Housing and Health of Asylum Seekers and Refugees in Canada: A Cross-Sectional Study

By

Khater Muhajir

A thesis

presented to Lakehead University

in fulfillment of the thesis requirement for the degree of

Master of Health Sciences with Specialization in Epidemiology

Thunder Bay, Ontario, Canada, 2024

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

Background:

Asylum seekers and refugees (ASR) represent a growing global population due to various factors including armed conflicts, political instability, and persecution. The United Nations High Commissioner for Refugees reports that there are currently over 50.3 million ASR worldwide, the highest number ever recorded. Canada, known for its robust refugee resettlement programs, welcomed over 30,087 ASR in 2019. Despite Canada's efforts to provide support, ASR often face substantial challenges in their new environment, particularly regarding housing and health. While housing is a recognized determinant of health, research specifically exploring the intersection of housing conditions and health outcomes among ASR is limited. Understanding how different housing situations, such as living in social housing or shelters, impact the health and well-being of ASR is essential for developing effective policies and interventions.

Objectives:

This study aims to fill this research gap by examining the association between housing and the quality of life (physical and mental health) of ASR in Canada, with the goal of informing evidence-based practices and improving support systems for this vulnerable population.

Methods:

A cross-sectional study design was employed, using the World Health Organization's Quality of Life - BREF (WHOQOL-BREF) survey to assess health outcomes. The study population consisted of ASR individuals residing in social housing or shelters across Canada. Descriptive statistics were used to summarize sample characteristics, and multiple linear regression models were applied to examine the association between housing and the quality of life of ASR.

Results:

Among the participants (N = 283), 51% identified as male, 46% as female, and 42.8% were asylum seekers, while 57.2% were refugees. The mean age was 33.5 years. The study revealed a high prevalence of chronic conditions, with 61.5% reporting depression or anxiety. Multiple linear regression analyses revealed that poorer housing conditions were significantly associated with lower physical health ($\beta = -.167$, $p = .011$), psychological health ($\beta = -.265$, $p < .001$), social relationships ($\beta = -.198$, $p = .003$), and environmental quality ($\beta = -.314$, $p < .001$). Additionally, participants with homelessness experience reported significantly lower physical health ($\beta = -.137$, $p = .044$) and social relationships ($\beta = -.152$, $p = .024$). An increase in chronic conditions was also associated with poorer physical health ($\beta = -.147$, $p = .048$). Living in shelters, compared to social housing, was associated with poorer psychological health ($\beta = -.161$, $p = .015$) and environmental quality ($\beta = -.144$, $p = .028$).

Conclusions:

The results of this study highlight significant associations between poor housing conditions and negative health outcomes among asylum seekers and refugees in Canada. This study adds to the growing literature calling for urgent action to improve housing and health outcomes for vulnerable populations like asylum seekers and refugees.

Acknowledgements

I would like to thank my supervisors, Dr. Rebecca Schiff and Dr. Michel Bédard, for your unwavering support, guidance, and belief in me throughout this journey.

Dr. Schiff, it has been a privilege to work with you, first as part of the housing research team, and later as your graduate student. I am deeply grateful for all the opportunities you have provided, and for your endless support and encouragement. You have taught me so much about housing research and have helped me believe that research is the right path for me. Your investment in my learning has been invaluable, and I will always be thankful for your mentorship.

Dr. Bédard, thank you for always being available to meet and for teaching me so much along the way. Your teaching, kindness, patience, and practical wisdom have been a constant source of motivation. As you always said, "a good thesis is a done thesis," and those words have kept me focused through this process. I am grateful for your thoughtful guidance and your dedication to seeing me succeed.

I would also like Thank Dr. Peter Brink for your time, invaluable feedback and support as a committee member. Your thoughtful reviews and insights have greatly contributed to the refinement of this work.

Thank you for giving me the confidence to believe that academia is where I belong. It has been an honor to learn from you, and I will carry your lessons with me throughout my career

I would like to extend my sincere gratitude to the individuals who completed the survey and to the community organizations, managers, and staff at social housing and shelter facilities who supported this study. In particular, I would like to thank the staff at 60 Borden Place INC in

Toronto, and their Executive Director, Alana Jones, for their invaluable assistance with recruitment and for facilitating connections with other organizations.

To my mother, Maryam, whose wisdom transcended any classroom. Though she never attended school, she once told me**,** "*If you are in a safe place and find an opportunity, always study and work hard*."

Her words have guided me through the most challenging moments, and I dedicate my research to her, and to the countless children in internally displaced camps in Sudan and refugee camps in neighboring countries. May they one day find safety, peace, and the opportunity to learn, grow, and change their futures.

Finally, I would like to thank the Social Sciences and Humanities Research Council of Canada (SSHRC) for funding this project through the Partnership Grant: Community Housing Canada (#1004-2019-0002). I am grateful for their generous support, which has been instrumental in making this work possible.

