Youth lived experiences in high-rise housing: Implications for health and urban planning

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Continued global urbanization and the growth of high-rise residential development have increasingly shaped the environments in which young people live. Although related areas of study have examined how built, natural, and social environments influence youth well-being, the health implications of high-rise living for youth remain poorly understood. In the present study, small semi-structured focus groups (2-4 participants) with 19 youths aged 13-18 were conducted, lasting between 63 and 86 minutes. Each focus group was recorded, transcribed, and analyzed using the Framework Method to identify recurring themes. Five themes were developed: Safety and Security; Public Space Design and Accessibility; Social Inclusion and Participation; Economic and Structural Barriers to Youth Needs; and Physical and Mental Health. Youth described both positive and negative experiences within high-rise and high-density environments, associated features such as clean public spaces, social infrastructure, and recreation areas with positive well-being; whereas they identified homelessness, drug use, and poor lighting negatively, which led to avoidance of certain public spaces. A central theme that emerged from the data was youth perceptions of safety and social disorder, indicating that challenges in high-rise environments extend beyond planning and design but also relate to social and environmental conditions. The study contributes to understanding how youth experiences can inform more inclusive and healthier high-rise urban environments.

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Chapter 1 – Introduction and Background

1.1 Thesis Context

Continued global urbanization (i.e., rural-to-urban migration) has elevated the priority of urban environments as a determinant of health and well-being that policymakers, urban planners, and public health professionals must collectively contend with (Van der Ploeg and Poelhekke, 2008). In response to rapid population growth and urbanization since the later 20th and early 21st century, and to limit urban expansion, many municipal governments have implemented policies and planning frameworks that increased height and density, permitting the construction of residential high-rise buildings (i.e., units with > 10 storeys) within their existing communities (Van der Ploeg and Poelhekke, 2008). However, such policy decisions to encourage high-rise residential development are not without controversy.

Research on high-rise urban living presents mixed findings regarding its effects on residents' well-being. For instance, one study found that the design elements of amenities (such as activity spaces and scenery) within high-rise areas can support more social interaction among residents (Huang, 2006). Advantages of high-rise living include proximity to public transportation and main streets (Ng, 2017), and social facilities (Larcombe et al., 2019). However, high-rise urban living has been associated with adverse impacts on resident's quality of life including frequent experiences of environmental exposures like air pollution (Salvi, 2007), higher levels of neighbourhood noises and negative sleep outcomes (Mayne et al., 2021), and a limited access of public space (Whitzman and Mizrachi, 2009). Additionally, high-rise living has also been linked to poorer adolescent mental health (Fleckney and Bentley, 2021) and social connection due to poorer access to health supporting amenities such as green spaces (Whitzman and Mizrachi, 2009; Andrews et al., 2019), which are potential elements that influences healthy social development (Gifford, 2007). Furthermore, high-rise residential buildings that are not well maintained or

depending on location can become places where poverty is concentrated without adequate community support or services (Fuerst and Petty, 1991).

Between 2016 and 2021, the number of Canadians living in high-rise apartment units[1] increased by 14.7%, which is more than double the overall 6.4% increase in total private dwellings (Statistics Canada, 2022). In the large urban centre of Toronto, 30.7% of total private dwellings are high-rise apartments which is the highest percentage in the country (Statistics Canada, 2022b). Indicating a national shift towards high-rise living within urban areas.

Recent scholarship has examined how high-density and high-rise environments influence the health and well-being of youth (Shadkam and Moos, 2021; Buttazzoni et al., 2025a; Buttazzoni et al., 2025b). Two studies by Buttazzoni et al. (2025a, 2025b) conducted youth go-along interviews in the Toronto and Kitchener-Waterloo region to have a better understanding on how high-rise environments influence youths' well-being. Both studies found that youth associate urban design elements that support social and local connectivity – such as open pedestrian spaces and recreation amenities – as positive, whereas, designs that limits these factors are viewed negatively (Buttazzoni et al., 2025a; Buttazzoni et al., 2025b). Complementing these findings, Shadkam and Moos (2021) emphasizes that creating a child-friendly city depends on pathway design that prioritizes safety, accessibility, and inclusivity. For instance, their study found that youths' activity and play experiences differs between central and suburban neighbourhoods due to the differences in pathway design. While suburban areas offer private spaces for informal play they often lack walkability and connectivity. In contrast, central urban areas offer greater walkability and connectivity but less safe, informal play areas (Shadkam and Moos, 2021).

[1] Statistics Canada (2022) defines "high-rise" as apartments buildings with five or more storeys, which differs from the definition used elsewhere in this thesis.

Understanding the relationship between high-rise environments and its health impact on youth is essential for informing equitable and inclusive design for healthier high-density housing. For example, although related areas of study have illustrated the impacts of built (physical), natural, and social environments on the health development of youth in single-family dwellings (McCay et al., 2019), the health implications of high-rise livings for youths are still poorly understood (Buttazzoni et al., 2022; Buttazzoni et al., 2025a; 2025b). Hence, ensuring that future urban environments, particularly high-rise environments, are inclusive of younger cohorts requires planning processes that actively incorporates youth participation within the formal decision-making process that recognizes their unique lived experiences.

1.1.1 Research Project/Background

This thesis is part of a larger, multi-city study titled Healthy Youth in High Rises, funded by the Canadian Institutes of Health Research (CIHR). The project examines how the built environment in high-rise environments impacts the physical and mental health of youth. Evidence on youth health implications in high-rise urban environments are still fairly limited (Buttazzoni et al., 2022; Buttazzoni et al., 2025a; 2025b). Hence, the study focuses on youth participation to understand youths' priorities and lived experiences to address limitations of current high-rise built environments and to contribute to insights on inclusive and healthy high-rise urban design. Particularly, the participatory nature of the study (i.e., youth-led focus groups and mapping exercises) aims to address the lack of youth participation in planning and development.

Drawing on focus group data collected through the CIHR project in Toronto and the Region of Waterloo, the study examines how adolescent girls and boys experience high-rise living in relation to feelings of safety, inclusion, and belonging. The participatory nature of the data collection was co-developed in partnership with Urban Minds (a strategic and design firm that

specializes in youth engagement in long-term planning projects) and the Human Environments Analysis Laboratory Youth Advisory Council (HEAL-YAC), aligning with the broader CIHR project's integrated knowledge translation and youth engagement goals. Within this broader initiative, the present thesis focuses on how youth perceive and experience high-rise environments in Toronto and the Region of Waterloo. Using the Framework Method (Gale et al., 2013) as an analytical method, the study organizes youth narratives around themes such as safety, accessibility, inclusion, economic barriers, and health.

As part of the broader Healthy Youth in High Rises project, this thesis utilizes the Framework method to analyze and structure qualitative data systematically within an interdisciplinary research context, ensuring that this research makes an academic and methodological contribution to the growing body of work focused on inclusive and equitable urban design for youth. Recognizing the limited research on how high-rise and high-density urban environments shape youth health and well-being, the purpose of my research is to explore how youth perceive the impacts of high-rise and high-density urban environments on their health and well-being. Particularly, with a focus on how youths' high-rise-density lived experiences can support the health of youth in urban settings to promote effective and equitable future urban planning design practice and policy.

1.2 Youth Experiences in High-Rise Environments

Youth perspectives are often overlooked in planning decisions, despite evidence that their health and social well-being are influenced by the built environment (Evans, 2003; McCay et al., 2019). The exclusion of youth from planning and environmental design decision-making processes can lead to negative outcomes for youth health (Ataol et al., 2019; Mansfield et al., 2021). However, meaningful youth engagement often faces institutional and logistical barriers such as

parental consent, police check, and coordination with school boards (Falkenburger et al., 2021). It is also subject to ethical scrutiny where tokenistic approaches are often employed for youth engagement (Hagemann et al., 2024).

Urban planning as a field has historically been dominated by adult-centric assumptions, where the needs and perspectives of other groups like the working-class are prioritized (David and Buchanan, 2019; F.J. Andrews and Warner, 2020; Thomas, 2021; Tucker et al., 2022); resulting in the youth cohort being treated as passive residents rather than active stakeholders (Checkoway et al., 1995; Frank, 2006; Andrews et al., 2019; Botchwey et al., 2019). As a result, decisions regarding vertical housing, public spaces, and urban design frequently neglect youth priorities and values around safety, inclusion, and social connection (Checkoway et al., 1995; Frank, 2006; F.J. Andrews and Warner, 2020; Thomas, 2021; Tucker et al., 2022).

Despite this tendency, there are emerging examples of planning practice that acknowledge the importance of youth in shaping high-density environments. For example, the *Planning for Children in New Vertical Communities* in Toronto recognized the importance of creating high-rise/density environments that are suitable for youth (City of Toronto, 2020). Although civic engagement and emphasis on public space were mentioned, the City does not mention (1) how the engagement will be completed; (2) how youth feedback will be incorporated into the policy and decision-making processes; and (3) acknowledge the unique differences of each youth and how it may influence the perception of inclusive urban design (i.e., gender, age, and socioeconomic status). Toronto's example underscore that even though youth considerations are beginning to appear in policy discussions, the practical integration into the formal planning and design processes remains incomplete.

Moreover, high-rise built environment can play a significant role in shaping the health and well-being of young people. Research indicates that some high-rise environments lack sufficient facilities, communal areas, and public spaces for families and young people (Whitzman and Mizrachi, 2015). Limited access to healthy supporting amenities, such as green space or safe recreational areas, within high-rise environments can play an important role in their social development (Gifford, 2007; Kalantari and Shepley, 2021). In addition to limited access to healthy amenities, high-rise environments often expose youth to environmental conditions that can negatively affect their health (Barros et al., 2019). Studies have linked poorly maintained building facades to negative emotional responses among youth, associated urban decay to increased depressive symptoms, and high neighborhood noise levels to worsened sleep quality (Fleckney and Bentely, 2021; Mayne et al., 2021; Buttazzoni et al., 2022). The environmental stressors and lack of access to healthy amenities are particularly consequential to youth, who spend a significant amount of time in and around their homes, given their limited access to transportation compared to adults (Buttazzoni et al., 2025). To better create inclusive high-rise built environments, understanding youths' perspectives and priorities is essential to progress current assumptions of healthy and inclusive high-rise designs, and also the opportunities to invite youth into the decision-making process.

For the purposes of this thesis, health is defined using the World Health Organization Ottawa Charter (1986) definition, which describes health "as a resource for everyday life rather than the objective of living." This definition emphasizes health as a positive concept that encompasses social and personal resources, as well as physical capacities (WHO Ottawa Charter, 1986). Applying this definition within the high-rise and high-density environment recognizes that youth health is not only shaped by physical conditions but also social factors such as safety,

belonging, and opportunities for social connection. Which are all elements that emerged strongly throughout the focus group discussions.

