



PHYSICAL ACTIVITY GUIDELINE ADHERENCE AMONG CANADIAN IMMIGRANT YOUTH: A QUALITATIVE EXPLORATORY STUDY

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Abstract

The Canadian Society for Exercise Physiology (CSEP) Youth Physical Activity Guidelines are the national criterion standard for youth physical activity. Minimal research exists regarding CSEP Guideline adherence in immigrant youth despite this population's significance in Canada. The purpose of this study was to foster an understanding of physical activity guideline adherence in Canadian immigrant youth. The study objectives were to determine Canadian immigrant youth's adherence levels, barriers to adherence, recommendations to improve adherence, and the impact of the COVID-19 pandemic on adherence. A qualitative exploratory design was used. Purposive sampling from Edmonton community-agencies occurred to generate a sample of 6 community service-workers who have experience with Canadian immigrant youth and physical activity. Data collection occurred through virtual semi-structured interviews. Data analysis occurred via Braun and Clarke's Six Thematic Analysis Steps. Three primary themes emerged: (1) Multiple Barriers to CSEP Guideline Adherence including low familiarity with physical activity, inaccessibility, finances, and competing responsibilities, (2) Low Adherence Level to CSEP Guidelines indicating significant under-adherence that was worsened by the pandemic, and (3) Recommendations to improve CSEP Guideline Adherence include increase accessibility to physical activities, increase education, and promote mentorship. This study's findings can optimize nursing health promotion efforts and organizational policies, inform health promotion protocols in nursing education, and guide further research that would enhance the breadth of current literature. Collectively, this study helps provide a foundation for promoting the health of Canadian immigrant youth.

Keywords: Immigrant youth; physical activity; guideline adherence; Canadian Society for Exercise Physiology; COVID-19 pandemic

The focus of this article, through a conducted study, involves an exploration of the physical activity guideline adherence among Canadian immigrant youth from the perspective of community service-workers. The sections include research background, design and methods, findings, discussion, implications, limitations, and conclusion.

Research Background

Regular physical activity is defined as engaging in a minimum of 3 sessions per week where there is an increase in heart rate (Gunay, 2017). Engaging in regular physical activity improves overall conditioning, muscular strength, cardiorespiratory functioning, body composition, and decreases the risk for chronic disease (Arsovic et al., 2019; Warburton & Bredin, 2017). Individuals who engage in regular physical activity experience significantly lower rates of Type 2 Diabetes, cardiovascular disease, certain types of cancer, osteoporosis, obesity, and premature death (Gunay, 2017). Additionally, regular activity lowers rates of depression and anxiety, decreases overall stress levels, improves coping mechanisms and focus, and decreases neuroticism (Arsovic et al., 2019).

Regular physical activity is beneficial for youth because it decreases rates of obesity, improves physical conditioning, enhances balance and psychomotor coordination, and improves muscle and bone strength (Mnich et al., 2019; Owens et al., 2015). Furthermore, physical activity provides several vital benefits for youth in social domains; engaging in regular physical activity cultivates collaboration with peers, cements long-term life skills, improves social relations, and enhances problem-solving, leadership skills, coping mechanisms, self-esteem, overall well-being, and psychological functioning (Eime et al., 2013; Spink et al., 2018). Youth that engage in regular physical activity benefit from a lifelong collaborative mindset that facilitates personal goals and maintains healthy self-esteem (Silva et al., 2012; Smedegaard et al., 2016).

The Canadian Society for Exercise Physiology (CSEP) Youth Physical Activity Guidelines (the CSEP Guidelines) are the national criterion standard for ensuring optimal physical activity benefits (Canadian Society for Exercise Physiology [CSEP], 2021). For youth (persons aged 12-17 years), they suggest at least 60 minutes of moderate-to-vigorous intensity physical activity per day which includes both vigorous-intensity activities, and muscle/bone-strengthening activities at least 3 days per week (CSEP, 2021). These guidelines serve as the basis to obtain physical activity benefits, and thus, are pivotal to health and wellbeing in all youth populations.

We reviewed the literature regarding youth physical activity guideline adherence in Canada, CSEP or otherwise. Tremblay et al. (2011) found that adhering to the CSEP Guidelines decreases risk of obesity, improves muscle and bone strength, lowers blood pressure and cholesterol levels, and improves overall quality of life for Canadian youth aged 12-17. Moreover, Poitras et al. (2016) and Janssen et al. (2017) found that adhering to Canadian youth physical activity guidelines improves physical, psychological, social, and cognitive health indicators of Canadian youth aged 12-17. Additionally, LeBlanc et al. (2015) found that adhering to the CSEP Guidelines improves academic achievement, leadership skills, self-esteem, and social behaviours of Canadian youth.

Interestingly, Garriguet (2016) and Roberts et al. (2017) found that ~50% of persons aged 6-17 years and <3% of youth aged 10-17 years adhere to Canadian youth physical activity

guidelines. Moreover, Pujadas Botey et al. (2016) found that barriers to CSEP Guideline adherence include high screen time, lack of motivation, and low parental encouragement, and the recommendations of structured physical activity education sessions and greater sport accessibility improve CSEP Guideline adherence for youth. Furthermore, Guerrero et al. (2020) highlighted that the COVID-19 pandemic has further decreased youth adherence levels to the Canadian 24h-Movement Guidelines due to increased screen time, sport inaccessibility, and parental stress.

Research Gap

In reviewing the aforementioned information, it is clear that the research conducted on Canadian youth physical activity guideline adherence is largely quantitative and focuses on the general youth population rather than immigrant youth, specifically. This information produces a two-fold problem statement. Firstly, Canadian immigrant youth are significantly under-represented in research on youth physical activity guideline adherence despite this population's significance; approximately 9.5% of Canadian youth are immigrants (Kaufmann, 2021). Secondly, there exists a significant lack of qualitative research on physical activity guideline adherence in Canadian immigrant youth. This is unacceptable given that immigrant youth face unique challenges such as poor mental health, poor physical fitness, and loneliness (Guruge & Butt, 2015) which a qualitative understanding of physical activity guideline adherence may significantly alleviate. Therefore, our study addressed an identified research gap and will promote greater knowledge of physical activity guideline adherence in Canadian immigrant youth.

Purpose and Objectives

The purpose of this study was to foster a better understanding of physical activity guideline adherence in Canadian immigrant youth. This understanding can be used to optimize their health and well-being. The objectives were to: (1) determine the general adherence level of Canadian immigrant youth to the CSEP Guidelines; (2) identify barriers to CSEP Guideline adherence in Canadian immigrant youth; (3) make recommendations that would improve CSEP Guideline adherence in immigrant youth, and (4) explore the impact of the COVID-19 pandemic on CSEP Guideline adherence in immigrant youth.