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Chapter 1: Introduction

1.1 Background

The number of asylum seekers and refugees worldwide has been steadily increasing in recent years due to various factors such as armed conflicts, political instability, persecution, and violence in many regions of the world (UNHCR, 2024). According to the United Nations High Commissioner for Refugees (UNHCR, 2024), the current estimate surpasses 50.3 million asylum seekers and refugees globally, marking the highest number ever recorded. Canada stands as one of the leading countries that receive asylum seekers and refugees, with more than 30,087 arrivals in 2019 alone (IRCC, 2020). Upon arrival in their new country, many asylum seekers and refugees encounter numerous challenges that hinder their successful integration, including housing insecurity and inadequate access to healthcare services. The quality of housing plays a significant role in determining an individual's overall health, and residing in substandard housing and shelters can have detrimental effects on both physical and mental well-being (Alidoust & Huang, 2021). For instance, individuals living in overcrowded housing are at a higher risk of contracting infectious diseases such as tuberculosis and influenza due to their proximity and limited ventilation (Baker et al., 2013). Moreover, residing in shelters or substandard housing can intensify stress levels, exacerbate pre-existing mental health issues, and impede social functioning among asylum seekers and refugees (El Arab et al., 2016).

Despite the evident challenges faced by asylum seekers and refugees in terms of housing and health, limited research has explored the specific association between these factors within the Canadian context. A comprehensive understanding of this relationship is crucial for the development of effective policies and interventions aimed at improving the health and well-being of this vulnerable population. Consequently, the primary objective of this study is to examine the

association between housing and health outcomes among asylum seekers and refugees (ASR) in Canada. By investigating this relationship, valuable insights can be gained to inform evidence-based practices and enhance the support systems provided to this marginalized population.

1.2 Research Question

What is the association between housing (living in social housing or shelters) and the health (physical and mental health) of asylum seekers and refugees in Canada?

1.3 Objectives

The primary aim of this study was to examine the association between housing (living in social housing or shelters) and the well-being of asylum seekers and refugees in Canada, focusing on both their physical and mental health. This study assessed health outcomes using the World Health Organization's Quality of Life – BREF (WHOQOL-BREF) survey (see Appendix A), a validated tool for evaluating well-being. Additionally, it explored contributing factors such as chronic health conditions, homelessness experience, and current housing conditions, to provide a comprehensive understanding of how housing impacted the health and quality of life of asylum seekers and refugees.

1.4 Significance of the Study

The significance of this study lies in its potential to enhance existing knowledge and provide guidance for policies and interventions aimed at improving the well-being of asylum seekers and refugees in Canada. By examining the connection between housing and the quality of life (physical and mental health) of this population, the study offers valuable insights into the specific challenges they face.

The findings highlight the critical role of adequate and suitable housing for asylum seekers and refugees, underscoring the necessity for improved access to safe and secure housing

options. These results could lead to policy recommendations and interventions focused on addressing housing insecurity and fostering better living conditions for these individuals. Furthermore, the study emphasizes the mental health implications of living in social housing and shelters, potentially pointing to the need for targeted mental health support services tailored to the unique needs of asylum seekers and refugees.

By understanding the relationship between housing and health outcomes, this study can guide the development of evidence-based interventions and policies. This knowledge can assist in shaping comprehensive approaches concerning housing, healthcare, and social support systems, ultimately fostering positive health outcomes and facilitating the successful integration and resettlement of asylum seekers and refugees in Canada.

Chapter 2: Literature Review

2.1 Defining Asylum Seekers and Refugees in Canada

Asylum seekers are individuals who have left their home country and crossed an international border to seek protection in another country (UNHCR, 2024). They apply for asylum, a legal status granted by the host country that allows them to remain there while their claim is assessed. According to the United Nations High Commissioner for Refugees (UNHCR), an asylum seeker is "someone who has fled their own country and applied for protection as a refugee in another country but whose claim for refugee status has not yet been determined" (UNHCR, 2024).

The reasons why individuals seek asylum vary, but they often include fear of persecution or threats to their life, freedom, or safety due to factors such as their political beliefs, race, religion, nationality, or membership in a particular social group (Hathaway, 2005). Asylum seekers may be escaping situations where they face "violence, discrimination, or serious human

rights abuses" (Hathaway, 2005). They are compelled to seek protection in another country to secure their safety and well-being.

The principle of non-refoulement, which is enshrined in international law, prohibits the return of asylum seekers to a country where they would be at risk of persecution or harm. As stated by the UNHCR (2024), "the principle of non-refoulement is the cornerstone of refugee protection". This principle recognizes the vulnerability of asylum seekers and the obligation of host countries to provide them with safety and security.

