-specific barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unfamiliarity with programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please elaborate on the barriers or challenges you have encountered when trying to engage in physical activities in the UBC Vancouver community or in Active Kids?

My child or I feel that there are sufficient resources or support services available to help us overcome barriers to physical activity participation at UBC.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Which of the following support services or resources do you believe would help your child overcome barriers to physical activity participation? Select all that apply:

 Translation Services Financial Support Social Support Other. Please Specify:

Health Beliefs

My child feels confident engaging in physical activity.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

My child feels capable of engaging in physical activity.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

I believe my child is at risk of developing negative health outcomes due to a lack of physical activity.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

I am concerned about the severity of negative health outcomes due to my child's physical inactivity.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Which of the following impact your decision to enroll your child in programs within UBC Active Kids or the UBC Vancouver community? Select all that apply:

Financial costs

Time commitments

Lifestyle adjustments (e.g. restructuring daily routines)

Other. Please specify:

What are some factors that you or your child believes will impact their decision to participate in programs available at UBC Active Kids or the UBC Vancouver community? Select all that apply.

- Positive social influence (e.g. school, parents, peers, etc.)
- Negative social influence (e.g. school, parents, peers, etc.)
- Current skill level
- Program interest (e.g. types of sports, the preference for sedentary activities like watching TV)
- Other. Please Specify

Engagement

My child feels connected to the UBC Vancouver community.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

What typically makes your child feel included and welcomed ?
Select all that apply.

- Friendly environment (staff or peers are kind)
- Having opportunities to collaborate and work with others
- Feeling acknowledged and listened to when sharing thoughts or ideas
- Being around others who speak their first language
- Being around others of the same ethnicity/nationality

Are there any factors that makes your child feel like an outsider when engaging in physical activities within the UBC community?

Are there community events at UBC Vancouver related to physical activity that your child currently participates in or has participated in?

Why did you choose that activity or activities? Select all that apply:

- Aligned with my child's interests and hobbies.
- Provided opportunities for social interaction and making friends.
- Offered a chance to learn new skills or improve existing ones.
- Contributes to my child's physical health and well-being.
- Convenient in terms of location, schedule, or accessibility.
- Recommended by friends, family, or peers.
- Affordable or offer financial assistance options.
- Other. Please Specify:

What made those activities enjoyable? Select all that apply:

- The engaging and interactive nature of the activities.
- The supportive and encouraging atmosphere created by instructors or peers.
- The sense of achievement and progress my child experienced.
- The variety of activities offered, keeping things interesting and exciting.
- The opportunity to explore and discover new interests.
- The positive relationships and friendships formed with other participants.
- The feeling of being part of a team or community.
- The freedom to express themselves creatively or physically.
- The fun and entertaining aspects of the activities.
- The sense of fulfillment and satisfaction gained from participating.
- Other. Please specify

Cultural Sensitivity

I think it's important for my family to participate in physical activity programs that respect my cultural background

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Benefits of Physical activity

How often does your child engage in physical activity (any activity that involves movement)?

Less than 30 minutes a day

30-60 minutes a day

60-120 minutes a day

more than 2 hours (120 minutes) a day

I believe physical activity is very important for the overall well-being of my child.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

I want my child to participate in physical activity for health benefits.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Appendix B

Recruitment Materials

Appendix B includes our research poster for which we will use to recruit participants for our research project. The poster will include a link and QR code to our Qualtrics survey, our project ID, our group number, the principal investigator's contact information, and some information on our research project's purpose.

KIN 464 Students and UBC Active Kids Present

UBC Caregiver Perspectives: Share Your Insights for Inclusion!

Join our KIN 464 study! Explore UBC families' activity access. Enhance UBC Active Kids for youth needs!

Purpose: Foster a more inclusive environment
Seeking interviews with all UBC families!
Specifically targeting parents/caregivers of children at UBC

Access the survey by scanning the QR code or the link below for a chance to enter a draw to win a Lululemon yoga mat (2) and UBC Athletics Prize Pack (4)!



https://ubc.ca1.qualtrics.com/jfe/form/SV_a9jN4QvhCOZCeMu

Please note that this post is public and anyone who likes, comments or shares the link will, by doing so, be associated with the study.