1.2.1 Relation to Prior Studies on the Dataset

Two recent studies, emerging from the same CIHR study, have researched youth perspectives on high-rise environments using semi-structured, 'go-along' interview data collected in Toronto and Kitchener-Waterloo. In the first paper, Buttazzoni et al. (2025a) employed Gehl's Inclusive Healthy Place Framework (IHPF) – the framework outlines indicators and metrics that link design to healthy equity outcomes - to analyze the go-along interview data and identified 11 themes that highlight the types of design features (physical or social) that youth perceive as inclusive or not. The paper found that youth are concerned about design that have weak social connectivity, poor sanitation, lacking place legibility, and those that are 'anti-social' (Buttazzoni et al., 2025a). In the second paper, Buttazzoni et al. (2025b) applied the Theory of Affordances – an environmental psychology theory that examines how individuals act or perceive upon the opportunities in their surrounding - to explore how youth perceive high-rise built environment in impacting their mental and physical health. Findings indicate that positive affordances such as high-rise building recreation amenities and open pedestrian spaces are linked to aspects such as high local activity density and rich pedestrian social landscapes (Buttazzoni et al., 2025b). Whereas negative affordances such as places with lack of community and crowding are linked to themes like passive or limited active use design and poor social control and vitality (Buttazzoni et al., 2025b).

This thesis draws on the focus group dataset from the CIHR study. Focus groups differ from go-along interviews in that they allow participants to both reinforce and challenge others' perspectives. Therefore, producing shared perceptions rather than individual place-based

experiences. This thesis also uses the Framework Method as the methodological framework rather than an external theoretical lens, ensuring that themes emerge directly from the focus group data. One central theme does not present in previous studies was youth perceptions of safety and social disorder, particularly where youth perceive public spaces and green spaces as unsafe due to drug use, homelessness, and gang activity. These perceptions underscore previous findings on how youths' challenges in high-rise environments may not be resolved in design or planning, rather situating planning solutions within broader questions of governance and social policy (Frank, 2006, Travlou, 2007, Whitzman and Mizrachi, 2009.

1.3 Research Objectives and Questions

The objective of the thesis is to investigate how high-rise buildings and dense environments have health implications for adolescents living in these contexts. Drawing on participatory data collected through the Healthy Youth in High Rises project, this study focuses specifically on the lived experiences of adolescent boys and girls in the city of Toronto and the Region of Waterloo. Moreover, the thesis is guided by two key research questions: (1) what built environment features of high-rise living are perceived by youth as supporting or undermining their healthy, safety, and inclusion; and (2) how can youth narratives about high-rise environments inform more inclusive planning and design practices that respond to their perspectives and priorities? These questions are analytical in nature to better support the academic study through data analysis and interpretation. In contrast, the research objectives reflect broader contributions of the thesis, such as filling the gap in urban planning and design research regarding youth experiences.

Chapter 2 – Methods

2.1 Thesis Study Context (Toronto and Waterloo Region)

The thesis study is located within two urban regions in Ontario: the City of Toronto and the Region of Waterloo (RoW) as shown in Figure 1. These locations were selected for their differences in scales of the same phenomena of urbanization, densification, and overall population.

The city of Toronto is one of Canada's largest censuses metropolitan area (CMA) with the largest number of high-rise buildings, where 542,00 of its population reside in high-rise buildings (five storeys or more), compared to 429,225 in 2011 (Statistics Canada, 2022a). Toronto has seen continuous development of high-rise residential buildings and will be suitable for understanding youths' experience in high-rise-built environments. As of 2021, 30.7% of all private dwellings in Toronto are high-rise apartments (Statistics Canada, 2022b). Along with increasing population with current estimated population at 2,794,356 (Statistics Canada, 2022a).

The RoW is one of the fastest-growing CMAs in Canada, with the current population at 575,847, and is also experiencing an increase in high-density developments such as high-rise residential buildings in urban growth centers, particularly, in Kitchener-Waterloo (Region of Waterloo, 2015; Statistics Canada, 2022b). According to the 2021 Census, there were 28,685 occupied private dwellings in high-rise apartments in the Kitchener – Cambridge – Waterloo CMA compared to 21,790 in 2016 which is a 30.6% increase over five years (Statistics Canada, 2022c). The study locations of the city of Toronto and RoW was strategically chosen to investigate the same phenomena of urbanization and intensification at different scales in order to expand the scope of the study and its recommendations.

In both the Toronto CMA and the RoW, the split between boys and girls in this age group is approximately 50-51% male and 49-50% female (Statistics Canada, 2021). Through the comparison between the city of Toronto's established high-rise urban environment with the RoW's active transition into high-density development; the study aims to capture a holistic understanding of how youth experience high-rise-built environments across different spatial and development contexts.

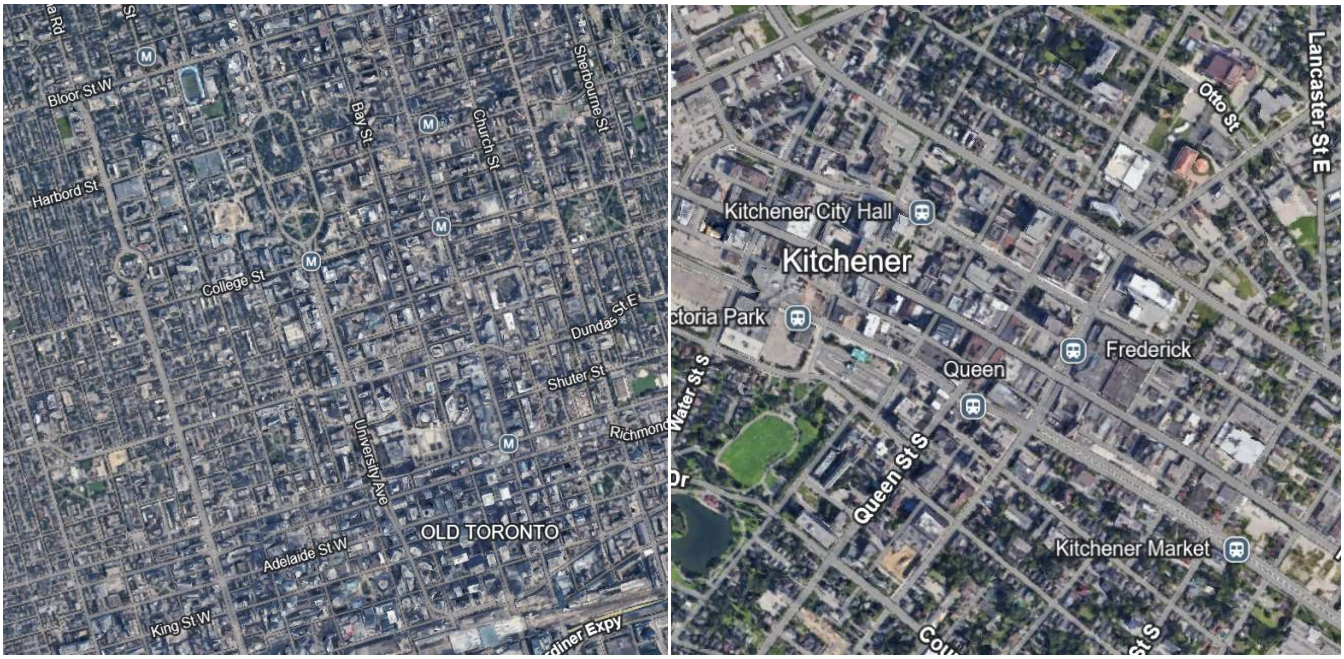

Figure 1. Toronto and Kitchener Study Area Neighbourhoods

2.2 Recruitment and Sample

This thesis uses primary data from youth residing in high-rise buildings defined as residential units greater than 10 storeys located within dense, mixed-use urban areas in the City of Toronto and the Waterloo Region (City of Kitchener, n.d.; Pilzer, 2008).

2.2.1 Inclusion/Exclusion Criteria

In this study, "youth" is defined as individuals aged 10-19 years old, aligning with definitions used by the World Health Organization regarding youth health (World Health

Organization, 2024). Moreover, to be eligible for the study, participants had to meet the following criteria: (1) they must reside in Toronto or the Waterloo region for at least 6 months in a high-rise apartment; (2) not have access to a driver's license – to reduce the extent of participants' activity space outside of their high-rise urban environment, while recognizing that active and public transportation still enable broader movements; (3) able to converse in English; (4) received consent from parent or guardian to participate in the interview; and (5) does not have any significant pre-existing mental health conditions. These criteria were established to ensure that participants closely align with the research objectives. For instance, the exclusion of a driving license allows for a more authentic understanding of how the high-rise-built environment influences well-being and day-to-day life. The criteria regarding pre-existing mental health conditions help isolate the potential built environment factors that effects youth well-being and mental health outcomes.

2.2.2 Recruitment Strategies and Final Sample

Participants were recruited using purposive sampling (Campbell et al., 2020)., a non-probability sampling technique, to intentionally select youths who are knowledgeable about high-rise living and high-density environments. Purposive sampling was applied as reaching this cohort is challenging and often restricted (i.e., parental restrictions). Flyers, school networks, social media, and youth organizations were used to advertise for potential participants. In addition, snowball sampling was used to reach a diverse group of individuals with different cultural and socio-economic backgrounds and will be crucial to reaching hard-to-reach populations such as youth residing in high-rise buildings (Parker et al., 2019). Given the sensitive nature of youth mental health and well-being, snowball sampling was especially useful in reaching youth who may not have otherwise participated (Parker et al., 2019; Buttazzoni et al., 2022). Recruitment continued until theoretical saturation was achieved (when no new themes or insights were merging

from the data), ensuring that the data collected was substantially and comprehensive to answer the research questions and objectives (Rowlands et al., 2015).

Eventually, 19 youths were recruited (6 boys and 13 girls). The sample consisted of participants with an average age of 15.2 old that identified as South Asian (n = 6), East/Southeast Asian (n = 5), Black (n = 4), West Asian/Arabic (n = 2), Afghan (n = 1), and White (n = 1) backgrounds. Participants engaged in one of six mapping activity and focus groups held in public settings (i.e., university campus, library) and were organized based on geographical clusters (i.e., participants were organized into groups with others that were closest to them). A total of six focus groups were conducted: one in the Kitchener-Waterloo and five in Toronto, with an average of 3.2 participants. All participants fully completed their mapping and focus group activities (i.e., there were no dropouts from the study) and were remunerated with a $40 gift card at the end of their discussion as a token of appreciation for their time.

2.3 Data Collection

Data collection was completed from April 2024 - November 2024 via a combined protocol featuring participatory mapping and semi-structured focus groups. Participants first completed a participatory mapping activity on the tables where they identified places within their neighborhood as either positive, negative, or neutral to their well-being. This was followed by a semi-structured focus group discussion reflecting on the participatory maps and shared experiences. More in-depth descriptions of the mapping protocol and focus group discussion guide is provided in Appendix A. The participatory mapping activity allowed participants to map locations they feel as positive, negative, or neutral. It also serves as a preliminary activity for the focus group where participants' locations were mapped and aggregated together to identify potential 'hotspots' or areas of common concern for the focus group. Prior to each focus group, participants were instructed to come up

with their pseudonym and provide it to the research team. Pseudonyms were used to maintain participants' anonymity and also allow participants to choose how they want to be represented. Moreover, the flexibility of the semi-structured focus group interview not only allow participants' autonomy to share their lived experiences in high-rise and high-density environments but also reduces the power dynamics and biases from the researcher and the participants (Anderson, 2004).