On the other hand, refugees are individuals who have been recognized as meeting the criteria for refugee status under the 1951 United Nations Convention Relating to the status of refugees or its 1967 Protocol. They have fled their home country due to a well-founded fear of persecution based on the same factors as asylum seekers. Once recognized as refugees, they are granted legal protection and are entitled to certain rights, including access to healthcare, education, and the right to work (UNHCR, 2024). However, not all countries allow refugees access to healthcare, education, and the right to work.

Determining an individual's refugee status is a complex and lengthy process. As noted by Rousseau and colleagues (2002), the asylum adjudication process involves the evaluation of an applicant's claim, including the assessment of the credibility of the applicant's fear of persecution. This process often involves interviews, document verification, and examination of country-of-origin information to establish the validity of the asylum seeker's claim.

It is important to note that not all asylum seekers are recognized as refugees, and determining their status can be lengthy and complex. According to the UNHCR (2021), in 2020, there were 4.1 million asylum seekers worldwide, and 20.7 million refugees. These numbers

highlight the significant number of individuals who need international protection and the ongoing challenge to ensure their well-being.

The existing body of research frequently combines asylum seekers, refugees and immigrants into a single category, overlooking their unique experiences and needs. Asylum seekers and refugees often face compounded vulnerabilities, such as traumatic pre-migration experiences and the uncertainty of their legal status, which differ significantly from those of voluntary immigrants (Beiser & Hou, 2017). Despite these differences, many studies adopt a homogenous lens, leading to generalized conclusions that fail to address the targeted needs of ASRs. This deficit highlights a critical gap in understanding the intersection of forced migration, social integration, and service provision (Kissoon, 2010). Addressing this gap is vital for developing evidence-based policies and programs tailored to ASRs' specific challenges.

2.1.1 Asylum Seekers and Refugees in Canada

Canada has consistently maintained its reputation as a hospitable nation for asylum seekers and refugees, exemplifying its commitment to providing refuge and resettlement to individuals escaping perilous circumstances and rampant violence. The United Nations High Commissioner for Refugees (UNHCR) acknowledges Canada's remarkable contributions in this domain, as it has consistently emerged as one of the leading countries in terms of refugee resettlement numbers.

The demographic composition of refugee claimants in Canada has been characterized by a predominant representation from Africa, Asia, and the Middle East, as evidenced by a study conducted by Statistics Canada (2018). Specifically, Nigeria, Syria, and Somalia have emerged as the most common countries of origin for refugee claimants in Canada. This finding aligns with the patterns observed in international migration trends, where individuals from conflict-affected

regions seek asylum in countries that offer safe haven and opportunities for resettlement (UN OCHA, 2022).

Moreover, the composition of the refugee claimant population in Canada reflects a notable presence of women and children. A report released by Citizenship and Immigration Canada (2017) emphasized that women and children comprised the majority of refugee claimants in 2015. This finding highlights the vulnerability of certain groups within the refugee population, necessitating the development and implementation of tailored support systems and services to address their specific needs. Understanding the demographic characteristics of refugee claimants, particularly the regions of origin and the proportion of women and children, is essential for policymakers, service providers, and stakeholders to effectively design and deliver culturally sensitive and gender-responsive interventions (Fiddian-Qasmiyeh, 2014).

2.1.2 Challenges Faced by Asylum Seekers and Refugees in Canada

Asylum seekers and refugees face numerous challenges throughout their journey and after arriving in Canada, significantly impacting their well-being and integration into Canadian society (Saberpor, 2016; Edmonds & Flahault, 2021). One of the most daunting obstacles they encounter is the complex and protracted asylum claim process (Bhabha et al., 2007).

The asylum process in Canada can be described as demanding and prolonged, involving multiple stages of review and potential appeals (Bhabha et al., 2007). Consequently, asylum seekers experience extended periods of uncertainty and limited access to essential services (Asgary et al., 2011). The complexity of the asylum claim process often leads to delays in the provision of healthcare services, further exacerbating the health challenges faced by these individuals (Silove et al., 2017). Silove et al. (2017) conducted research demonstrating that the

uncertainty and stress associated with the asylum process can have detrimental effects on the mental health of refugees and asylum seekers.

Successful integration and social inclusion are fundamental for asylum seekers and refugees to rebuild their lives in Canada (Donato & Ferris, 2020). However, accomplishing this presents significant challenges (Donato & Ferris, 2020; Esses et al., 2017). Donato and Ferris's (2020) study highlights the difficulties asylum seekers and refugees face in obtaining employment, accessing education, and finding housing upon their arrival in Canada. The language barrier is one of the primary impediments to successful integration, limiting refugees' and asylum seekers' employment opportunities and social interactions (Esses et al., 2017). Additionally, the lack of recognition of foreign qualifications further hampers their integration into the Canadian labour market (Esses et al., 2017). Discrimination and prejudice also serve as additional obstacles, affecting their social inclusion and overall well-being (Esses et al., 2017). Overcoming these challenges necessitates establishing comprehensive support systems that address language acquisition, provide opportunities for recognizing skills, and promote anti-discrimination measures (Esses et al., 2017).