Design and Methods

Study Design

We applied a qualitative exploratory study design. This design was chosen because it is the ideal approach for gaining in-depth insight into a new topic and it fosters optimal data collection and immersion (Hunter et al., 2019). This design was ideal for our study because it enabled us to gain insight into our unique topic, collect data in an organized manner, and explore the study objectives in significant depth. Additionally, we used a constructivist paradigm. This paradigm was chosen because it minimizes the distance between researchers and participants, thus fostering thorough exploration of research topics from the sole perspective of participants (Burns et al., 2022). Hence, this paradigm was appropriate because it allowed us to understand

physical activity guideline adherence in Canadian immigrant youth from the unique and valuable perspective of our participants.

Study Setting

The study setting was remote to ensure adherence to COVID-19 public health guidelines. The specific setting was Zoom meetings whereby members attended from private residences.

Sample Recruitment and Sample

The target population of this study was adult community service-workers with a minimum of 5 years of experience working with Canadian immigrant youth in a physical activity context (i.e., sports coaches, camp supervisors, physical education teachers). To promote sampling availability, participants did not need to be immigrants themselves. This target population was chosen because of their experience as they possessed valuable knowledge on Canadian immigrant youth physical activity.

For recruitment, we emailed a letter (see Appendix A) to 8 Edmonton youth physical activity community-agencies. See Appendix B for the community-agencies contacted. The recruitment letter outlined this study and asked these organizations to reply with a list of employees who might have valuable insights and able to participate. We used purposive sampling to select participants from those who responded. The final sample consisted of 6 participants from 6 different community-agencies that met the eligibility criteria.

Purposive sampling was chosen because it is the optimal method to obtain information-rich participants when using a small sample (Fugard & Potts, 2015) thus making it the ideal approach for selecting high-quality participants for our study. The sample size of 6 was chosen because when using purposive sampling and thematic analysis, 6-10 participants is considered adequate to achieve thematic saturation and uncover understandings of experiences (Fugard & Potts, 2015).

We contacted the chosen participants directly via email informing them of the study and providing an information letter, consent form, and a participant contact form (used to verify that participants met eligibility criteria); see Appendices C-E, respectively. All 6 participants provided written consent to participate.

Criteria for deciding that sampling saturation had occurred was determined by reaching a minimum of 6 participants that met all inclusion and exclusion criteria.

Table 1: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Age of 18+ years: participants must not fit into the youth category such that they can objectively reflect on CSEP Youth Guideline adherence and must be able to independently communicate in in-person interviews. • Have a minimum of 5 years of experience working with Canadian immigrant youth (persons aged 12-17 years that migrated to Canada at any point during their lifetime) in a physical activity/exercise/active lifestyle context. 	<ul style="list-style-type: none"> • Not fluent in English or non-English speaking because these individuals are not able to independently participate in semi-structured interviews. • Does not have access to a reliable computer with Webcam capabilities because these individuals are not able to participate in virtual semi-structured interviews.

Note. The inclusion and exclusion criteria for this study.

Data Collection

We conducted individual semi-structured interviews on Zoom to ensure adherence to COVID-19 public health guidelines. Semi-structured interviews enable interviewers to thoroughly explore relevant subject matter and guide conversations to stay on topic whilst also allowing participants to openly discuss subjects as they see fit (Jamshed, 2014). It was the ideal technique for our study because it enabled us to gather in-depth and organized data on participants’ experiences with Canadian immigrant youth and physical activity. We conducted six virtual semi-structured interviews between June 10 and June 19, 2021; the level of participation from the original sample was 100%. The interviews were conducted in groups of four (three student authors and one participant). Given that members attended from personal residences, adherence to video meeting etiquette was used to allow for an uninterrupted interview (i.e., well-lit room and functioning audio).

Preparation for Interviews

The interview preparation began with an authors’ meeting where we reviewed the interview guide, verified the purpose and priority of each question, and assigned sections of the interview guide to the three student authors to promote consistency and efficiency in interviews. To set a consistent tone, the entire research team decided the interviewer persona would be

casual, pleasant, neutral, and professional. The role of the interviewer also included active listening to prevent the interviewer from interfering with the participants' conversation.

Semi-Structured Interviews

The semi-structured interviews were composed of open-ended questions and progressed in a conversational manner to encourage comfortable dialogue. Each interview lasted between 45 and 60 minutes with a mean duration of 55 minutes. Each interview was audio recorded with the permission of the participant.

At the beginning of each interview, the research goals, a brief summary of the research study, and the CSEP Guidelines were verbally communicated to the participant. The interview began with confirming key information about the participant (such as their role and years of experience) which was used to accurately report any consequent variations in the interview responses. The interview progressed to open-ended and exploratory questions to learn more about their experiences working with Canadian immigrant youth in a physical activity context.

The instrument of data collection was a interview guide which is seen in Table 2. This instrument was modified after the first 2 interviews to include a question on the impact of parental influence on immigrant youth physical activity. Parental influence was a common subject in the first 2 interviews, and we wanted to explore this matter with subsequent participants.

Table 2: Semi-Structured Interview Guide

Subject	Questions
Participant History (General)	<ul style="list-style-type: none"> • What is your current role/job title? • How long have you held this role/job /title at your current work location? • How many years of experience do you have working with immigrant youth? • How many years of experience do you have working with immigrant youth in a physical activity context?
Interactions with Immigrant Youth Within their Respective Facilities (Physical Activity Context)	<ul style="list-style-type: none"> • According to your personal experience, how many hours of moderate- to vigorous-intensity physical activity (such as skating, running, and bike riding) do you think the youth at your facility engage in per day? <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed? • According to your personal experience, how many days of the week do you think the youth at your facility engage

	<p>in vigorous-intensity activities (such as activities that cause sweating or periodic shortness of breath)?</p> <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed? <ul style="list-style-type: none"> • According to your personal experience, how many days of the week do you think the youth at your facility engage in muscle and bone-strengthening activities (such as basketball, gymnastics, soccer or other team sports)? <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed? • *What is the influence of parents on Canadian immigrant youth’s physical activity?
<p>CSEP Youth Guideline Adherence</p>	<ul style="list-style-type: none"> • According to your personal experience, how many hours of moderate- to vigorous-intensity physical activity (such as skating, running, and bike riding) do you think the youth at your facility engage in per day? <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed? • According to your personal experience, how many days of the week do you think the youth at your facility engage in vigorous-intensity activities (such as activities that cause sweating or periodic shortness of breath)? <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed? • According to your personal experience, how many days of the week do you think the youth at your facility engage