2.3.1 Focus Groups

At the beginning of each section participants were given instructions to identify places within their neighbourhood and consider any places they determine as important to their health that they associated with positive, negative, or neutral impacts on their well-being. While the participatory mapping activity helped prompted focus group discussion, the maps themselves were not analyzes as part of this thesis. The participatory mapping activity was integrated into the focus group sessions as prompt to encourage reflection and discussion.

Focus groups were used to explore participants' attitudes, perceptions, actions, and beliefs within a group context. Focus groups are particularly valuable in exploratory research as they allow participants to iterate (e.g., offer counter-points, additional examples, build context) on each other's comments and allow for further elaboration of youths' experience living in high-rise-built environments (Powell and Single, 1996; Gibbs, 1997). One research team member served as the moderator role and was responsible to remain neutral and to facilitate open-ended group discussions, while the other research team member on site served as the note taker role and was responsible for attending to the maps (i.e., aggregating location and bringing up each set of locations for discussion) and annotating the conversations (i.e., making notes about common sentiments and ideas of proves to ask (Powell and Single, 1996; Saunders et al., 2018).

A semi-structured approach was used to allow for flexibility and autonomy of the participants. The same semi-structured interview questions and probes were used to ensure a level of comparability between groups (Powell and Single, 1996; Axinn and Pearce, 2006). For example, opening questions and prompts included "can you recognize any common features across the map that are good/bad for your health?" and probing questions like "why do these features help you feel healthy/unhealthy?" Each focus group was attended by three to fourth research team members; where one serves as a moderator, one to as a note taker, and the remaining as facilitator(s) for the Power Flower activity – an activity for participants to reflect their social identities and consider how different aspects of privilege (e.g., gender) may influence their experiences within high-rise environments. The moderator's role is to remain neutral and to facilitate open-ended group discussions (Powell and Single, 1996). The note taker role is to document both verbal responses, non-verbal responses, common themes, and to assess the theoretical saturation of the data (Powell and Single, 1996; Saunders et al., 2018).

All focus groups were conducted in English in small groups of 2-4 and ranging from 63-86 minutes. Written consent documented on the study's Letter of Information outlining participation and to be recorded in the focus group was provided by all participants and parents via consent forms (for youth 15 or younger, while those participants 16 years of age or older provided their own consent).

2.4 Data Analysis

2.4.1 Analysis Overview

Each focus group was recorded, transcribed, and systematically reviewed to identify recurring themes. The Framework Method was used to generate explanatory or descriptive insights

from the focus group, exploring the relationship between high-rise-built environments and youth well-being (Gale et al., 2013), and is likewise described in more detail in section 2.4.2.

Data analysis activities were carried out using NVivo and Microsoft Excel to organize and code the transcript, respectively. These tools helped in categorizing narrative data and identifying reoccurring themes; this allowed for a nuanced understanding of participants' experiences (Adeoye-Olatunde and Olenik, 2021). The coded focus group data served as the basis for identifying key themes, similarities, and gender differences in youths' experiences living in high-rise urban built environments including how high-rise environments promote, limit, or have negligible impact on their well-being.

Additionally, Google Earth (2025) were used to verify and contextualize the design characteristics of specific locations mentioned by participants. Findings were interpreted in relation to the research objectives (section 1.3) and existing gaps in planning research around youth health and high-rise urban design.

2.4.2 The Framework Method

The Framework Method sits within the broader family of thematic analysis approaches, which is suitable for identifying, interpreting, and analyzing patterns or themes within qualitative data (Braun and Clark, 2006; Gale et al., 2013; Braun and Clark, 2017). Qualitative data, such as transcripts, were broken down into codes, where larger patterns of meanings are grouped into themes guided by the research questions (Braun and Clark, 2006; Gale et al., 2013; Braun and Clark, 2017). One of the key strengths of the Framework Method is that, like approaches to thematic analysis, it provides a systematic structure for organizing and interpreting qualitative data (Braun and Clark, 2006; Gale et al., 2013; Braun and Clark, 2017). In particular, the use of matrix output allows researchers to not only systematically code topic-specific concepts while retaining

the contextual richness of participants' lived experiences but also compare and contrast across different data sets (Gale et al., 2013).

The analysis process followed Gale et al. (2013) seven-stage model of the Framework Method: (1) Transcription – focus group audio recordings were transcribed and reviewed for accuracy; (2) Familiarization with the interview – transcripts and audio recordings were read and re-read to become becoming familiar with the data; (3) Coding – the data set was systematically coded, with labels applied to segments of text based on their conceptual similarities and relevance to the research question; (4) Developing a working analytical framework - a structured codebook was created to define each code and provided representative quotations; (5) Applying the analytical framework – the framework was systematically applied across transcripts to ensure consistency; (6) Charting into a Framework Matrix – a spreadsheet is used to generate a matrix where the data are charted into the matrix, with rows representing cases and columns representing codes; and (7) Interpreting the data – themes were developed by clustering related codes within the matrixes to identify patterns and relationships (Gale et al., 2013).

In this thesis, Step 1 (Transcription) was completed prior to any textual or mapping analysis in order to ensure rigour of the subsequent findings. All textual and mapping data (i.e., focus group transcripts, group maps) were reviewed by multiple research team members (i.e., an undergraduate research assistant, thesis author) to verify the quality of the data (e.g., legibility of focus group text, proper corresponding location of 'hotspots' in the maps). Data verification during this step importantly helped to ensure the rigour (see Section 2.5) of both types of data (i.e., focus group text, mapping location), which subsequently contributed to supporting the triangulation of findings that were carried out in the subsequent analytical steps. Step 2 (Familiarization) involved immersion in the data by carefully reading and re-reading the transcripts, revisiting audio

recordings where necessary, and reviewing mapping outputs. Step 3 (Coding) consisted of systematically labeling the transcripts to capture relevant ideas and experiences. The codes were organized in an Excel spreadsheet that served as the initial working codebook.

Step 4 (Developing a Working Analytical Framework) refined the codebook through iterative comparison across transcripts. Codes were defined with short descriptions and linked to meaningful participant quotations. Similar codes were grouped into broader categories such as safety concerns, public spaces, and health. Step 5 (Applying the Analytical Framework systematically applied across the entire dataset according to the framework developed in step 4. Step 6 (Charting into a Framework Matrix) involved inserting the coded data into a matrix where each row represented a focus group and each column represented a category from the analytical framework. Step 7 (Interpreting the data) focused on deriving themes from the completed matrix. Related codes and categories were clustered into higher-order concepts that highlighted overarching patterns. For example, codes that included "poor lighting" or "lack of adult supervision" were brought together under the broader theme of Safety and Security, while codes such as "access to public spaces" or "parks" were clustered under Public Space Design and Accessibility.

2.5 Ensuring Qualitative Rigor

To establish rigor and credibility, this study uses multivocality, reflexivity, and inter-coder discussion. Multivocality – inclusion of multiple voices and perspectives to reflect the diversity of participants' experiences - was achieved by integrating the diverse perspectives of participants from different neighborhoods and genders, and by strategically presenting participatory mapping insights from participants throughout the findings (Cisneros-Puebla, 2024). The inclusion of

multiple perspectives underlines the experiences of youth and strengthens the validity of the research outcomes.

Reflexivity – is a continuous process where the researchers evaluate how their subjectivity and context influence the research process – was achieved by acknowledging the researcher's positionality as a BIPOC graduate student in urban planning, and how it may influence the interpretation of youth experiences (Olmos-Vega et al., 2022). The research process also emphasizes transparency in both data collection and analysis through clear documentation of coding, theme development, and interpretation of the Framework Method.

Moreover, peer review of the coding process was also used to enhance rigor. Although the coding was done primarily by a single researcher, review and feedback from a peer on the coding framework and emerging themes helped ensure consistency in interpretation but also reduced individual bias (O'Connor and Joffe, 2020).

2.6 Ethical Considerations

This study was approved by the Non-Medical Research Ethics Board of the University of Western Ontario (REB#123132) and Social Sciences, Humanities and Education Research Ethics Board of the University of Toronto (Protocol #41227), and the Human Research Ethics Board of the University of Waterloo (Project ID: 123402).

Additionally, to ensure ethical transparency and compliance, a consent letter was issued to participants prior to the study to explain (1) where and how data will be kept; (2) where researchers or the public can access the data; (3) what personal information will be removed; (4) the limitation on the withdrawal of data after sharing to the databank; (5) whether or not participants have a chance to review the data analysis; and (6) benefits and potential risks of data sharing (University

of Waterloo, n.d.). Moreover, the rights of the research participants were explained through the consent form; where the lab will hold the rights of the data and analysis, given that the researcher maintains the confidentiality of all research materials.

Chapter 3 – Results

Research findings are organized into five overarching themes that reflect how youth described their lived experiences of the high-rise environment: (1) Safety and Security, (2) Public Space Design and Accessibility, (3) Social Inclusion and Participation, (4) Economic and Structural Barriers, and (5) Physical and Mental Health. Each theme captures both positive and negative dimensions of youth experiences and illustrates the complex ways that the built environment can either support or undermine their well-being. Findings are presented in the order of frequency among the responses from participants.

Bolded words in the findings emphasize the fundamental concepts, sentiments, or ideas of each theme. Bolded words emphasize the themes linked to high-rise/density environments while *italicized* words indicate the participant's lived experiences. A summary of the findings is presented in Table 1. Each theme is accompanied by a summary of the theme structure (first column) and a few of the important findings with real design/place examples (second column). This structure underscores how youth perceive that living in high-rise built environments can have an influence on their physical and social well-being.

To provide spatial context for the study, figures 1 show the Toronto and Kitchener neighbourhoods discussed during focus groups and participatory mapping sessions. The Toronto map is concentrated in the downtown core areas which are characterized by high residential density and mixed-use built environment. The Kitchener map also focuses on the city's downtown core, which is currently experiencing rapid intensification and high-rise residential growth. Additional focus group locations in Toronto, including Crescent Town, East York, and Don Mills are shown in Appendix D.