In addition to the challenges associated with the asylum process and integration difficulties, access to healthcare poses a critical challenge for asylum seekers and refugees in Canada (Hynie, 2018). Limited access to healthcare services can have severe consequences for their health and well-being (Hynie, 2018; Asgary et al., 2011). Asylum seekers often encounter barriers to healthcare, such as a lack of health coverage and limited knowledge about available services (Hynie, 2018). These challenges can result in delayed or inadequate healthcare, exacerbating existing health conditions and emerging new ones (Campbell et al., 2014). For instance, refugees may have pre-existing physical or mental health conditions that require

continuous care and treatment (Steel et al., 2009). The lack of access to appropriate healthcare can worsen these conditions, impeding their ability to recover and integrate successfully into Canadian society (Steel et al., 2009; Hynie, 2018).

Moreover, the availability and suitability of housing pose significant challenges for asylum seekers and refugees in Canada. The demand for affordable and adequate housing far exceeds the supply, resulting in a housing crisis in many regions (Kaur et al., 2021). Refugees, who often require immediate shelter and support upon arrival, face heightened vulnerabilities in securing housing. A recent CBC News report has emphasized that shelters are strained as they struggle to accommodate the increasing number of migrants seeking refuge, leading to concerns over the well-being of these vulnerable individuals (CBC News,2023). The scarcity of affordable housing options and the limited financial resources available to asylum seekers and refugees make it exceedingly difficult for them to find secure and stable housing (Rose, 2019). The lack of suitable housing options can lead to overcrowding, substandard living conditions, and homelessness among asylum seekers and refugees (Carter et al., 2017). These housing challenges further impede their integration into Canadian society and hinder their overall well-being (Brown et al., 2022).

2.2 Housing as a Social Determinant of Health

The social determinants of health encompass various factors that significantly influence individuals' well-being and health outcomes. These determinants extend beyond traditional healthcare interventions and address the conditions in which people are born, grow, live, work, and age (World Health Organization, 2021). Among the various social determinants, housing is a critical factor that significantly impacts health.

Housing plays a vital role in individuals' overall health and well-being. Safe and adequate housing is essential for individuals to thrive and maintain good health. It provides shelter, protection from environmental hazards, and a foundation for personal and social stability (Rolfe et al., 2020). In contrast, substandard and unstable housing can lead to various adverse health outcomes. Studies have consistently shown that poor housing conditions are associated with increased risks of various health problems. For instance, inadequate housing can contribute to respiratory illnesses such as asthma and allergies due to exposure to dampness, mould, and indoor pollutants (Wimalasena et al., 2021). Inadequate heating and insulation in housing also contribute to increased morbidity and mortality, particularly among vulnerable populations such as the elderly and low-income individuals (Rolfe et al., 2020).

2.2.1 Housing and Health for Asylum Seekers and Refugees

Housing conditions play a significant role in determining the health outcomes of asylum seekers and refugees. The challenges faced by this vulnerable population in accessing safe and affordable housing have detrimental effects on their overall well-being. The inadequate housing situations often result in overcrowding, substandard living conditions, and homelessness (World Health Organization, 2018).

Asylum seekers and refugees experience unique difficulties finding suitable housing due to various factors. Limited financial resources, language barriers, discrimination, and lack of knowledge about the housing systems in host countries contribute to their housing insecurity (Al Arab et al., 2023). As a result, many asylum seekers and refugees often end up in inadequate living conditions like crowded apartments due to limited options, leading to serious health repercussions. Overcrowding has been linked to worsened mental health, particularly aggravated by the COVID-19 pandemic. An analysis conducted by the Health Foundation in 2022

demonstrated that 24% of individuals living in overcrowded housing experienced psychological distress, compared to 22% of those in non-overcrowded housing, suggesting a potential connection between overcrowding and mental health (Health Foundation, 2024).

One of the primary health risks associated with poor housing conditions is an increased susceptibility to respiratory infections. Overcrowding in living spaces facilitates the spread of communicable diseases, including tuberculosis and influenza (Ahmed et al., 2020). The proximity of individuals in overcrowded housing makes it easier for respiratory infections to transmit from one person to another. Moreover, inadequate ventilation and dampness in poorly maintained housing can exacerbate respiratory conditions such as asthma, leading to chronic health problems (Yun et al., 2012).

Housing instability among asylum seekers and refugees also profoundly affects mental health. Displacement from their home countries, exposure to violence and trauma, and the uncertainty of their immigration status contribute to heightened stress and anxiety levels (Slewa-Younan et al., 2015). Living in substandard housing only exacerbates these mental health challenges. The lack of privacy, safety concerns, and limited access to essential services intensify the experience of distress and trauma (Slewa-Younan et al., 2015).