The Principal Investigator on this project is Dr. Andrea Bundon
(andrea.bundon@ubc.ca)
Project ID: H17-03560-A017
Group 3
Questions? Contact us @ghiaroy@student.ubc.ca

Survey Link (Now Closed): https://ubc.ca1.qualtrics.com/jfe/form/SV_a9jN4QvhCOZCeMu

Appendix C

Consent Form

Appendix C contains the consent form that respondents needed to confirm prior to starting the survey.

CLASS PROJECT: Health Promotion and Physical Activity (KIN 464)

**Participant Consent Form - Assessing Community Needs and Opportunities:
Enhancing UBC Active Kids Programming (Group 3)**

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 from UBC Vancouver residents and discover if current Active Kids programs are reflective of, and meeting, community needs/interests, where gaps lie, and what future opportunities may be of interest. Thereby, hoping to overcome barriers to physical activity for those living at UBC Vancouver, and making suggestions to Active Kids to better meet the needs of the UBC Vancouver community.

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.

- I accept (9)
- I do not accept (10)

Appendix D

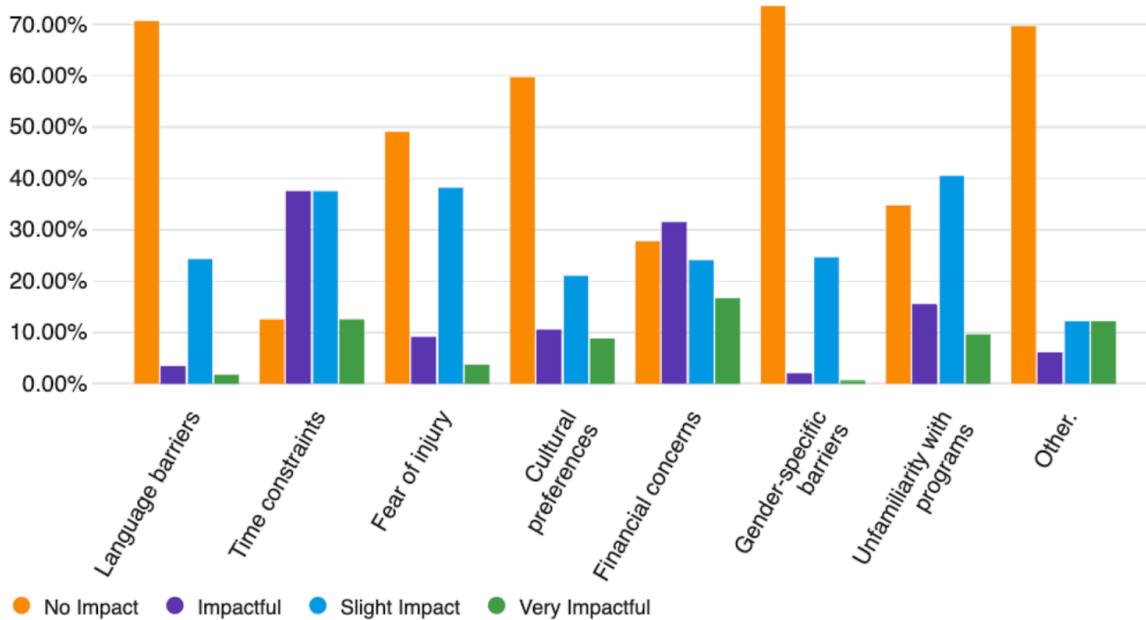
Tables and Figures

Table D1

Demographics of Survey Participants

	%	N
<i>Ethnic Background</i>		
East Asian	15%	10
South Asian	36%	24
Southeast Asian	9%	6
Middle Eastern	9%	6
European	19%	13
American	16%	11
African	0%	0
Latin American	3%	2
Miscellaneous	0%	0
Other	4%	3
<i>Residency Status</i>		
Lives on UBC Campus	74%	67
Does not live on UBC Campus	16%	24
<i>Newcomer Status</i>		
Has moved to Canada in last 5 years	32%	20
Has not moved to Canada in last 5 years	68%	42