Table 1 Summary of Findings

Themes – Link to High-Rise/Densified Design(s) Summary	Key Findings
Safety and Security: *Youth described feelings of being unsafe due to drug use, homelessness, and loitering – issues that are linked to poor urban design features such as inadequate lighting, lack of visibility, and underused or poorly maintained areas. These perceived risks often led to avoidance of certain public spaces.*	• Places that have lack of visible or responsive security presence • Places with group loitering (usually tied to drugs, homelessness), especially around transit or parks • Places with poor lighting
Public Space Design and Accessibility: *Youth-oriented design in public spaces were often missing in high-rise environments; despite participants mentioning the importance of these spaces for socializing due to frequent construction, maintenance, and overall lack of cleanliness led to avoidance and reduction in accessibility.*	• Public spaces like Plaza and Parks are used for social activities • Lack of accessibility due to ongoing construction
Social Inclusion and Participation: *Youth emphasized the importance of inclusive public spaces such as community centres and public parks to feel connected in high-rise environments. However, others mentioned that high-rise environments can lead to feelings of isolation when such spaces are lacking or inaccessible.*	• Community centre with recreation and leadership programs • Community programs with active youth participation • Clean and inclusive public spaces to hang out with friends and family
Economic and Structural Barriers: *Youth frequently stated that in high-rise environments there were increasing signs of affordability issues such as visible homelessness. They also expressed concern with high concentration of unwanted services (i.e., vape and cannabis shops) which they felt reflected poor planning and limited access to community-serving amenities.* Together, these conditions were viewed as barriers to safe and accessible spaces.	• High concentration of vape and cannabis shops • Low-income Neighborhoods • Lack of community-serving amenities/programs
Physical and Mental Health: *Youth associated access to clean air, recreational spaces, and quiet environments with improved mental and physical health. Visible drug use in public spaces negatively impacted their health by contributing to feelings of unsafe and avoidance of outdoor environments.*	• Clean outdoor public areas to support physical activities and relaxation • Parks offer opportunities for sports and socializing • Pollution and drug use in public spaces impact health

3.1 Safety and Security

Youths referenced issues of safety and security when discussing high-rise and high-density environments. Participant comments emphasized that existing public and private spaces (e.g., apartment shared areas, commercial plazas, and parking lots) often felt unsafe or poorly maintained, contributing to avoidance behaviours. Across focus group discussions, many participants described feelings of being unsafe within their neighbourhoods, particularly when recalling experiences of poor lighting, drug use, or groups loitering in shared spaces. These instances often led to youth to avoid within certain areas such as transit hubs, commercial spaces, and parks were often avoided.

For instance, participants expressed discomfort or fear when navigating transit areas or commercial spaces when alone or after the dark, due to the lack of security or safety design: “if you go late at night, it's not safe. Any station’s really not, it’s not great” (Mylo, Boy, Toronto). This reflects how youth perceive these spaces as unsafe, highlighting the need for improved lighting or strategies to enhance perceived safety in transit areas. Likewise, participants who rely on public transportation for school shared their frustrations about the current state of the Toronto Transit Commission (TTC):

> TTC is my only option … but yeah, just the stuff that I see on the TTC, whether it be like a fight, or like someone peeing on the train. I mean, yeah, there's stuff like that all the time. So that just really ticks me off (Michael, Boy, Toronto).

Michael’s visible frustration regarding the unsanitary and disruptive conditions on the TTC can lead to can contribute to perception of public transit areas as chaotic and potentially unsafe especially for youth who depend on it for daily travel.

Beyond public transit areas, youth also stated a major safety concern were the prevalence of substance use, homelessness, and group loitering in their communities. These conditions often shaped their perception of local parks and public spaces as unsafe. A participant shared how safety concerns, due to drug and gang activities, directly impacted their use of local parks, stating: "there's like a specific park…where people don't use because there's drugs, like drug activity there" (Rachel, Girl, Toronto). Likewise, another participant mentioned how "there's a lot of drug users wandering around that place, and sometimes they just, they, they scare me" (Max, Girl, RoW). One participant highlighted that the continual rise of drug stores in high-rise areas attributing to public spaces, like parks, being used for drugs or gang activities:

> There is this one park that's literally just a field of grass, but it's not even used for recreational uses. It's genuinely just used for like, drugs, gang activity, so I would take that away. And also, there's like an alarmingly amount of like vape stores or like, marijuana dispensaries around my area and I'd take a lot of those away because I think they're just not good. I think it influences people to do things and get into substances, and we have one grocery store, but down my street is like five vape shops. So I really don't think like we don't need that many (Will, Girl, Toronto).

Both examples indicate that public spaces like parks within high-rise/density environments no longer felt like youth-friendly or safe environments.

3.2 Public Space Design and Accessibility

Youth emphasized ideas concerning high-rise and high-density designs, frequently mentioned public space design, and accessibility. While several participants identified public spaces (e.g., parks) and privately owned spaces that are accessible (e.g., malls and plazas) as essential for community essential for community connection and socialization, others highlighted barriers related to cleanliness, maintenance, and feelings of safety. This was reflected in the focus group discussions, where youth frequently emphasized the importance of high-rise and high-density public space as both important for socializing with the community. However, they also

perceive the current designs as inaccessible or uninviting based on safety, accessibility, and cleanliness.

For example, some youth described public spaces as relaxing and inclusive: participants stated how "being in a park is like really relaxing for me" (Twila, Girl, Toronto) and how "Greenwich Square, a mini mall near Chevron station is a safe place with grocery stores and spots to sit and eat with friends after school" (Will, Girl, Toronto). Likewise, one participant mentioned the importance of plazas to socialize:

> For healthy point, I chose this plaza that was near my old middle school because me and my friends, like, we would go there and we would like get food and like, have picnics and stuff. That's kind of how we became friends. And we were just like, it's like a great place to socialize (Emma, Girl, Toronto).

However, participants often questioned the safety, cleanliness, and accessibility of public spaces in high-rise/density environments. For example, one participant described the impact of construction in their neighborhood: "they're been doing that for a few years, like on and off, and it keeps going past the deadline and is really loud … they also cut down the benches that we used to like sit on" (H, Girl, Toronto). These narratives highlight that although public spaces like plazas, malls, and parks support social connections and recreational opportunities; concerns about safety, maintenance, and design often limit accessibility and inclusivity.

3.3 Social Inclusion and Participation

Youth frequently linked their experiences of high-rise and high-density designs to safety and inclusion. In this context, youths mentioned both positive and negative experiences on how design features can either support or oppose social inclusion.

For instance, some youth stated that high-rise buildings can help facilitate spontaneous interactions easier: "it's really nice if you live in the same building as your friends, you just come

up or down, you can talk to them you know" (David, Boy, RoW). At the same time, others pointed out that high-rise living can result in feelings of isolation despite being surrounded by people: "you kind of feel like disconnection with like the people around you, you feel like really isolated" (Ru, Girl, Toronto). This contrast highlights that high-rise built form alone does not contribute to social inclusion.

Additionally, participants mentioned that community centers and drop-in programs were not only important as public spaces for recreational activities, but also as environments where they could form relationships with their community. Specifically, these types of spaces were described as welcoming, low-barrier environments that supported social connection and emotional well-being inclusive of all ages and gender. For example, one participant stated, "my community center has basketball courts, table tennis, a swimming pool, a gym, and more. I go there about four times a week with friends, and it's great for the community" (David, Boy, RoW). Likewise, another participant mentioned that, "public areas like Chalkfarm Community Center are healthy for me and my siblings. During summer, it gives us activities like basketball, cooking classes, and leadership programs for kids" (Rachael, Girl, Toronto). These narratives highlight that design features such as shared common spaces or programming that encourages socialization can help foster connections among individuals living in proximity.

Notably, a key theme from narratives regarding community centers was that the social inclusion and participation aspect was not tied strictly to the community centers or drop-in programs; rather, they serve as safe public spaces that they get to socialize with their friends and families. As one participant remarked:

> I'd recommend her [persona character] the recreation center that's literally right in front of my building because there's a bunch of kids her age there that she can, you know, socialize

> with. And places to stay away, I just say most parks around me are just unsafe, you know (Will, Girl, Toronto).

The narrative highlights that youth value safe, youth-oriented places where they can socialize with their friends and foster inclusion within the community; however, parks being unsafe underscore that the availability of inclusive space is often inconsistent across high-rise neighbourhoods.

3.4 Economic and Structural Barriers to Youth Needs

Youth frequently discussed economic and structural barriers concerning high-rise and high-density designs, particularly around affordability, development practices, and access to basic services. Their narratives reflect their frustration with how neighbourhood changes often fail to consider youth needs.

For instance, youth described how renovations and building upgrades were carried out without community input; often leading to rent increases and the removal of amenities they valued:

> They redid our whole building … they took down like a bunch of the things that everyone liked. And they're basically raising our rent money to make changes that nobody wants because they want to raise the value of the place, which is good for the new people, but not for us (H, Girl, Toronto).

This statement highlights how redevelopment can contribute to a sense of exclusion among long-term residents.

Participants also expressed concern about the kinds of businesses and services available in neighbourhood they discussed. A major concern was the high concentration of vape shops and cannabis dispensaries compared to essential services like grocery stores: "we have one grocery store, but down my street is like five vape shops … I'd take a lot of those away because I think they're just not good" (Will, Girl, Toronto). While this observation doesn't reference planning

policy, it does suggest that youths are aware of their neighbourhood's built form which may cause feelings of misalignment to their daily needs – in this case the commercial landscape.

Economic barriers to youth needs were also discussed in relation to housing quality. One participant reflected on how high-rise apartments marketed as affordable often failed to meet basic standards:

> I don't think they have the proper materials or resources to like, maintain even more individuals, cause the people they even have now, they can barely like contain them. It's, it's weird because they try to promote their apartment as a cheaper price, but when you enter, you realize that it's not really worth it (Rachael, Girl, Toronto).

Rachael's comment highlights her perception of inadequate resources and maintenance in high-rise buildings marketed as affordable. Her use of "not really worth it" suggest that poor infrastructure, overcrowding, and lack of resources undermine the overall quality of the living environment.

Together, these findings illustrate how youth perceive structural and economic barriers to their needs in high-rise environments. Their perceptions reflect feelings of exclusion during redevelopment, neglect of their needs with commercial landscapes filled with vape and cannabis shops, and also frustration toward housing marketed as affordable housing.

3.5 Physical and Mental Health

Youth recurringly conveyed sentiments of physical and mental health in high-rise and high-density designs. Focus group discussions emphasized how aspects of high-rise living, such as air quality, access to public or recreational spaces, and exposure to stress-inducing conditions, are perceived by youth to directly and indirectly, positively or negatively affect their physical and mental health. Positive experiences were associated with access to clean, open, and recreational

spaces, whereas negative experiences were associated with pollution, substance use, and poorly maintained environments.

Participants described how clean and open spaces supported relaxation and mental health: “I feel relaxed and usually those clean spaces are good places for your mental health … you can breathe in fresh air, and you know it’s not dirty or anything” (Ru, Girl, Toronto). Others stated the importance of recreational opportunities such as parks and outdoor spaces as key contributors to both physical activity, social connection, and mental health: “It’s like really fun to go there. I can hang out with my friends a lot. There’s like a cool playground. I can just like exercise” (Ru, Girl, Toronto). These experiences suggest the importance of access to recreational and green spaces in contributing to both emotional well-being and physical health.

At the same time, youth also mentioned environmental stressors that negatively affect their health. Many participants expressed concerns about exposure to pollution and substance use, commonly experienced in high-density neighborhoods: One participants stated:

> It affects like your lungs and everything with it. Yeah. So like in physical health, like area does matter, because like, let's say your area is influencing a bunch of like bad stuff. And then like, most of the times, even the other kids get influenced too (K, Boy, Toronto).