	<p>in muscle and bone-strengthening activities (such as basketball, gymnastics, soccer, or other team sports)?</p> <ul style="list-style-type: none"> ○ Describe how you feel about the value you have provided? Is it more or less than you believe is suggested/needed?
<p>Opinions and Values</p>	<ul style="list-style-type: none"> • Tell us what you see as your role in terms of promoting physical activity • What are your overall thoughts on the level of daily/weekly physical activity in immigrant youth? • Have you experienced any difficulties in promoting physical activity in immigrant youth? • Can you tell us about any thoughts the youth you have interacted with shared in terms of their understanding of the importance of physical activity? • Have you noticed any obstacles or barriers that might prevent immigrant youth from accessing/taking part in regular physical activities or team sports? • What are your thoughts on the impacts of the COVID-19 pandemic in regard to the physical activity engagement in the immigrant youth population? • According to your past experiences, do you think that there exist immigrant youth circumstances that may affect guideline adherence and integration? <ul style="list-style-type: none"> ○ If so, do you think there can be steps taken to address said circumstances? And what would those steps include? • How do you feel about the accessibility and availability of physical activity for immigrant youth? • How do you think we can improve the integration of the guidelines into youth immigrants' lives?

Conclusion	<ul style="list-style-type: none">• Is there anything else that you would like to share?
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Note. *This instrument was modified after the first 2 interviews to include a new question.

Data Processing

During the interviews, we took notes, and the interviews were recorded using Zoom. The interviews were transcribed into a digital format in live time via the Zoom transcription feature. Once the transcripts were finalized, we performed data cleaning, we confirmed with our academic supervisors about the data integrity, and we subsequently manually deducted codes from the finalized transcripts.

This process, and all the data analysis occurred in private locations where the data could not be accessed or viewed by the public. The Zoom recordings were in audio form, did not contain facial identification, and recordings were stored in a password-protected and encrypted online platform to ensure anonymity. Finalized transcripts had identifying variables removed to protect the confidentiality and anonymity of the participants. The transcripts and all other digital content were deposited in encryption and password-protected locations. Any physical documents were stored in a secure location with authorized access only.

Data Analysis

We individually and manually used Braun and Clarke's six thematic analysis steps of (1) familiarization, (2) generating initial codes, (3) generating themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report (Braun & Clarke, 2006). This technique was chosen because it enables systematic immersion of extensive data sets, thus eliciting core theme development (Braun & Clarke, 2006). Therefore, it was the ideal approach to determine primary themes amongst our data set. As mentioned, a constructivist paradigm was used. All three student authors were independently involved in all data analysis processes which started on July 1, 2021 and ended on July 21, 2021. Data saturation was noted after coding the first four out of six interview transcripts as no new codes emerged after this point.

Ethical Considerations

Ethical approval was obtained from the University of Alberta Research Ethics Board. Written informed consent was obtained from all participants via a consent form sent by email. All involved researchers signed confidentiality agreements to ensure data confidentiality (see Appendix G). Anonymity was ensured through the lack of facial association in audio recordings and the removal of identifying variables on all research documents and transcripts. Data security was ensured as all research documents were locked, password and encryption protected, and only accessible by authorized researchers.

Techniques to Enhance Rigor

The techniques used to enhance the rigor of this study included: researcher reflexivity, investigator triangulation, peer review/debriefing, purposive sampling of unique participants, conduction of thorough semi-structured interviews, use of comprehensive guiding questions, and increased time for responses. We consistently utilized personal journals throughout the research process; this technique was chosen because reflexivity significantly enhances the credibility and

authenticity of a study and reduces bias (Dodgson, 2019). We used investigator triangulation as each of us individually coded and analyzed the data; no major discrepancies were noted, and minor discrepancies were resolved by meeting in-person following data analysis to critically discuss findings and consolidate them into concrete themes. This technique was chosen as investigator triangulation enhances inter-rater reliability, credibility, dependability, and confirmability (Johnson et al., 2020). Furthermore, we engaged in peer review and debriefing by continuously obtaining feedback from our supervisors about emerging interpretations; this technique was chosen as peer review/debriefing enhances credibility and dependability (Cypress, 2017). Additionally, we conducted thorough interviews that were approximately 1-hour in length, used comprehensive guiding questions throughout the interviews, and allowed increased time for responses to ensure thorough data despite a small sample size and one virtual data collection method. These techniques were chosen as they collectively promote high-quality data collection, data saturation, and authenticity (Johnson et al., 2020).

Researcher Characteristics

We are all either the children of immigrants or immigrants ourselves which is a strength in this research because it granted us authority in the context of Canadian immigrant youth physical activity. However, it was also a risk for bias; thus, reflexivity, investigator triangulation, and peer review/debriefing were adhered to throughout the research process to reduce bias. Throughout the study, we maintained a professional relationship with the participants. The personal characteristics the authors brought were inquisitiveness, analytical ability, adaptability, collaboration skills, and observational skills; all of which enhanced team performance, as well as the data collection and analysis processes.

Findings

The sample consisted of 6 community service-workers that had experience working with Canadian immigrant youth in a physical activity context.

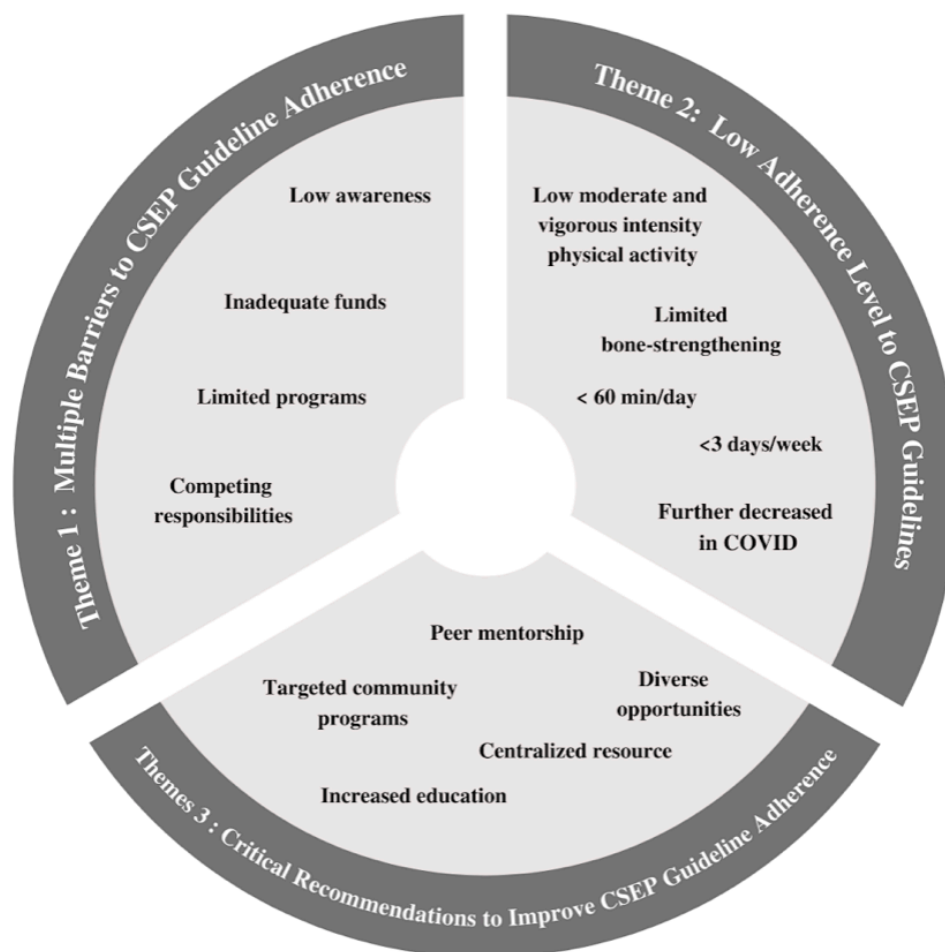
Data analyses identified three primary themes: (1) Multiple Barriers to CSEP Guideline Adherence, (2) Low Adherence Level to CSEP Guidelines, and (3) Recommendations to Improve CSEP Guideline Adherence. The following sections, Table 3, and Figure 1 explore and detail these themes.