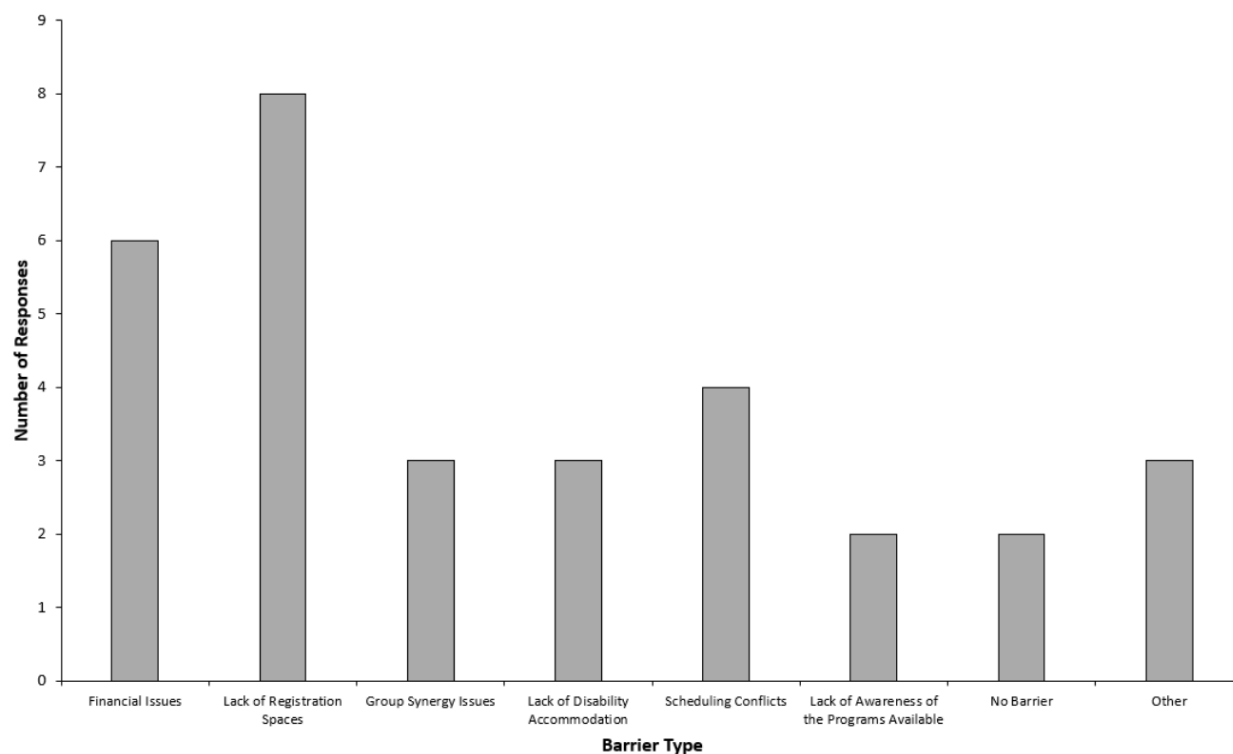
Note: Table D1 displays the ethnic background, residency and Newcomer status of survey participants.

Figure D1*Barriers to Participation in Physical Activity Programs at UBC*

Note: Figure D1 displays survey participants' responses to the extent to which certain barriers impacted their child's participation in recreational physical activity programs at UBC Vancouver.