Furthermore, the housing conditions of asylum seekers and refugees can contribute to developing or exacerbating posttraumatic stress disorder (PTSD). Individuals who have fled war, conflict, or persecution often carry the psychological burden of their experiences, which can be triggered or intensified by living in unsafe or unstable housing environments (Hynie et al., 2018). The lack of security and stability in housing compounds psychological distress, making it harder for individuals to recover and rebuild their lives (Brackertz et al., 2020).

Addressing the housing-related health challenges asylum seekers and refugees face is crucial for their overall well-being and successful integration into their host societies. Policy interventions should prioritize providing this population with safe, affordable, and suitable housing options (Hynie et al., 2018). This can be achieved through increased investment in social housing programs, targeted support for vulnerable individuals, and the establishment of partnerships between government agencies, non-profit organizations, and community stakeholders (Association of Municipalities, 2017).

2.2.2 Canadian Housing and Welfare Programs for Asylum Seekers and Refugees

Canada has implemented various programs and policies to support ASRs in their integration and resettlement. Housing-related initiatives, such as the Refugee Assistance Program (RAP), provide temporary accommodations and financial support to government-assisted refugees during their initial settlement period (Immigration, Refugees, and Citizenship Canada [IRCC], 2024). Additionally, non-governmental organizations (NGOs) play a significant role in facilitating access to affordable housing through partnerships with local communities and housing authorities (Carter & Osborne, 2009).

Healthcare access is another critical area for ASRs. The Interim Federal Health Program (IFHP) offers essential and emergency health services to refugees and asylum seekers who are not yet eligible for provincial or territorial health insurance (IRCC, 2024). Educational support includes programs that facilitate language acquisition, such as the Language Instruction for Newcomers to Canada (LINC), which equips ASRs with the skills needed for social and economic integration (Ontario Council of Agencies Serving Immigrants [OCASI], 2024; Wilkinson & Garcea, 2017). In terms of employment, initiatives such as the Settlement Program

provide job readiness training, credential recognition, and networking opportunities to help ASRs integrate into the Canadian workforce ([OCASI], 2024).

2.2.3 Factors Influencing Housing Conditions for Asylum Seekers and Refugees

The housing conditions of asylum seekers and refugees are influenced by various factors, which can contribute to inadequate housing for this vulnerable population (WHO, 2019). One of the primary factors influencing housing conditions for asylum seekers and refugees is economic constraints. Many asylum seekers and refugees face financial challenges, as they often arrive in their host countries with limited financial resources. Due to their uncertain legal status and limited access to employment opportunities, they often struggle to afford suitable housing. This economic vulnerability can lead to overcrowded living conditions or living in substandard housing (Hynie et al., 2018).

In addition to economic constraints, the limited availability of affordable housing presents a significant challenge for asylum seekers and refugees. In many urban areas, there is a shortage of affordable housing options, making it difficult for this population to secure safe and adequate accommodation (Baker et al., 2013). As a result, they may resort to informal settlements, overcrowded apartments, or substandard housing conditions (Slewa-Younan et al., 2015).

Discrimination against asylum seekers and refugees further exacerbates their housing challenges (Stevens et al., 2024). Host communities may harbour negative attitudes towards these individuals, leading to discriminatory practices in housing allocation. Landlords and rental agencies may refuse to rent to asylum seekers and refugees based on their nationality, ethnicity, or refugee status, resulting in limited housing options and increased vulnerability (Hynie et al., 2018). Policy restrictions also play a crucial role in shaping the housing conditions of asylum

seekers and refugees (Edmonds & Flahault,2021). Government policies and regulations can either facilitate or hinder their access to adequate housing. Restrictive policies, such as limitations on housing assistance or the denial of housing rights based on legal status, can create barriers for asylum seekers and refugees to secure suitable accommodation (Slewa-Younan et al., 2015). Language barriers and limited knowledge about housing options pose significant challenges for asylum seekers and refugees (Naslund et al., 2020). Communication difficulties can hinder their ability to navigate the housing market and access relevant information about available housing resources and support services. Without adequate language skills and knowledge about local housing regulations and practices, they may face difficulties in finding suitable housing options (Creese & Kambere, 2021).

Moreover, the limited social support networks of asylum seekers and refugees can impact their housing conditions (Ziersch et al., 2024). A lack of social connections and support systems can make it harder for individuals to access housing information, secure stable accommodation, and integrate into the local community. Strong social support networks are essential for asylum seekers and refugees to overcome housing challenges and establish a sense of belonging (Simsa & Sanhueza, 2018).

Chapter 3: Methodology

3.1 Study Population

This study utilized a cross-sectional survey design to examine the association between housing and the health outcomes of asylum seekers and refugees in Canada. A cross-sectional design was chosen as it allows for the assessment of the relationship between multiple variables at a single point in time, providing a snapshot of the health of participants in relation to their housing conditions.