Together, these narratives underscore that youth view their well-being as directly connected to the quality of their physical environment.

Chapter 4 – Discussion

Drawing on semi-structured focus groups and participatory mapping with youth aged 13-18, analyzed through the Framework Method, this thesis study explored the experiences of youth related to inclusive and equitable urban design in high-rise/density environments. Connecting back to the research questions and objectives, our findings highlight the importance of high-rise/density environments to feature concepts of safety and security, public space design and accessibility, social inclusion and participation, economic and structural barriers, and physical and mental health. Given the growth in high-rise living, this study provides a novel investigation into how high-rise communities can better support the creation of inclusive and equitable urban design for youth.

The sections below provide: (1) a summary of key findings are discussed in relation to the research objectives; (2) a reflection on the methodological contributions of applying the Framework Method; (3) contribution of the thesis to relevant areas of research; (4) practical implications for high-rise and intensification planning policies; and (5) a discussion of study limitations.

4.1 Summary of Key Findings

Table 2: Key Findings and Existing Literature

(Chapter) Theme	Key Findings	Existing Literature (Chapter 1)
(3.1.1) Safety and Security	In public areas with drug use, loitering, and poor lighting, youth felt unsafe and avoided these places.	• Youth exclusion from public space (Cobbina et al., 2008; DaViera et al., 2020) • Urban design and perceived risk (Cobbina et al., 2008; DaViera et al., 2020; Buttazzoni 2025a; 2025b)
(3.1.2) Public Space Design and Accessibility	While youth see public spaces as vital for connection and well-being, they are often poorly maintained, unsafe, or designed without youth needs in mind.	• Public space design and social inclusion (White, 2001; Travlou, 2007; Whitzman and Mizrachi, 2009; Whitzman and Mizrachi, 2015, Chawla, 2016a; Buttazzoni 2025a; 2025b) • Lack of youth-centered design (Checkoway et al., 1995; Frank, 2006; Andrews et al., 2019; Botchwey et al., 2019; David and Buchanan, 2019)
(3.1.3) Social Inclusion and Participation	Social infrastructure like libraries and community centres can foster belonging and reduce isolation.	• Public spaces critical for fostering sense of belonging (Travlou 2007; Whitzman and Mizrachi, 2009; Whitzman and Mizrachi, 2015) • High-rise living and social isolation (Gifford, 2007; Ngyuen et al., 2020; Kalantari and Shepley, 2021)
(3.1.4) Economic and Structural Barriers to Youth Needs	Youth described exclusion through gentrification, unaffordable housing, and prevalence of unwanted commercial uses (i.e., vape shops and dispensaries) which they felt outnumbered essential services.	• Gentrification and youth displacement (Lees, 2008; Zuk et al., 2018) • Lack of youth-centered design/urban investment (Checkoway et al., 1995; Frank, 2006; Travlou, 2007; Whitzman and Mizrachi, 2009)
(3.1.5) Physical and Mental Health	Poor air quality, insufficient green space, and high noise levels significantly affect youth's physical and mental health. Neglect in these areas discourages public space use.	• Built environment and youth mental and physical health (Evans, 2003; Gifford, 2007; Larcombe et al., 2019; McCay et al., 2019; Fleckney and Bentley, 2021; Kalantari and Shepley, 2021) • Emphasis on high quality public spaces (Travlou 2007; Whitzman and Mizrachi, 2009)

4.1.1 Safety and Security

Safety and security were prominent in the youth's perception of high-quality public spaces where they feel included. Previous studies presented concerns among youth where avoidance behaviours were employed to avoid public spaces in urbanized areas due to fear of crime and perceived risk (Cobbina et al., 2008; DaViera et al., 2020), despite expressing a desire to interact in public and community spaces (Moss, 2024). Building on this, Buttazzoni et al. (2025a) found that weak social connectivity, poor sanitation, and "anti-social" designs (i.e., features that discourage youth activities) reduced youths' sense of safety and security in high-rise urban environments. In a related study, Buttazzoni et al. (2025b) identified negative advantages in high-rise environments such as visible signs of decay, passive or limited active use of designs, and poor social control (i.e., lacking social gathering or connection opportunities), which leads to avoidance behaviours from youth.

These findings align with this thesis, where youth also associated unsafe perceptions with several urban design features, such as a lack of lighting, surveillance, and overconcentration of vape shops or cannabis dispensaries. However, the focus group narratives extend these insights beyond urban design and planning discussions, highlighting safety concerns linked to social disorder, particularly unhoused population, gang activity, and open drug use. Participants described how these conditions made them avoid public spaces like parks and plazas that might otherwise support social connection, suggesting that public spaces can be geographically accessible but socially inaccessible.

Overall, these findings underscore that youth perception of safety and security is shaped by both design and broader social dynamics. Indicating the complexity of creating safe and

inclusive public spaces for youth in high-rise environments. Specifically, where planning and design solutions must also align with broader governance and social policy approaches.

4.1.2 Public Space Design and Accessibility

Youth frequently described the importance of public spaces such as parks, plazas, and malls for fostering their social sense of community and well-being. These sentiments are consistent with existing literature emphasizing the importance of informal public spaces for socializing, relaxing, and participating in recreational activities, which not only supports youth mental and physical health but also helps foster community belonging (White, 2001; Travlou, 2007; Whitzman and Mizrachi, 2009; Whitzman and Mizrachi, 2015; Chawla, 2016a; Buttazzoni et al., 2025a; 2025b). However, similar to the findings in safety and security, youth stated concerns about safety, cleanliness, and accessibility of public spaces in high-rise/density environments as limiting their ability to use these spaces. These findings align with ongoing scholarship on the disconnect between youth values and priorities and how public spaces are designed (Checkoway et al., 1995; Frank, 2006; Andrews et al., 2019; Botchwey et al., 2019; David and Buchanan, 2019).

While the study did not examine the planning process directly, youth narratives suggest that current public space design in high-rise environments does not always reflect their priorities around safety, cleanliness, and accessibility.

4.1.3 Social Inclusion and Participation

Youth described social inclusion and participation as important to their experiences in high-rise and high-density environments. Although high-rise living increases physical proximity among residents, participants emphasized that meaningful inclusion depends on the presence of safe, accessible, and youth-friendly spaces. Drop-in programs, community centers, and public

libraries were mentioned as essential infrastructures that not only provide recreational opportunities but also foster belonging.

These findings suggest that public spaces are crucial for fostering a sense of belonging and community connectedness; in their absence (i.e., when public spaces are inaccessible or not youth-friendly), youth may experience feelings of social exclusion and disconnection (Travlou 2007; Whitzman and Mizrachi, 2009; Whitzman and Mizrachi, 2015). Other literature suggests that residents in high-rise/density environments can often experience social isolation due to limited opportunities for meaningful social interaction (Gifford, 2007; Nguyen et al., 2020; Kalantari and Shepley, 2021). This reflects a broader tension in high-rise communities where, despite high-rise/density environments offering physical proximity, without intentional design and investment in social infrastructure, it does not guarantee a feeling of community, especially for youth whose needs are often overlooked in urban design and planning decisions (Travlou 2007).

4.1.4 Economic and Structural Barriers to Youth Needs

Youth frequently mentioned economic and structural barriers that shaped their everyday experiences in high-rise and high-density environments. Their narratives exposed issues such as increasing homelessness, open drug use, unaffordable housing, gentrification, and the overconcentration of vape and cannabis shops at the expense of safe and inclusive public spaces. While the study didn't mention market-driven development, these narratives resonated with existing literature on gentrification, where urban developments often displace or alienate existing marginalized communities, by reshaping their environments without their involvement (Lees, 2008; Zuk et al., 2018).

These findings suggest that youth perceive economic and structural inequalities in high-rise environments, specifically, where affordability, housing quality, and access to supportive

amenities do not align with their needs. For example, a recurring concern was the overconcentration of vape and cannabis shops, which not only reduced access to safe spaces but also reduced access to essential services. While the study didn't examine the planning or development processes, youth narratives suggest the importance of integrating youth perspectives into discussions of planning and development. It would be valuable for future research to explore whether outcomes differ in areas where youth perspectives are more integral to planning processes compared with areas in which their perspectives are not invited.

4.1.5 Physical and Mental Health

Youth consistently mentioned that high-rise/density environments have a direct impact on their physical and mental health. They perceived that access to safe green and recreation spaces, cleanliness, and air quality positively affected their physical and mental health. In contrast, they perceived that bad air quality, drug use, and inaccessibility of public spaces due to social disorder negatively affected their physical and mental health. These experiences align with existing literature on how high-rise/density living and its built environment can affect residents' physical and mental health (Evans, 2003; Gifford, 2007; Larcombe et al., 2019; McCay et al., 2019; Fleckney and Bentley, 2021; Kalantari and Shepley, 2021). While this study did not examine youth engagement within the planning process, it raises questions about whether greater involvement of youth and their priorities may result in high-rise environments that better support their physical and mental well-being.

We recommend that future research explore whether outcomes differ in the degree of involvement of youth engagement within the planning processes. Such research would be important to understanding whether direct involvement of youth in the planning process can lead

to healthier high-rise environments that prioritizes things they identified as important, such as clean air, recreational spaces, and safe social infrastructure to foster social interaction.

4.1.6 Youth Health and Social Factors

The findings align to the WHO Ottawa Charter's definition of health as a resource for everyday life shaped by social and personal capacities. Although the focus groups explored both physical and mental elements of health, participants described places as "healthy" or "unhealthy" based on their perception of safety, inclusion, and accessibility. These findings show that safety, inclusion, and accessibility are interlinked with youth health as important factors for youth living in high-rise environments. This connection highlights that youth health cannot be understood solely through physical design features; rather, it is also influenced by social and community factors that shape their everyday experiences.

4.3 Research Implications

4.3.1 Safety and Social Disorder

One of the most consistent themes that emerged from the focus group discussions was that youth avoided public spaces when they perceived social disorder. For instance, participants frequently mentioned how open drug use, homelessness, and gang activity made them feel unsafe in parks, plazas, and public spaces, often leading to avoidance of spaces that were geographically accessible but socially inaccessible.

While existing research has emphasized the importance of design features such as lighting, cleanliness, and visibility in shaping perceptions of safety, the youth narratives in this study point to broader challenges where the social and environmental conditions can dissuade youth from using public space (Buttazzoni et al., 2025a; 2025b). Baran et al. (2013) found that while the presence of playgrounds, sports courts, and sidewalks was positively associated with park use,

crime and poverty of the surrounding neighbourhood were negatively associated with park use. Likewise, Malone (2002) and Haselbacher et al. (2024) stated that youths' access to public spaces is often contested by the presence of people experiencing homelessness, visible drug use, and gang activities, resulting in exclusion from public spaces. Together, these findings underscore that youth's perception of safe and accessible public spaces is not shaped by the urban built form features alone, but rather it also affected by social and environmental conditions.