Figure D2

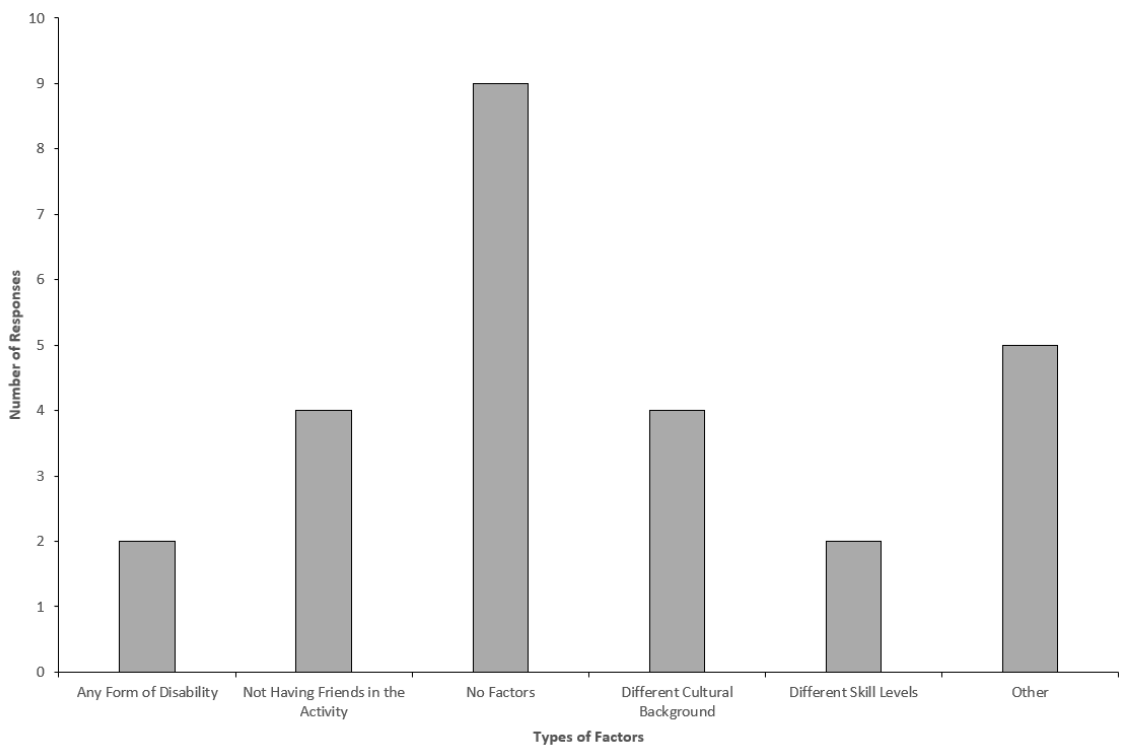
Other Barriers to Participation in Physical Activity Programs at UBC



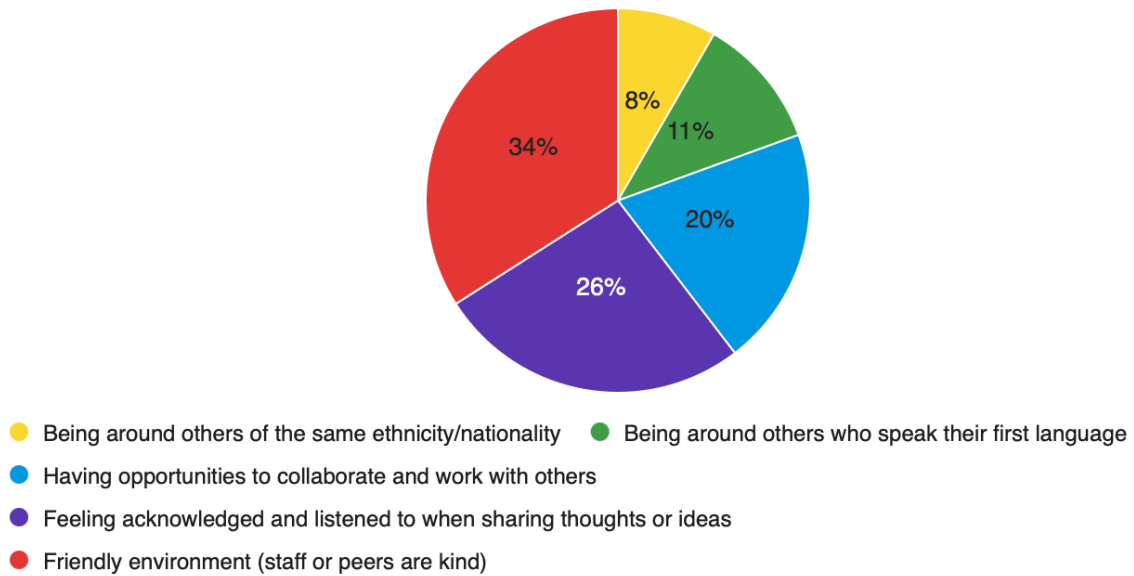
Note. Figure D2 displays the responses gathered from Question 16 from our study survey. This question allowed participants to elaborate on the “other” barriers that they were experiencing from figure D1.