Table 3: Summary of Findings

<i>Themes</i>	<i>Subthemes</i>	<i>Summary of Synthesis</i>
Theme 1: Multiple Barriers to CSEP Guideline Adherence	<i>Low Familiarity with Physical Activity</i>	<ul style="list-style-type: none">● Low awareness of CSEP guidelines● Limited understanding of value● Low parental and youth knowledge regarding opportunities● Low comfort levels with physical activity
	<i>Inaccessibility</i>	<ul style="list-style-type: none">● Limited targeted community programs and resources● Skill level differences lead to participation gap

	<i>Finances</i>	<ul style="list-style-type: none"> ● Inadequate funds to support sport associated costs (training and equipment)
	<i>Competing Responsibilities</i>	<ul style="list-style-type: none"> ● Caregiving and domestic obligations ● Increased emphasis on academics
Theme 2: Low Adherence Level to CSEP Guidelines	<i>Under-Adherence to CSEP Guidelines Categories</i>	<ul style="list-style-type: none"> ● Moderate-vigorous intensity physical activity < 60 min/day ● Vigorous-intensity physical activity: <3 days/week ● Muscle and bone-strengthening physical activity: <3 days/week
	<i>Further Under-Adherence to CSEP Guidelines Categories in COVID-19</i>	<ul style="list-style-type: none"> ● No physical activity per day or week ● Exacerbation of critical barriers ● Creation of new ones
Theme 3: Recommendations to Improve CSEP Guideline Adherence	<i>Increase Accessibility</i>	<ul style="list-style-type: none"> ● Increase targeted community programs ● Increase diverse activity opportunities <ul style="list-style-type: none"> ○ Competitive – increased access to school teams ○ Non-competitive – increased access to game and activity-based programs
	<i>Increase Information and Education</i>	<ul style="list-style-type: none"> ● Increased education for youth-based programs ● Parental information sessions ● Centralized physical activity resource base
	<i>Promote Mentorship</i>	<ul style="list-style-type: none"> ● Supportive specialist teachers and former students ● Peer mentorship through gender separation

Figure 1
Summary of Primary Themes



Note. The three primary themes and key words associated with each theme.

Theme 1: Multiple Barriers to CSEP Guideline Adherence

This theme details the multiple unique barriers to CSEP Guideline Adherence that Canadian immigrant youth face: “*There are many unique barriers that prevent immigrant youth from engaging in physical activity regularly*” (Participant). This theme contains four sub-themes of specific barriers, namely (1) Low Familiarity with Physical Activity, (2) Inaccessibility, (3) Finances, and (4) Competing Responsibilities, which are explored below.

Sub-Theme 1: Low Familiarity with Physical Activity

There is significantly low familiarity with physical activity amongst Canadian immigrant youth: “*In many immigrant cultures, physical activity is just not such an integral part of their life*” (Participant). At the foundational level, immigrant youth have low awareness of the CSEP Guidelines themselves and therefore, make minimal efforts to adhere to them: “*The vast majority*

of immigrant youth don't even know that there are physical activity guidelines and so they have no reference point to try and adhere to them" (Participant). Furthermore, immigrant youth and their parents generally possess limited knowledge on physical activity benefits and involvement processes and display low comfort levels with physical activity, which culminates in low activity levels: "It is very hard for immigrant families to find information on how to be involved, even at community levels" (Participant). These factors suggest that low familiarity with physical activity is a barrier to CSEP Guideline adherence in Canadian immigrant youth.

Sub-Theme 2: Inaccessibility

There is not enough accessibility to physical activity for immigrant youth to facilitate CSEP Guideline adherence as "inaccessibility is a critical reason why immigrant youth simply cannot adhere to those guidelines" (Participant). There are limited targeted community programs and resources for immigrant youth to engage in regular physical activity: "There are not a lot of community programs specifically for immigrant youth, so they significantly miss out on that physical activity" (Participant). Additionally, immigrant youth largely cannot access the fundamental resource of structured school sports teams or physical education classes as they do not possess the skill-level required to participate: "The competitive nature of youth school sports means we often have to cut immigrant kids, and this makes it harder for them to get their physical activity. On top of this, they often demonstrate low participation in physical education classes because they get discouraged by their skill levels" (Participant). This illustrates that inaccessibility is a barrier to CSEP Guideline adherence in Canadian immigrant youth.

Sub-Theme 3: Finances

Many immigrant youth experience financial barriers regarding physical activity: "Physical activity and sports are really expensive and a lot of immigrant parents simply cannot afford it" (Participant). This barrier interferes with the ability to pay for seasonal sports fees and buy the required equipment: "There are lots of immigrant families who just aren't able to pay for sports seasons and equipment which makes getting regular physical activity really difficult" (Participant). These circumstances suggest that finances are a barrier to CSEP Guideline adherence in Canadian immigrant youth.

Sub-Theme 4: Competing Responsibilities

Adhering to the CSEP Guidelines is not feasible for many immigrant youth as they have competing responsibilities that take priority: "Immigrant youth have a lot of unique responsibilities that interfere with regular physical activity" (Participant). Specifically, immigrant youth may have caregiving and domestic obligations which decrease physical activity engagement: "Immigrant parents work lots so the youth are at home taking care of their siblings or doing housework, so they don't have the option or time to engage in physical activity at the level they should be" (Participant). Moreover, there is a significant academic emphasis amongst immigrant youth which often leaves little time for physical activity: "[for immigrant youth], academics comes before everything so getting regular physical activity is not likely to happen" (Participant). This information suggests that competing responsibilities are a barrier to CSEP Guideline adherence in Canadian immigrant youth.