To effectively address the research question posed in this project, a specific study population was identified. The study population primarily comprised asylum seekers and refugees residing in social housing and shelters in Canada. Social housing and shelters accommodate both asylum seekers and refugees, as well as individuals who do not fall into these categories.

To ensure effective communication and understanding throughout the research, only individuals who possessed a working knowledge of English, Arabic, or French were included. These languages were recognized as the top languages spoken by asylum seekers, according to the International Refugee and Immigration Council (IRCC). Additionally, one member of the research team spoke both English and Arabic, facilitating clearer communication with participants.

To maintain the focus and relevance of the study, the exclusion criterion was individuals with immigrant status, as well as asylum seekers and refugees who did not currently reside in designated social housing or shelters. This criterion ensured that the research sample remained representative of the specific population under investigation. By employing these inclusion and exclusion criteria, we gathered insights and perspectives from asylum seekers and refugees with firsthand experience living in social housing or shelters, fostering a comprehensive understanding of their unique circumstances and challenges.

3.2 Sampling Strategy

In this study, we employed convenience sampling to recruit participants. Convenience sampling, a non-probability method, was chosen due to its suitability for selecting participants based on accessibility and availability (Etikan et al., 2016). Considering the unique challenges associated with reaching asylum seekers and refugees, a probability sampling method would

have been difficult to implement. Therefore, convenience sampling provided a practical solution for recruitment, allowing us to address potential barriers such as accessibility and the often-transient nature of this population.

3.3 Measurement of Outcome

The primary outcome of this study was the quality of life, focusing on physical and mental health. To measure these outcomes, we utilized the physical health, psychological, social relationships, and environment domains of the WHOQOL-BREF survey (see Appendix A). The WHOQOL-BREF is a shortened version of the WHOQOL-100, developed by the World Health Organization (WHO) and introduced in 1995. The tool was refined through the contributions of 15 centers worldwide and is designed to assess individuals' perceptions of their health and well-being across multiple dimensions. It is a self-administered questionnaire that includes four domains, each representing different aspects of quality of life. Higher scores in these domains reflect better physical or psychological health (WHO, 1996). The WHOQOL-BREF has been validated and is widely regarded as a reliable instrument for measuring the quality of life across diverse populations and cultural contexts, making it suitable for our study population of asylum seekers and refugees.

The physical health domain assesses an individual’s ability to perform daily activities and their overall physical well-being. This includes measures of pain and discomfort, energy and fatigue, sleep and rest, mobility, daily activities, dependence on medications or treatments, and work capacity. The psychological domain evaluates mental health and emotional well-being, addressing factors such as positive and negative feelings, self-esteem, body image and appearance, personal beliefs, and cognitive functions, including memory and concentration. The social relationships domain examines interpersonal interactions, focusing on personal

relationships, social support, and sexual activity as key components of an individual's social well-being. Lastly, the environment domain explores the living environment and access to resources, including physical safety and security, financial resources, access to quality healthcare, opportunities for acquiring new skills, participation in recreational activities, and environmental conditions such as pollution, noise, and climate (WHO, 1996).

3.4 Measurement of Exposure

The primary exposure of interest in this study was asylum seekers and refugees (ASR). Secondary exposure measures included the living conditions of participants residing in social housing or shelters. An asylum seeker is an individual who is seeking protection in Canada and whose claim has yet to be finally decided on by IRBC. In contrast, refugees are people who have fled their home countries because of a well-founded fear of persecution. They are not able to return home, and as a result, they are granted status or resettled to Canada. Not every asylum seeker will ultimately be recognized as a refugee, but every refugee is initially an asylum seeker (Refugees and Citizenship Canada, 2019).

Given that social housing and shelters accommodate both asylum seekers, refugees, and other individuals outside these categories, we asked participants to indicate their specific immigration status (asylum seeker or refugee). This method allowed us to accurately assess exposure based on self-reported immigration status.

3.5 Variable Measurement Table

Variable	Value	Type
Age	[YYYY]_____	Continuous
Gender	1= Male2= Female 3= non-binary 4= Self-describe (_____)	Categorical

Relationship status	1= Single 2= Married/cohabitating 3= Divorced /separated 4=Widowed	Categorical
Country of origin	Afghanistan, Syria, Iraq, Eritrea, stateless, other countries	Categorical
Immigration status	1= Refugee 2= Asylum seeker	Categorical
Housing type	1=Social housing 2= Shelter 3= Homeless	Categorical
Have you ever been homeless?	0= No 1= Yes	Categorical
How would you describe the current condition of your housing?	1=Excellent 2=Good 3= Fair 4=Poor 5=Very Poor	Categorical
To what extent do you feel safe and secure in your current living arrangement?	1= very Safe 2= Safe 3= Neutral 4= Unsafe 5= Very Unsafe	Categorical
Does your current dwelling provide enough space for your needs?	1= More than enough 2=Adequate 3= Neutral 4= Slightly cramped 5= Very cramped	Categorical
How satisfied are you with the overall community environment where you currently reside	1= Very Satisfied 2= Satisfied 3= Neutral 4= Dissatisfied 5= Very Dissatisfied	Categorical
Have any necessary repairs or maintenance issues been addressed promptly in your current dwelling?	1= Always 2= Often 3= Occasionally 4= Rarely 5= Never	Categorical
How easily can you access essential services such as	1= Very Easily 2= Easily 3= Moderately 4= With Difficulty 5= Very Difficult	Categorical