Figure D3

Factors Causing Child Exclusion in UBC Vancouver's Physical Activities



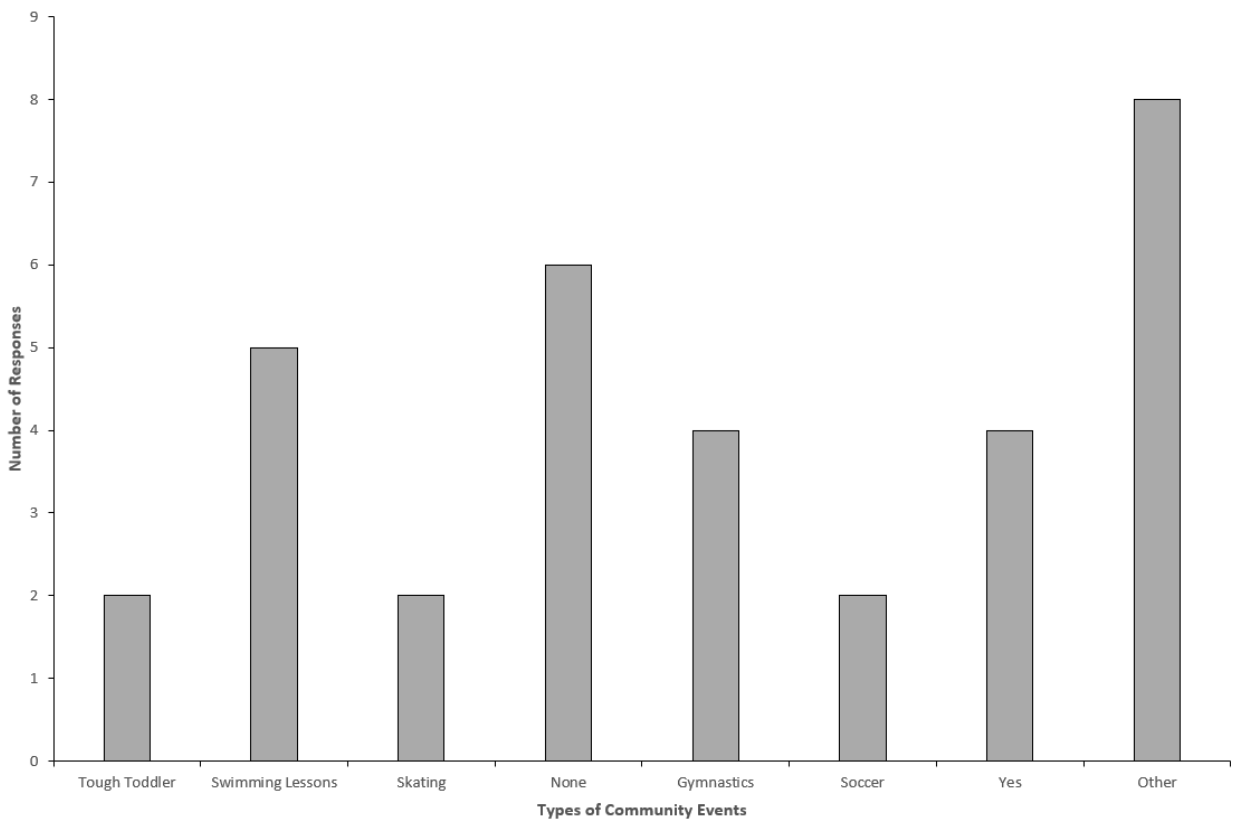
Note. Figure D3 displays survey results gathered from question 21 of our research question. This survey question allowed participants to give detailed explanations to factors that they felt made their children feel like an outsider when engaging in physical activity at UBC Vancouver.

Figure D4*Factors That Make Children Feel Included and Welcomed*

Note. Figure D4 displays survey results gathered from question 20 of our research question. This survey question dissects how children feel when they are participating in a sport program.

Figure D5

Prior or On-going Child Participation in UBC Vancouver Physical Activity Events



Note. Figure D5 displays responses gathered from question 22 of our research survey. These responses allowed participants to give detailed responses about what activities they have enrolled their child in currently or previously at UBC Vancouver.

Table D2*Low-income Measures Thresholds for Private Households of Canada, 2020*

Household size	After-tax income	Before-tax income
2 persons	37,480	42,993
3 persons	45,904	52,655
4 persons	53,005	60,801
5 persons	59,261	67,978
6 persons	64,918	74,466
7 persons	70,119	80,432

Note. Table D2 displays the most recent after-tax low-income measure thresholds by Statics Canada (Statistics Canada, 2021).