Theme 2: Low Adherence Level to CSEP Guidelines

The CSEP Guidelines suggest that physical activity should occur in two categories: (1) 60 minutes of moderate-to-vigorous intensity physical activity per day and (2) vigorous-intensity and muscle/bone-strengthening physical activity 3 days per week (CSEP, 2021). This theme describes immigrant youth's low adherence level to the CSEP Guidelines prior to COVID-19 and the significantly decreased adherence level during COVID-19: *"Guideline adherence levels in immigrant youth are extremely low and this is highly unique and pertinent before and during COVID"* (Participant). This theme contains two sub-themes that detail the low guideline adherence level: (1) Under-Adherence to CSEP Guidelines Categories and (2) Further Under-Adherence to CSEP Guidelines Categories in COVID-19.

Sub-Theme 1: Under-Adherence to CSEP Guidelines Categories

Canadian immigrant youth significantly under-adhere to the CSEP Guidelines categories: *"Immigrant youth are under-adhering to those CSEP Guidelines categories, most definitely even less than other youth of the same age"* (Participant). More specifically, immigrant youth are not obtaining 60 minutes per day of moderate-to-vigorous intensity physical activity: *"I think they are maybe getting 30 minutes per day and that's a huge maybe"* (Participant). Additionally, immigrant youth are not obtaining vigorous-intensity or muscle/bone-strengthening physical activity at least 3 days per week: *"I think they are maybe doing [vigorous intensity and muscle and bone activity] one day per week."* (Participant). This suggests that Canadian immigrant youth may not be adhering to the CSEP Guidelines categories.

Sub-Theme 2: Further Under-Adherence to CSEP Guidelines Categories in COVID-19

COVID-19 decreased adherence levels to the CSEP Guidelines categories: *"COVID has significantly decreased the already low adherence"* (Participant). More specifically, COVID-19 has decreased adherence to the point where immigrant youth are obtaining no physical activity in any of the CSEP Guidelines categories: *"I don't believe [immigrant youth] are obtaining any physical activity in any of those categories during COVID"* (Participant). This under-adherence to the guidelines is largely attributed to contributing factors of decreased accessibility to physical activity/sports, altered physical education structure and delivery, increased screen time and sedentary behaviours, and high levels of pandemic fear/stress: *"This year has been totally different. There are no community or school physical activity resources and physical education classes are online. [Immigrant youth] are spending 10-12 hours a day on the computer and they and their families have really high fear and stress of the pandemic which also limits physical activity outings"* (Participant). This illustrates that the pandemic has exacerbated barriers to physical activity for immigrant youth whilst also creating new ones. Collectively, this suggests that the pandemic has decreased adherence to the CSEP Guidelines categories in Canadian immigrant youth.

Theme 3: Recommendations to Improve CSEP Guideline Adherence

This theme describes the pivotal recommendations that would improve CSEP Guideline adherence in Canadian immigrant youth: *"There are several recommendations that would improve guideline adherence for immigrant youth"* (Participant). This theme contains three sub-

themes of specific recommendations: (1) Increase Accessibility, (2) Increase Information and Education, and (3) Promote Mentorship.

Sub-Theme 1: Increase Accessibility

A recommendation is to increase accessibility to physical activity: *“Accessibility is so critical to immigrant youth adhering to those guidelines” (Participant)*. Increasing targeted, low-cost, and non-competitive community programs for immigrant youth (i.e., sports teams or intramurals) would be beneficial: *“If there were more targeted physical activity community programs for immigrant youth that were low-cost and non-competitive, it would substantially help them in meeting those guidelines” (Participant)*. Additionally, increasing diverse physical activity opportunities would be effective because it would cater to immigrant youth’s backgrounds and enhance their comfort levels: *“Increasing the number of programs for immigrant youth to play the sports or games native to their country would improve adherence as they would be inclined and comfortable to play” (Participant)*. These points suggest that increasing accessibility is a pivotal recommendation to increase CSEP Guideline adherence in Canadian immigrant youth.

Sub-Theme 2: Increase Information and Education

Increasing information and education on physical activity for immigrant youth and their families would be beneficial: *“If someone were to provide [immigrant youth and their families] with greater information and education on physical activity, they would be much more likely to adhere to the guidelines” (Participant)*. This includes disseminating comprehensive information and education regarding physical activity to immigrant families through schools: *“Get all of that information into schools, assemblies, and classrooms, really promote that exposure and you will see higher physical activity levels in their youth” (Participant)*. Additionally, consolidating this information into one accessible, centralized, and online resource would promote regular physical activity for immigrant youth because it would mitigate the confusion many immigrant families face: *“If they had a one-stop information resource, a centralized base of where to go to get kids involved with physical activity and learn why it’s important, adherence levels would look a lot better” (Participant)*. These points suggest that increasing information/education on physical activity is an imperative recommendation to improve CSEP Guideline adherence in Canadian immigrant youth.

Sub-Theme 3: Promote Mentorship

Adherence to the CSEP Guidelines would be significantly improved through strong mentors: *“A big factor in increasing physical activity in immigrant youth is positive mentors” (Participant)*. Utilizing positive teachers and/or former students as mentors would be beneficial as *“Teachers and former students are huge role models for this population. If these personnel encouraged physical activity, it would be received well” (Participant)*. Moreover, encouraging peer mentorship in this population would be particularly constructive; one way to do so is by creating groups in physical education classes based on the presence of peer leadership: *“Creating groups in gym classes that each have a strong student or peer leader is excellent because they really encourage physical activity amongst their peers” (Participant)*. This

suggests that promoting mentorship would be beneficial to improve CSEP Guideline adherence in Canadian immigrant youth.

Discussion

Summary of Main Findings

This study found three primary themes. Firstly, several barriers to CSEP Guideline adherence for Canadian immigrant youth were identified. Secondly, the adherence level to the CSEP Guidelines amongst Canadian immigrant youth may be low and this was further decreased by the pandemic. Thirdly, several recommendations that would improve CSEP Guideline adherence in Canadian immigrant youth were shared.