healthcare, education, and public transportation from your current location?		
Education level	1= Elementary 2= Secondary 3= College 4 = University	Categorical
Which of these categories describes your total annual income, from all sources?	1=Less than $10,000 2=$10,000 – $50,000 3=$50,000 – $100,000 4=$100,000 – $150,000	Categorical
Hypertension (high blood pressure)	0=Yes 1= NO	Categorical
Depression or anxiety	0=Yes 1= NO	Categorical
Chronic musculoskeletal conditions causing pain or limitation	0=Yes 1= NO	Categorical
Arthritis or rheumatoid arthritis	0=Yes 1= NO	Categorical
Osteoporosis	0=Yes 1= NO	Categorical
Asthma, chronic obstructive pulmonary disease (COPD), or chronic bronchitis	0=Yes 1= NO	Categorical
Cardiovascular disease (angina, myocardial infarction, atrial fibrillation, poor circulation in the lower limbs)	0=Yes 1= NO	Categorical

Heart failure (including valve problems or replacement)	0=Yes 1= NO	Categorical
Stroke and transient ischemic attack	0=Yes 1= NO	Categorical
Stomach problem (reflux, ulcer, or heartburn)	0=Yes 1= NO	Categorical
Colon problem (irritable bowel, Crohn's disease, ulcerative colitis, diverticulosis)	0=Yes 1= NO	Categorical
Chronic hepatitis	0=Yes 1= NO	Categorical
Diabetes	0=Yes 1= NO	Categorical
Thyroid disorder	0=Yes 1= NO	Categorical
Any cancer in the previous 5 years (including melanoma but excluding other skin cancers)	0=Yes 1= NO	Categorical
Kidney disease or failure	0=Yes 1= NO	Categorical
Chronic urinary problem	0=Yes 1= NO	Categorical
Dementia or Alzheimer's disease	0=Yes 1= NO	Categorical
Hyperlipidemia (high cholesterol)	0=Yes 1= NO	Categorical
Other: specify _____	0=Yes 1= NO	Continuous
WHOQOL-BREF	1= Very poor 2= Poor 3= Neither poor nor good 4= Good 5= Very good	Continuous

1.How would you rate your quality of life?		
2: How satisfied are you with your health?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
3.To what extent do you feel that physical pain prevents you from doing what you need to do?	1= An extreme amount 2= very much 3= A moderate amount 4= A little 5= Not at all	Continuous
4. How much do you need any medical treatment to function in your daily life?	1= An extreme amount 2= very much 3= A moderate amount 4= A little 5= Not at all	Continuous
5.How much do you enjoy life?	1= An extreme amount 2= very much 3= A moderate amount 4= A little 5= Not at all	Continuous
6. To what extent do you feel your life to be meaningful?	1= An extreme amount 2= very much 3= A moderate amount 4= A little 5= Not at all	Continuous
7. To what extent do you feel your life to be meaningful?	1= Not at all 2=A little 3= A moderate mount 4=Very much 5= Extremely	Continuous
8. How safe do you feel in your daily life?	1= Not at all 2=A little 3= A moderate mount 4=Very much 5= Extremely	Continuous
9. How healthy is your physical environment?	1= Not at all 2=A little 3= A moderate mount 4=Very much 5= Extremely	Continuous
10. Do you have enough energy for everyday life?	1=Not at all 2= A little 3=Moderately 4= Mostly 5= Completely	Continuous

11. Are you able to accept your bodily appearance?	1=Not at all 2= A little 3=Moderately 4= Mostly 5= Completely	Continuous
12. Have you enough money to meet your needs?	1=Not at all 2= A little 3=Moderately 4= Mostly 5= Completely	Continuous
13. How available to you is the information that you need in your day-to-day life?	1=Not at all 2= A little 3=Moderately 4= Mostly 5= Completely	Continuous
14.To what extent do you have the opportunity for leisure activities?	1=Not at all 2= A little 3=Moderately 4= Mostly 5= Completely	Continuous
15. How well are you able to get around?	1=Very poor 2= Poor 3= Neither 4= poor nor good 4= Good 5= Very good	Continuous
16. How satisfied are you? with your sleep?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
17. How satisfied are you with your ability to perform your daily living activities?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
18. How satisfied are you with your capacity for work?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous

19. How satisfied are you with yourself?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
20. How satisfied are you with your personal relationships?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
21. How satisfied are you with your sex life?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
22. How satisfied are you with the support you get from your friends?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
23. How satisfied are you with the conditions of your living place?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
24. How satisfied are you with your access to health services?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
25. How satisfied are you with your transportation?	1=Very dissatisfied 2=dissatisfied 3=Neither satisfied nor dissatisfied 4=Satisfied 5=Very satisfied	Continuous
26.How often do you have negative feelings such	1= Always 2= Very often 3= Quite often 4= Seldom 5= Never	

as blue mood, despair, anxiety, depression?		