These findings not only present youth perceptions of safe and accessible space as complex, but also raises questions on how such dynamics should be addressed. Future research is encouraged to examine not only how urban planning or design influences youth perceptions on public spaces but also how social policy and other governance approaches intersect in potentially creating inclusive and accessible spaces for youths.

4.3.2 Youth Emphasis on High Quality Public Spaces

Youth seem to highly value access to high-quality public spaces. Participants frequently mentioned how everyday public spaces like parks, plazas, community centres, and libraries are integral in shaping their sense of inclusion, well-being, and belonging in high-rise/density environments. This finding aligns with existing research on not only how the design of public spaces can influence the perception of inclusivity but also how crucial public spaces are for youth to foster a sense of belonging within their community (Malone, 2002; Traylou, 2007; Whitzman and Mizrachi, 2009; Chawla, 2016b, McCay et al., 2019). Despite the importance, youth across the study mentioned that they feel excluded from public spaces due to social disorder (e.g., homelessness and visible drug use), the lack of youth-centered design features such as accessible recreational areas, clean public spaces, and adequate lighting. The findings challenge the assumption that youth underuse public spaces due to disinterest; rather, they avoid them because

of conditions that make them feel unsafe such as visible drug use, gang activity, and homelessness. Youth narratives suggest that alongside with the built environment and design, broader implications of social and environmental factors can make public spaces feel inaccessible to youth, even when youth recognize these spaces as important for their well-being and sense of belonging.

4.3.3 Lack of Youth-Centered Urban Planning and Design

Across the five themes, youth frequently described how features of the built environment either supported or undermined their health and well-being. Their narratives show that environments with poor lighting, lack of accessible spaces, or concentrations of unwanted services (e.g., vape shops and cannabis dispensaries) are associated with avoidance and feelings of exclusion. In contrast, environments with clean, accessible public spaces (e.g., parks and community centres) that facilitate social connections were perceived to be associated with a sense of belonging and positive health.

While this study did not examine planning or design processes directly, youth narratives align with literature for more youth-centered urban design. Scholars argue that decision-makers, planners, and architects should stop treating youth as passive users of space, but rather, as active stakeholders who also occupy the shared environment (Checkoway et al., 1995; Frank, 2006; Andrews et al., 2019; Botchwey et al., 2019; David and Buchanan, 2019; F.J. Andrews and Warner, 2020; Thomas, 2021; Tucker et al., 2022). These ideas align with the findings of youth narratives, where several instances show that youth do, in fact, perceive that their built environment can influence their mental and physical well-being. Likewise, the lack of youth-centered urban design reflects deeper systemic issues where the voices of youth are absent from the decision-making process (Frank, 2006; Travlou, 2007; Whitzman and Mizrachi, 2009). Future research could examine whether outcomes differ in contexts where youth voices are fully

integrated into planning processes compared with contexts where they are not. This question connects broader discussions of youth-centered planning approaches, which will be discussed in the practical implications in Section 4.4.

4.4 Practical Implications

4.4.1 Youth-Centered Urban Planning

Youth in the study frequently described how the built environment shaped their sense of safety, inclusion, and well-being. Yet, their lived experiences suggest that existing urban design and built environments in high-rise and dense environments do not always reflect their needs.

While this study did not examine planning processes directly, youth lived experiences shared by participants raised important questions about how youth perspectives on safety, public space, affordability, and health could be better considered in future planning and design of high-rise built environments. Future research and policy could benefit through exploring whether outcomes differ in contexts where youth perspectives are incorporated into planning and policy decisions compared with contexts where their involvement is absent – with attention to whether such inclusion led to more equitable and inclusive high-rise environments.

4.4.1 Whole-of-Community Approach to Youth Health and Urban Planning

Throughout the thesis, youth described many challenges associated with living in high-rise and high-density environments. Although there were challenges related to the urban built form (e.g., lighting, cleanliness, and accessibility), youth also expressed concerns that cannot be addressed solely through land-use planning. For example, a central theme centered around youths' experiences with social disorder (e.g., homelessness, visible drug use, and loitering). These conditions made them feel unsafe in parks, plazas, and public spaces, often leading to avoidance of areas due to broader social and community conditions, rather than the built form itself. These

findings underscore the need for a whole-of-community approach that extends beyond planning and design to include other intersecting factors, such as collaboration with public health, youth organizations, social services, and community safety partners. For example, planners can work with municipal licensing departments and police to support community safety teams in public spaces like parks to ensure these spaces remain accessible and safe for youth. Cross-functional collaboration across municipal and community agencies will be an important factor in addressing social disorder through a coordinated effort rather than relying on planning and design interventions alone.

4.5 Limitation

There are several limitations that should be acknowledged within the thesis study. First, the sample size was relatively small (n = 19), where there are more girls (n = 13) compared to boys (n = 6). The uneven distribution of the sample size may have influenced the which issues were frequently discussed and how themes were shaped. Regarding the demographics of the sample, the study primarily looked at older, able-bodied adolescents (i.e., 13-18 years old) that had autonomy to navigate their communities, compared to younger or disabled youth cohorts (Alparone and Pacilli, 2012). Hence, key findings from the study may be limited in applicability to younger or disabled cohorts who have limited activity spaces. Another limitation was the Canadian focus of the study (Toronto and Waterloo Region) which limits the generalizability and transferability of the findings as both are urban regions that have distinct policy frameworks, infrastructure, and demographics compared to similar size cities across the world (OECD, 2012).

Moreover, the study exclusively used focus group data for primary data collection. While focus groups are useful for data gathering, it collects primarily group level data rather than individual phenomena (Powell and Single, 1996; Morgan, 1996; and Gibbs, 1997). The dynamic

of focus group may sometime result in participants conforming to opinion of the majority; this may constrain participants from discussing more sensitive or personal experiences, particularly around mental health and safety (Powell and Single, 1996; Morgan, 1996). Future studies should employ a mixed-methods approach to ensure both individual and collective experiences are accounted for.

Chapter 5 – Conclusion

This study explores how high-rise and high-density urban environments shape youth well-being by centering around youths' experiences. Drawing on semi-structured focus groups with 19 youths in Toronto and the Waterloo Region, youths' experiences were analyzed using the Framework Method and derived into 5 themes: Safety and Security, Public Space Design and Accessibility, Social Inclusion and Participation, Economic and Structural Barriers, and Physical and Mental Health. Key findings show that you consistently emphasized that clean, well-maintained, and accessible public spaces support social connection, fostering a sense of belonging, and their health. In contrast, social disorder (drug use, gang activity, loitering and homelessness), poor lighting, and lack of maintenance were linked to avoidance and negative well-being. These narratives highlight that the high-rise built environment can actively shape or constrain healthy youth development.

Overall, this thesis contributes to the growing body of literature exploring how youth perceive their built environments and how these perceptions influence their physical and mental well-being. The findings suggest that future research should explore the intersection between planning, design, and social policy may better address youth experiences, and whether doing so results in more inclusive environments that support their health, safety, and sense of belonging.

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Appendices

A. Focus Group and Participatory Mapping Guide

Focus Group and Participatory Mapping Guide

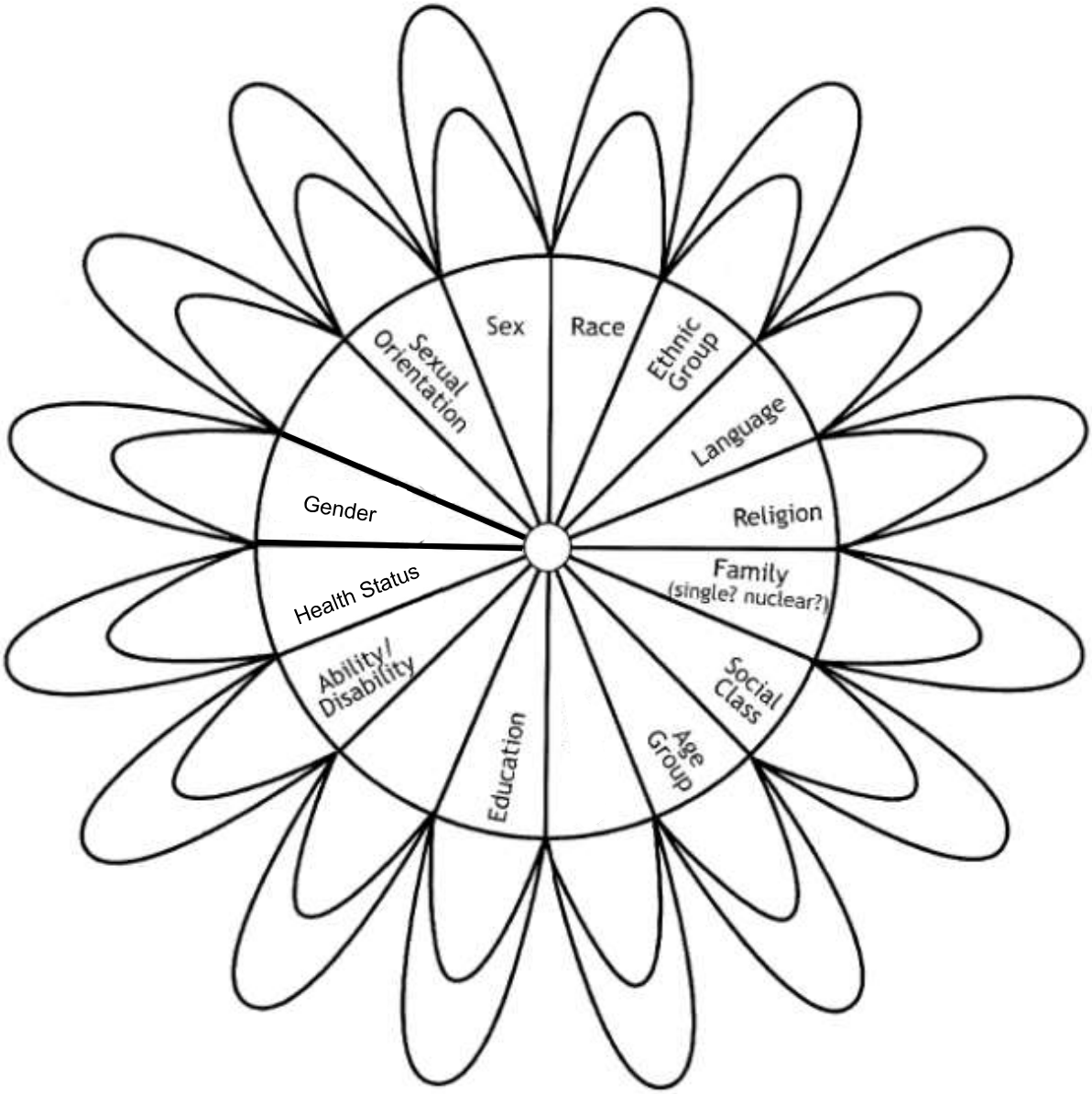
Introduction	Thank you for agreeing to participate in our study! Before we start and focus group, I would like you to think about both your mental health and physical health. Can anyone think of examples of mental health or physical health? [pause for participant answers]. Can you think of examples of places that are good or bad for health? [pause for participant answers]. As we go through the discussion, please think about the questions we have in relation to <u>your own neighbourhood</u> and especially those places that make <u>you</u> feel healthy or unhealthy. As a reminder, this focus group is designed for all to participate in a respectful conversation. Therefore, please be mindful of your fellow participants in today's activities. While we do not anticipate experiencing any of these sorts of issues, we will not tolerate any personal attacks, insults, or degrading comments made between participants or directed toward the research team. Should any of these issues arise, our team will act as required. If there are questions you don't want to answer, or you want to leave the focus group, please let one of the facilitators know. Remember, there are no right or wrong answers: we are interested in understanding **<u>how you experience your neighbourhood, and your own thoughts on how your neighbourhood impacts your health</u>**. When we write up the results of this study, we may eventually use one of your quotations and we need to protect your identity. So before this focus group, could each of you please provide me a pseudonym (i.e., fake name) you would like to be referred to if we use one of your quotations in the final write-up? Participant #1: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #2: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #3: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #4: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #5: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #6: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #7: <u>(Pseudonym)</u> <u>(Real Name)</u> Participant #8: <u>(Pseudonym)</u> <u>(Real Name)</u>

	Opening questions and prompts	**Potential probing questions**
Introductions:	➢ To get to know each other	➢ What is your favourite place to go in your community? ➢ There are two types of jobs responsible for creating the spaces like parks, playgrounds, pools, gyms, etc. available around your home. Developers propose and then build these spaces within their developments and buildings. Planners help refine a developer's proposal to make sure it best serves the public.