We identified that the barriers to CSEP Guideline adherence for Canadian immigrant youth are low familiarity with physical activity, inaccessibility, finances, and competing responsibilities, thus contributing to our understanding of the barriers for this population. This is in contrast with the findings of Pujadas Botey et al. (2016) who found that the barriers to CSEP Guideline adherence in the general Canadian youth population are high screen time, lack of motivation, and low parental encouragement. These differences may be due to the fact that Pujadas Botey and colleagues focused on the general Canadian youth population at an age of 10-13 years rather than immigrant youth aged 12-17. Generally, Canadian immigrant youth are less familiar with physical activity than their non-immigrant counterparts because of lack of exposure in their culture (Kramers et al., 2021). Moreover, targeted physical activity programs for 12-17-year-olds are competitive and primarily serve the needs of non-immigrant youth, thus making inaccessibility a distinct issue for Canadian immigrant youth (Tremblay, 2012). Additionally, Canadian immigrant youth may face more financial hardship than non-immigrant youth; consequently, their immigrant parents work long hours which forces immigrant youth to uphold greater domestic responsibilities than their non-immigrant counterparts, thus interfering with physical activity (Browne et al., 2017).

We found there was low adherence to the CSEP Guidelines amongst Canadian immigrant youth specifically. This is similar to the findings of Garriguet (2016) and Roberts et al. (2017) who also found low adherence to Canadian youth physical activity guidelines; ~50% of persons aged 6-17 years and <3% of youth aged 10-17 years actually adhere to physical activity guidelines. This consistency could be attributed to the fact these studies focused on general Canadian youth which is a comparable focus population to that of our study. Many Canadian youth, regardless of immigrant status, struggle to obtain appropriate amounts of physical activity. This is due to North American societies enabling sedentary behaviours and placing little emphasis on active lifestyles (Prince et al., 2020).

Similar to our study's findings, Guerrero et al. (2020) found that the COVID-19 pandemic has decreased adherence to the Canadian 24h-Movement Guidelines amongst the general Canadian youth population due to increased screen time, sport inaccessibility, and parental stress. This consistency may be because of common circumstances amongst our focus population and that of Guerrero et al. (2020). Canadian youth, regardless of their immigrant status, faced similar shut-downs due to the pandemic which naturally increased screen time, worsened sport inaccessibility, and elevated parental stress, thus resulting in decreased physical activity (Teare & Taks, 2021). Additional contributing factors that we identified were altered

physical education structure/delivery an elevated fear of COVID-19. These differences may be due to the unique impact of the pandemic on Canadian immigrant youth compared to the general Canadian youth population. Unlike non-immigrant youth, school-based physical education classes are the major method for obtaining physical activity in Canadian immigrant youth, and disruptions to these classes impact immigrant youth physical activity (Nyika et al., 2018). Canadian immigrant youth demonstrated higher levels of fear of the pandemic than non-immigrant youth due to confusion around public health measures, which decreased their physical activity (Guruge et al., 2021).

We found that the recommendations of physical activity education and greater sport accessibility would be beneficial in increasing CSEP Guideline adherence in Canadian immigrant youth. This is consistent with the findings of Pujadas Botey et al. (2016) who found that similar recommendations improve CSEP Guideline adherence for the general Canadian youth population. This consistency may be due to similar age and school-related contexts between our focus population and that of Pujadas Botey and colleagues (general Canadian youth). Collectively, there is suboptimal understanding of physical activity and low accessibility opportunities amongst all Canadian youth, immigrant or otherwise; inadequate health classes in Canadian schools and insufficient youth sports programs highlight the need for greater education and sport accessibility amongst Canadian youth (Blanchard et al., 2019).

In contrast with Pujadas Botey et al. (2016), we found that the recommendations of extending education sessions to the entire immigrant family, increasing non-competitive physical activity programs, and promoting mentorship might improve CSEP Guideline adherence in Canadian immigrant youth specifically, thus fostering our understanding of recommendations to improve physical activity guideline adherence in this population. These differences may be due to fundamental distinctions in physical activity customs in immigrant youth/families compared to general Canadian youth. Immigrant parents face a greater knowledge deficit regarding physical activity and require more information than their non-immigrant counterparts because of inexperience with the subject (Lacoste et al., 2020). Immigrant youth typically respond better to non-competitive physical activities and require higher levels of mentorship than their non-immigrant counterparts due to low comfort with physical activity (Lane et al., 2021).

The extent to which COVID-19 decreased CSEP Guideline adherence levels exceeded our expectations. We found it interesting that despite the pandemic's significant impact on guideline adherence, no explicit recommendations emerged from participants regarding how to mitigate this during the pandemic. The competing responsibilities that immigrant youth possess, and the impact of parental influence on physical activity levels were surprising, as we did not previously consider these factors.

Implications

Implications for Nursing Practice, Policy, and Education

In nursing practice, this research can be used as a basis for optimizing health promotion efforts, particularly in community settings when working with immigrant youth/families. Health promotion strategies such as client/family education and primary prevention of youth inactivity and obesity can be improved by incorporating the study findings; this includes increasing information and education on the benefits of physical activity, providing local physical activity

accessibility opportunities, and encouraging peer mentorship. Additionally, this study can guide nursing efforts to create a community physical activity program that is low-cost and offers diverse activities, thus serving Canadian immigrant youth.

This study can also inform the modification, by stakeholders, of existing nursing policies regarding youth physical activity. Using this study as a basis, position statements and policy briefs such as the *Promoting Physical Activity Policy* (Canadian Nurses Association, 2011) can be updated to include diverse and non-competitive physical activities, thus optimizing Canadian immigrant youth physical activity levels.

In nursing education, this study can improve diversity-teaching. The barriers to CSEP Guideline adherence can be included in foundational courses whereby population-based determinants of health are explored, thus raising awareness on immigrant youth physical activity. The recommendations discussed in this study can inform diverse-population health promotion protocols in curricula, suggesting that registered nurses will be prepared to effectively promote physical activity in Canadian immigrant youth.

Implications for Future Nursing Research

The findings of this study can guide qualitative and quantitative research, which would advance knowledge on this subject. This includes conducting a qualitative ethnographic study on physical activity guideline adherence in Canadian immigrant youth; this would foster understanding of physical activity guideline adherence from the sole perspective of Canadian immigrant youth and would also capture the physical activity that this population may be doing outside of structured organizations. Conducting a descriptive statistical study that determines adherence percentage of physical activity guidelines amongst Canadian immigrant youth would improve the quantitative data on this subject. Furthermore, conducting a large-scale qualitative descriptive study that further explores the impact of COVID-19 on Canadian immigrant youth physical activity would elicit valuable information that could be used to identify recommendations that increase their physical activity in the pandemic.

There still exists a research gap on the outcomes of physical activity guideline adherence/non-adherence in Canadian immigrant youth. Further research in this area would clarify understanding of non-adherence impact on physical, mental, and social health.

Limitations

This study has limitations. Firstly, selection bias is present due to purposive sampling of only 6 community service-workers from 6 Edmonton community-agencies; as a result, the findings reflect our participants' own experiences, and the sample may not be sufficiently diverse. Secondly, the study sample did not contain any immigrant youth participants. The findings were based on participants' experiences working with Canadian immigrant youth in organized physical activity agencies; though participants' responses were genuine, this study did not capture Canadian immigrant youths' perspectives on physical activity nor the physical activity that Canadian immigrant youth may be doing outside of structured organizations which are critical points of understanding on this topic. Thirdly, personal bias may be present as we are either the child of immigrants or immigrants ourselves; though this was a strength in this study, it may have influenced how we interpreted participants' experiences. This reduced credibility and rigor. Finally, the small sample size and conduction of only one virtual semi-structured interview

per participant may have limited thorough and diverse themes, possibly hindering credibility. A unique challenge we faced during this research was the virtual nature of the interviews due to COVID-19; this may have reduced authenticity.

Multiple techniques were used to manage the limitations and strengthen rigor. To reduce the risk of selection bias and strengthen findings amongst a non-immigrant sample, we purposely chose highly experienced participants from different community-agencies to capture extensive involvement with Canadian immigrant youth and physical activity. In order to reduce the risk of personal bias, we engaged in researcher reflexivity, investigator triangulation, and peer review/debriefing. To ensure thorough theme development and credibility despite a small sample size and one data collection method, we conducted comprehensive semi-structured interviews (~1hr in length) and used thorough guiding questions. To promote authenticity despite virtual interviews, increased time was given for participants to answer questions, thus fostering genuine and authentic responses.

Funding and Conflicts of Interest

This study was unfunded and as such, we perceive no financial conflict of interest. This project was conducted as part of enrollment in the University of Alberta Honors Nursing Program and was for academic credit; no involved parties were offered any incentive.

Conclusion

This study identified three primary themes: (1) Multiple Barriers to CSEP Guideline Adherence, (2) Low Adherence Level to CSEP Guidelines, and (3) Recommendations to Improve CSEP Guideline Adherence. By providing a robust qualitative overview on the subject, the knowledge generated through this study contributes to our understanding of physical activity in Canadian immigrant youth. The findings have the potential to inform various domains of nursing practice, policy, and education and can guide future research to strengthen the literature on this topic and collectively support the health of Canadian immigrant youth. We look forward to disseminating these findings and promoting the well-being of Canadian immigrant youth.

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Appendix A: Study Recruitment Letter



Exploring Physical Activity Guideline Adherence in Canadian Immigrant Youth: A

Qualitative Exploratory Study (#Pro00108945)

Recruitment Letter

Research Investigators:

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Supervisor:

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To Whom It May Concern:

I hope that this letter finds you well.

My name is Rebecca Sugars and I am currently a fourth-year student in the Bachelor of Science in Nursing (BScN) Honors Program at the University of Alberta. I am writing this email on behalf of myself and my research partners, Vidhi Patel and Mansimran Virk, as well as our supervisor, Dr. Margot Jackson, to discuss recruiting members at your organization to participate in our research study as part of our enrollment in the Honors Nursing Program.

The topic of our research is exploring physical activity guideline adherence in Canadian immigrant youth; as part of this, we aim to explore the extent to which physical activity guidelines are adhered to in immigrant youth populations, as well as investigate the primary barriers that exist with regards to optimal guideline adherence and strategies that can be used to mitigate these barriers. Through this research, we aim to explore these objectives and this topic by using the valuable insight and knowledge of persons that are familiar with this subject and the demographic of Canadian immigrant youth; in saying this, we will be conducting one virtual interview with each participant that are approximately 45-60 minutes in length using Zoom. We will then analyze the interviews to answer our research objectives and explore our topic.

In saying this, we are looking for community service-workers that have experience working with Canadian immigrant youth (12-17 years-old) in a physical activity context to participate in our study and take part in one virtual interview (e.g., sports camp supervisors, youth sports coaches, physical activity initiative leaders, physical education teachers, etc.). We believe that your organization may have employees that are particularly familiar with this topic and would be valuable for our study as participants. In saying this, we please ask that you send us back a list of names and contact information of employees at your organization that may fit this description and would be willing to participate in our study. We will then reach out to these persons individually to send them further information on the study and officially recruit them as participants. Your employees are also welcome to reach out to any of us (contact information at the top of this letter) if they have any questions or concerns regarding this study.

Please note that further details and in-depth information regarding this study will be conveyed to the chosen participants after we have received recommendations from you. Please let me know if you have any questions or concerns or require any additional information at this time.

We greatly appreciate your help in recruiting participants for our study and look forward to hearing from you soon.

Thank you very much in advance for your time and consideration. Wishing you a safe summer ahead.

Sincerely,
Rebecca Sugars
Mansimran Virk
Vidhi Patel

Updated May 31, 2021

Note. The recruitment letter sent via email to the eight Edmonton community agencies.

Appendix B: Community-Agencies Contacted in Sample Recruitment Outreach

Name of Community-Agency	Description	Location
William Lutsky Family YMCA	This community-agency provides opportunities for children and youth to grow and develop through physical activity by offering year-round sports camps and lessons.	1975 111 St NW, Edmonton, AB T6J 7C6
Crystal Kids Youth Centre	This community-agency provides youth with an opportunity to engage in regular physical activity by running year-round sports camps.	8718 118 Avenue NW, Edmonton, AB T5B 0T1
Metro Athletics Edmonton	This community-agency connects high school students with sports team involvement opportunities.	10425 84 Avenue NW, Edmonton, AB T6E 2H3
Mother Margaret Mary High School	This community-agency is a high school that offers students a broad range of sports, physical education, and physical activity camps.	2010 Leger Road NW, Edmonton, AB T6R 0R9

True Blue Swim School	This community-agency provides youth with physical activity through swim lessons and fitness sessions.	5637 Riverbend Road NW #110, Edmonton, AB T6H 5K4
Edmonton Youth Basketball Association	This community-agency provides youth the opportunity to play basketball in various levels of competition.	2307 113a Street NW, Edmonton, AB T6J 4Y1
Kate Chegwin School	This community-agency is a junior high school that offers students the opportunity to engage in team sports, physical education, and intramurals.	3119 48 Street NW, Edmonton, AB T6L 6P5
Mill Woods Recreation Centre	This community-agency provides youth with a range of sports camps and fitness instruction.	7207 28 Avenue NW, Edmonton, AB T6K 3Z3

Note. The eight Edmonton community-agencies contacted during sample recruitment outreach.