Mapping activity	➢ In groups of 2 or 3, think about the places you visit and places you avoid in your neighbourhood ➢ On the maps on the tablets, mark places where you feel healthy and unhealthy ➢ Mark on the maps places that you think could be changed to help you feel healthier. What information would you give to planners/developers? ➢ When you have finished your map, we will show everyone's points in a single map and talk about any overarching themes and differences across the points	➢ Provide demonstration of adding points and information using ArcGIS Field Maps app. Show how to delete a point if a mistake is made. ➢ Give each point a label (e.g., intersection) and describe how it affects your health (e.g., busy traffic makes me feel stressed). The places you plot may be different to your group members', make sure you plot points for all members. ➢ You may add as many points as you like and may plot multiple points with different classifications close to each other. For example, if a particular place helps you feel healthy during the day but unhealthy at night, you can add both a 'healthy' and 'unhealthy' point in the same location. ➢ The mapping exercise will take 10-15 minutes and technical assistants will be on hand to help if you have any questions.
Mapping discussion	➢ Participants will come back to the full group for discussion and view each others' maps. ➢ Can you recognize any common features across the map that are good/bad for your health? ➢ Can you describe the areas that were identified for improvement.	➢ Why do these features help you feel healthy/unhealthy? ➢ Do other group members agree or disagree? Why? ➢ What kind of solutions would you like to see in your neighbourhood? ➢ When you think about an accessible (i.e., you can engage, use, feel comfortable in) neighbourhood, which designs/amenities/concepts/places from our activity would you emphasize?
Warm-Up Activity	➢ We have a number of markers here and handouts – has anyone ever seen a Power Flower before? [if yes – in what context? Can you explain it to the group?] [if no, brief explanation: the Power Flower was developed to help people think about their different social identities and which of these identities might be more or less privileged (have more or less power) in our society. For example, think about in your neighbourhood – would someone who is able bodied have an easier time getting around than someone who needs a wheel-chair? Why?] ➢ For this warm-up activity, take a minute to look over the power-flower and identify where you are by colouring in the petals that apply to you. The outside petals are what we would call the "dominant" identity and the inside petals are what we would call the "non-dominant" identity. So for example, if you're able-bodied, you'd colour in the outside petal rather than the inside petal where it says "ability/disability". There might be other identities that are important to you that you can add into the blank spots. It's up to you to decide whether you think your own identity in this space (e.g., gender, race, age) are privileged or not. Chances are, we'll all have a mix of dominant and non-dominant identities. What questions can we answer before we start? ➢ [activity – approximately 10 minutes] ➢ When you look at your own power flower, what thoughts come to mind? ➢ With the power flower in mind, we're going to think about a few different personas and how they might interact with healthy or unhealthy settings in their high-rise neighborhoods.	
Persona 1: Aisha	➢ Can we please have a volunteer to read Persona 1 on the handout to everyone?	➢ How do you picture Aisha's neighbourhood? What did your imagination add to her neighbourhood while the persona was being read? ➢ What places in Aisha's neighbourhood impact her physical health (e.g., mobility, safety, perceived risks)?

			➢ What places in Aisha's neighbourhood impact her mental health (e.g., stress, anxiousness, happiness, enjoyment)? ➢ How might her neighbourhood impact her differently if she was a boy rather than a girl? ➢ Thinking about the Power Flower, what other social identity positions might change how Aisha experiences her neighbourhood? How might this impact physical or mental health? What designs could be added to this environment to make it more accessible for her? ➢ Choose a category on the map (e.g., transport), what might this look like in Aisha's neighbourhood and how might it affect Aisha's health? How does this differ to the comments provided on the group map?
Persona 2: Antonio	➢	Can we please have a volunteer to read Persona 2 on the handout to everyone?	➢ How do you picture Antonio's neighbourhood? What did your imagination add to his neighbourhood while the persona was being read? ➢ What places in Antonio's neighbourhood impact his physical health? ➢ What places in Antonio's neighbourhood impact his mental health? ➢ How might his neighbourhood impact him differently if he was a girl rather than a boy? ➢ Thinking about the Power Flower, what other social identity positions might change how Antonio experiences his neighbourhood? How might this impact physical or mental health? What designs could be added to this environment to make it more accessible for him?
Persona 3: Noor	➢	Can we please have a volunteer to read Persona 3 on the handout to everyone?	➢ How do you picture Noor's neighbourhood? What did your imagination add to their neighbourhood while the persona was being read? ➢ What places in Noor's neighbourhood impact their physical health? ➢ What places in Noor's neighbourhood impact their mental health? ➢ How might their neighbourhood impact them differently if they were a different gender? ➢ Thinking about the Power Flower, what other social identity positions might change how Noor experiences their neighbourhood? How might this impact physical or mental health? What designs could be added to this environment to make it more accessible for them?
Closing: …	➢	We are close to finishing the session. Before we go, is there anything else you would like to discuss? ➢ Thank you for your time an thoughts this afternoon/evening! We really value your input.	➢ Is there any persona and their situation you would like to revisit? ➢ If you were a planner or developer, how would you change the environment surrounding Aisha, Antonio, or Noor's home? ➢ Based on the discussions of the three personas, are there any additional comments you'd like to add about the features in the group map ➢ ➢ (From each participant) imagine you are talking to the mayor/top planner, what one design/amenity about your building/neighbourhood would say is most important for **your** health, and what one design/amenity about your

	building/neighbourhood would you say is most problematic for **your** health (and briefly, why)?



Adapted with permission from *Educating for a Change* by Rick Arnold, Bev Burke, Carl James, D'Arcy Martin, and Barb Thomas (Toronto: Doris Marshall Institute for Education and Action and Between the Lines Press, 1991).

Persona 1:

Aisha is a 16 year old girl who lives in an 18-storey high-rise that was built in the 1970's in the suburbs of [Toronto or Kitchener]. She knows many of her neighbours, and understands that many of them are in subsidized units because of disabilities or unemployment. On the main floor of her building is a convenience store where she sometimes buys candy and snacks. There's not too much else around her building other than other high-rises. There is a small strip mall that's pretty close by, but she has to climb a fence and cross train tracks to take the short-cut there when she meets friends for boba. She is in grade 11 and is very focused on school. She really enjoys her physics and math classes, and wants to go into engineering for university – she'd be the first one in her family to go!

Persona 2:

Antonio is a 13 year old boy who recently moved from Trinidad to Canada to live with his Auntie in downtown [Toronto or Kitchener]. He loves playing basketball (he's trying out for his school basketball team) and is also learning to play guitar. He is very outgoing and makes friends easily, but misses his friends, family, and the food from back home in Trinidad. There are a lot of shops and restaurants (even a couple of Trinidadian restaurants!) around his 40-storey condo building downtown, but very few basketball courts. He is about to experience his first Canadian winter, and is learning how to deal with the racism he experiences at school and while he is out in the city. He's glad that his Auntie's building has a pool and a gym so he can keep fit over the winter.

Persona 3:

Noor is an 18 year old non-binary person living with their family (two parents and 3 siblings) in a 12-story apartment building in the suburbs of [Toronto or Kitchener]. They have just graduated high school and are getting ready to go to college to become a computer animator. Noor struggles with anxiety and depression, and wonders if it's partly because they feel scared to come out to their family as non-binary. Noor feels very calm when they are in parks with a lot of trees and water, and so they take transit for about an hour every week to get to a big park with trees and water and have some time in nature. It's a bit difficult sometimes because the small parks around Noor's building don't have any big trees – just a couple of swings and a slide for little kids.

B. Demographic Questionnaire

Demographic Questionnaire (complete prior to interview)

I'm going to start with some questions about who you are. This information is used to help us understand and interpret the findings of the study. Please answer as honestly as possible. Your responses are completely confidential (i.e., no one but the research team will see the responses).

Participant ID (will be filled out by research team): _____

Pseudonym (e.g., real name: Steven, pseudonym: Sven): _____

1. **Your current age:**

[ ] 12 [ ] 16

[ ] 13 [ ] 17

[ ] 14 [ ] 18

[ ] 15

2. **How old were you when you moved to this neighbourhood?**

[ ] Age: _____

[ ] I've lived here my whole life

Do you remember where you previously lived? Did you live in a high-rise there? Y/N

Postal Code: _____ OR Neighbourhood and City Name: _____

What is your current address?

_____

What is the name of the school you attend?

_____

3. **How would you describe yourself?**

[ ] Indigenous/Aboriginal [ ] South Asian (Indian, Pakistani, …)

[ ] White [ ] East/Southeast Asian (Chinese, …)

[ ] Black [ ] Latin American/Hispanic

[ ] West Asian/Arab [ ] Mixed: _____

[ ] Other: _____

What language do you most often speak at home?

[ ] English [ ] Other: _____

4. Your gender:

[ ] Boy

[ ] Girl

[ ] I identify as…_____ (e.g., non-binary, transgender, two-spirit)

In general, how is your physical health?

1: Excellent

2: Very good

3: Good

4: Fair

5: Poor

In general, how is your mental health?

1: Excellent

2: Very good

3: Good

4: Fair

5: Poor

How would you describe your sense of belonging to your local community?