Appendix C: Study Information Letter



Exploring Physical Activity Guideline Adherence in Canadian Immigrant Youth: A Qualitative Exploratory Study (#Pro00108945)

Information Letter for Participants

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Dr. Margot Jackson
Honors Supervisor

Dear Participant,

We are conducting research to explore the integration and application of physical activity guidelines in immigrant youth to Canada. As part of this study, we have recruited community service workers (such as yourself) who have experience working with immigrant youth populations in a physical activity context and we want to conduct an interview to gain your insight into our topic. This letter outlines important information to help you decide whether or not you want to take part in this research. This research will be undertaken by three students in the Honors Nursing program at the University of Alberta.

What happens if I participate in this study?

If you agree, you will be asked to take part in one virtual interview with the authors of this research using Zoom or another similar virtual conferencing platform. This interview will be no longer than an hour and will be entirely virtual, with no in-person components. This interview will be audio recorded for the purpose of analyzing the conversations later for our research.

What will the interview be about?

We will talk to you about your experience working with immigrant youth in a physical activity context, ask about the typical patterns/challenges/barriers that exist in this population regarding physical activity participation, and discuss the strategies you use to ensure active lifestyles in immigrant youth. This conversation will be private, and your name will not be used in the study. Demographic information that will be collected such as age, years of experience, place of employment, and job title will not be used in a way where individuals could be identified.

Why are these demographic pieces important for the researchers to know?

These demographics are important for us to obtain in order to produce the most accurate results of this research. We intend to use this information to learn more about the impact of physical activity itself in immigrant youth and to extend future research in this area. We will do everything we can to make sure that this information is kept private. No information relating to this study that includes your name will be released outside of the researcher's office or published by the researchers. The taped interviews will only be heard by the research team. Some components of the conversation transcript may be used in written publications in professional journals for teaching purposes. All data will be stored in password protected computers and in a locked cabinet in a locked office. We intend to retain the data indefinitely.

Expected Risks and Benefits

Physical Activity Guideline Adherence Among Canadian Immigrant Youth: A Qualitative Exploratory Study

It is not expected that taking part in this study would cause you any harm. The entirety of your participation in this research will be virtual, such to adhere to COVID-19 provincial guidelines and eliminate transmission risk. However, as this interview will take place in a safe and calm personal environment, you are able to bring up past life experiences that may be difficult to talk about. In the event of this occurring, you will be able to let the researcher know if you would like to skip the question or stop the interview. If you wish, the research team will refer you to counselling services for additional support. The only requirement is your time and willingness to share your experiences. You may ask any questions about this study at any time. There are no direct benefits to participating in this study, but in participating, you will assist us in improving health promotion strategies and understanding of physical activity in immigrant youth populations.

What happens if I change my mind?

You are not expected to take part in this study. If you decide to take part in the study and later change your mind for any reason, you may withdraw from the study with no penalty. You will only be asked to share what you feel comfortable in the interviews and you may decide to not answer a specific question. Please note that though you can withdraw from the study at any time, the data collected up until that point will still be used by researchers for data analysis due to limited availability of sample participants.

Questions and Concerns

You are welcome to ask any questions at any time regarding any aspect of this study. You may ask questions via email to Rebecca Sugars (rsugars@ualberta.ca), Mansimran Virk (mkv@ualberta.ca) or Vidhi Patel (vbpatel1@ualberta.ca). Dr. Margot Jackson, Tel: (780) 492-0752, is the research supervisor and is also available to answer any questions. The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492- 2615.

If you would like to participate in this study, please read the consent form and respond to the questions.

Are there any questions you would like to ask? Please write them and your email address below and we will contact you directly with the answers.

Note. The study information letter sent to participants via email.

Appendix D: Consent Form**CONSENT FORM for participant – Updated May 31, 2021**

Title of Project: Exploring Physical Activity Guideline Adherence in Canadian Immigrant Youth: A Qualitative Exploratory Study (#Pro00108945)	
Project Supervisor: Dr. Margot Jackson Phone number: (780) 492-0752 Researcher: Rebecca Sugars Researcher: Mansimran Virk Researcher: Vidhi Patel	
To be completed by participant	
	<u>Yes</u> <u>No</u>
Do you understand that you have been asked to be in a research study?	<input type="checkbox"/> <input type="checkbox"/>
Have you read and received a copy of the attached Information Sheet?	<input type="checkbox"/> <input type="checkbox"/>
Do you understand the benefits and risks involved for taking part in this research study?	<input type="checkbox"/> <input type="checkbox"/>
Have you had an opportunity to ask questions and discuss this study?	<input type="checkbox"/> <input type="checkbox"/>
Do you understand that you are free to withdraw from the study at any time without having to give a reason and without penalty (though your data from interviews up until that point will still be used)?	<input type="checkbox"/> <input checked="" type="checkbox"/>
Have the details regarding confidentiality and anonymity been explained to you?	<input type="checkbox"/> <input type="checkbox"/>
Do you understand that all conversations between yourself and the researcher will be recorded?	<input type="checkbox"/> <input type="checkbox"/>
Do you understand that portions of the final research may be published in professional journals or presented at conferences?	<input type="checkbox"/> <input type="checkbox"/>
Who explained this study to you? _____	
I agree to take part in this study:	YES <input type="checkbox"/> NO <input type="checkbox"/>
Signature of Research Subject _____	
(Printed Name) _____	
Date: _____	
Signature of Witness _____	
I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.	
Signature of Investigator or Designee _____	Date _____

Note. The consent form sent to participants via email which was signed and sent back to researchers.

Appendix E: Participant Contact Form

PARTICIPANT CONTACT FORM for participant – Updated May 31, 2021

Title of Project: Exploring Physical Activity Guideline Adherence in Canadian Immigrant Youth: A Qualitative Exploratory Study (#Pro00108945)

Project Supervisor: Dr. Margot Jackson Phone number: (780) 492-0752

Researcher: Rebecca Sugars

Researcher: Mansimran Virk

Researcher: Vidhi Patel

To be completed by participant

Thank you for your interest in participating in this study. Your involvement is key to exploring youth physical activity guideline adherence and integration in Canadian immigrant youth. By completing this form, you permit the researcher to contact you about participation in this study.

Name: _____

Email: _____

Telephone Number: _____

Job Title: _____

School/Organization: _____

Please check the box if you meet the stated criteria.

I am above the age of 18.

I am able to speak and understand English fluently.

I have access to a computer with Webcam capabilities and am able to join a virtual meeting using a video conferencing platform.

I have previous experience working with immigrant youth populations in a physical activity context.

The researcher uses criteria information to select the most qualified participants for this study. A summary of each participant's qualifications is included in the final dissertation. However, identities are kept confidential. *

Signature of Research Subject _____

(Printed Name) _____

Date: _____

Note. The contact form sent to participants via email which was completed and sent to researchers.