1: Very strong

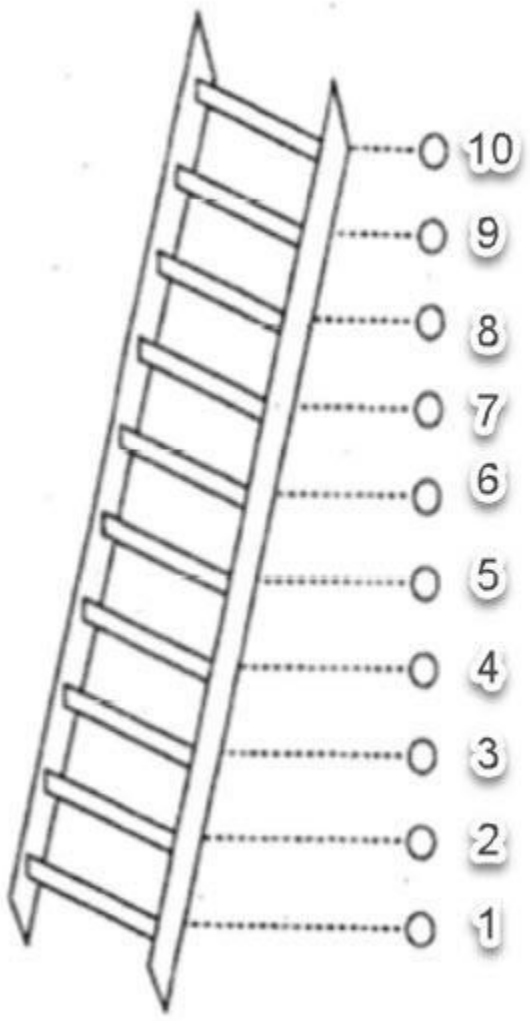
2: Somewhat strong

3: Somewhat weak

4: Very weak

5. Imagine that this ladder is a picture of how Canada is set up. **<u>At the top</u>** of the ladder are people that have the most money, amount of schooling, the best jobs, and most respect. **<u>At the bottom</u>** of the ladder are people who have the least amount of money, education, the least desirable jobs, and the least respect.

Now think about your family, where do you think your family would be on this ladder?



C. Ethics Approval Letter

Date: 20 December 2023

To: Dr. Jason Gilliland and Dr. Leia Minaker

Project ID: 123402

Study Title: Healthy Kids in High Rises (Part 2)

Short Title: Healthy Kids in High Rises (Comm./Participatory Mapping + Focus Groups)

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 12/Jan/2024

Date Approval Issued: 20/Dec/2023 11:15

REB Approval Expiry Date: 20/Dec/2024

Dear Dr. Jason Gilliland and Dr. Leia Minaker,

The Western University Non-Medical Research Ethics Board (NMREB) and Human Research Ethics Board (HREB), University of Waterloo, have reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. **All other required institutional approvals and mandated training must also be obtained prior to the conduct of the study.**

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Appreciation-materials_V2(clean)	Recruitment Materials	21/Nov/2023	2
Recruitment-Poster_V2(clean)	Recruitment Materials	21/Nov/2023	2
Youth-Assent_V2(clean)	Written Consent/Assent	21/Nov/2023	2
Ethics_Demographic-QuestionnaireV1	Focus Group(s) Guide	09/Dec/2023	1
Parental-Consent_V3(clean)	Written Consent/Assent	09/Dec/2023	3
FG_Focus_Group_Guide_V2(clean)	Focus Group(s) Guide	09/Dec/2023	2
PM_Guide	Focus Group(s) Guide	09/Dec/2023	1

Documents Acknowledged:

Document Name	Document Type	Document Date	Document Version
Ethics_Health-Screener_V2(clean)	Screening Form/Questionnaire	21/Nov/2023	2

The Western University NMREB and HREB, University of Waterloo, operate in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941. The HREB, University of Waterloo, is registered under the IRB registration number IRB 00002419.

Please do not hesitate to contact us if you have any questions.

Sincerely,

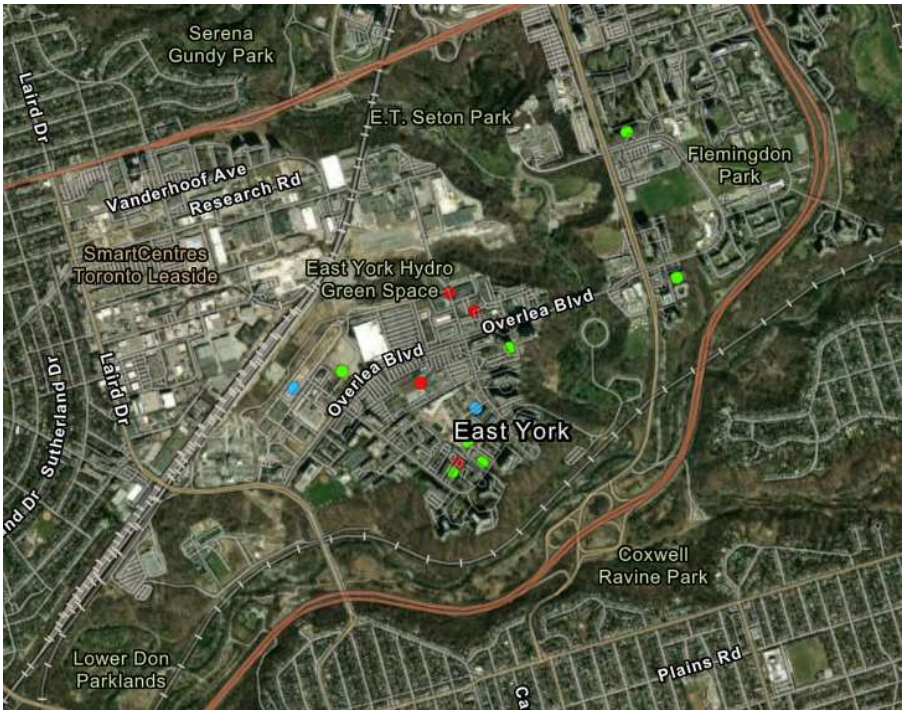
Ms. Katelyn Harris, Ethics Officer and Ms. Karen Pieters, Manager, Research Ethics

On behalf of Dr. Isha DeCoito, NMREB Chair and Dr. Hilary Bergsieker, HREB Chair

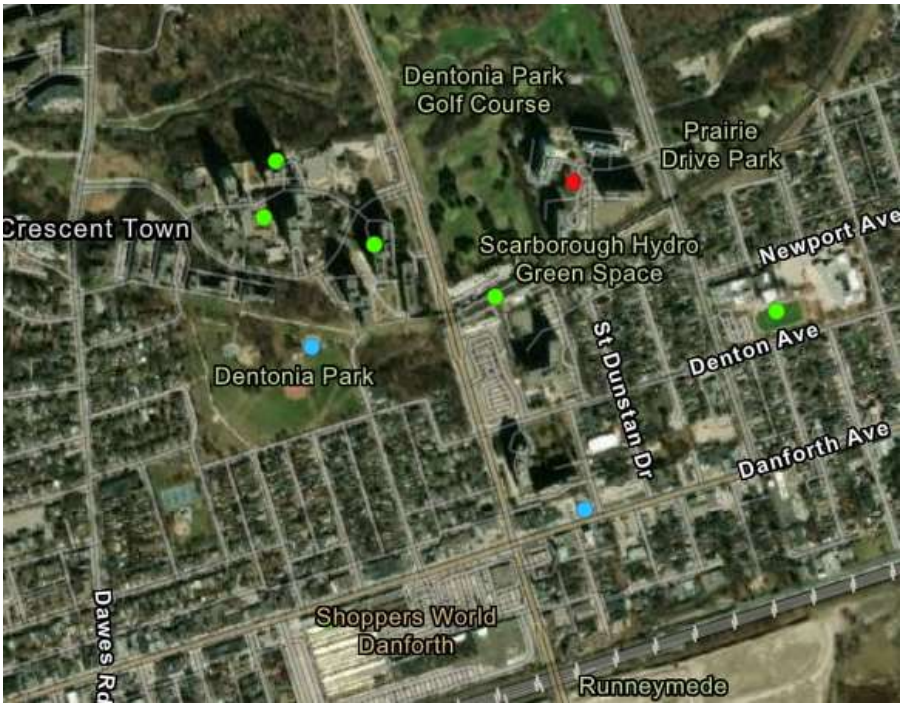
Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

D. Toronto Focus Group Maps

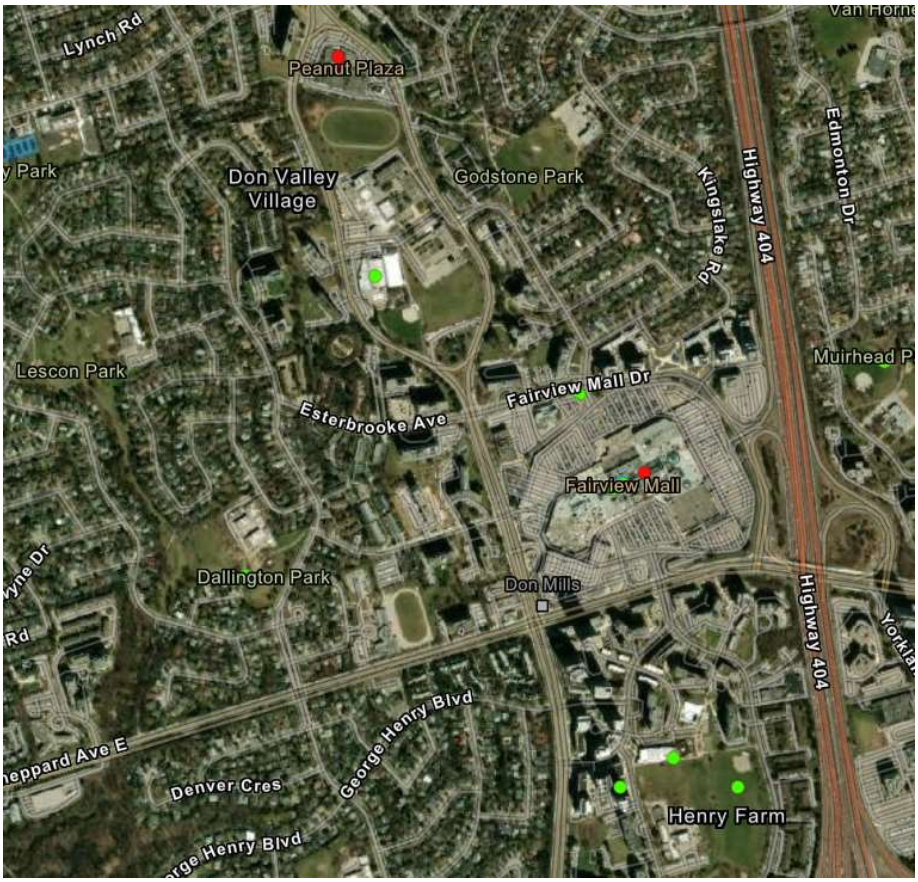
East York



Crescent Town



Don Mills


Lynch Rd
Peanut Plaza
Don Valley Village
Godstone Park
Kingslake Rd
Highway 404
Edmonton Dr
Lescon Park
Esterbrooke Ave
Fairview Mall Dr
Fairview Mall
Dallington Park
Don Mills
Highway 404
George Henry Blvd
Denver Cres
Henry Farm