3.6 Data Collection

Data collection was conducted using the WHOQOL-BREF Survey questionnaire, and all the data generated for this research was stored on the REDCap server. The diverse linguistic backgrounds of the study population were taken into account, and the WHOQOL-BREF Survey was selected for its availability in nineteen languages, including English, Arabic, and French—languages relevant to our study population. This ensured inclusivity for participants from diverse linguistic backgrounds and aligned with our inclusion criteria.

The survey was distributed through a public link shared via email and other media outlets. Contact information for potential participants was obtained from organizational websites, and emails were sent to social housing managers and refugee organization managers across Canada, requesting their collaboration in sharing the survey link and an accompanying invitation message with residents or clients currently residing in social housing and shelter facilities. The email outlined the study's purpose and significance, requesting their assistance in distributing the survey to residents and clients.

Additionally, we connected with community organizations, such as the Eritrean Community and the Sudanese Community Association of Ontario. Attending community events organized by these groups allowed us to engage directly with potential participants. For example, during one such event in Ottawa, we successfully recruited participants residing in social housing. This approach significantly expanded our reach and diversity within the sample.

For individuals without access to computers or facing challenges using them, printed copies of the survey were provided in the specified languages. These hard copies were distributed in social housing and shelter facilities. Staff at these locations, along with the investigator, assisted participants in completing the surveys when needed to ensure accurate data collection. Participants began the survey only after completing informed consent. No incentives were offered. Following the survey period, the public link was closed, and the data was exported from the REDCap server to a password-protected device for data cleaning and analysis.

3.7 Estimate of the Sample Size

The sample size was determined based on power analysis calculations using G*Power software. The calculation considered the following parameters: effect size, alpha level, power, and the number of predictors in the regression analysis. Considering a medium effect size, an alpha level of 0.05, a power of 0.80, and assuming up to 10 predictors in the multiple linear regression analysis, the minimum required sample size was calculated to be 200 participants. To account for potential attrition and missing data, the final target sample size was set at 250 participants. This sample size was deemed adequate to detect statistically significant effects and to ensure robust analysis of the data. Ultimately, the final sample size for the study included 283 participants, which exceeded the initial target.

3.8 Confounders

Various variables were assessed for their potential confounding effects on the association between housing conditions and quality of life (physical health, psychological health, social relationships, and environment) of asylum seekers and refugees. Demographic variables (see Appendix B), including age, gender, and immigration status (asylum seeker vs. refugee), were considered key confounders in the analysis. Additional confounders included mental health

conditions such as depression or anxiety, which are prevalent in refugee populations and significantly impact quality of life outcomes, potentially influencing the association between housing conditions and psychological health. Homelessness experience was also included, as it is known to severely affect both physical and psychological well-being, and accounting for it as a confounder allowed for a clearer understanding of the relationship between current housing conditions and health outcomes.

3.9 Statistical Analysis

The data collected from the WHOQOL-BREF survey were analyzed using both descriptive and inferential statistics. The analysis was conducted using the Statistical Package for the Social Sciences (SPSS), version [29.0.1.0] and statistical significance was determined at $p < 0.05$. The process followed a structured approach, which included data entry, cleaning, scoring the WHOQOL-BREF survey, descriptive analysis, bivariate correlation analysis, and finally fitting multiple linear regression models to assess the relationship between housing conditions and quality of life of refugees and asylum seekers in Canada.

Once data entry was completed, data cleaning was performed to identify and address any inconsistencies, missing data, or outliers. Variables were checked for coding errors, missing values, and were recoded as needed. For example, gender was initially coded with multiple categories (e.g., male, female, non-binary, other) and was recoded into binary or categorical variables based on the analysis requirements.

The WHOQOL-BREF survey items were scored on a 5-point Likert scale, with higher scores indicating better perceived quality of life. Domain-specific scores were calculated by averaging the items within each domain. Reverse scoring was applied to items assessing negative experiences (e.g., pain) to ensure that higher scores consistently denote positive outcomes. These

transformed scores were used for further descriptive and inferential analyses to assess overall quality of life.

Once the scoring was completed, descriptive statistics were conducted to summarize the demographic characteristics of the study sample. Frequencies and percentages were calculated for categorical variables such as gender and immigration status, while means and standard deviations were used to describe continuous variables such as age and WHOQOL-BREF domain scores. These descriptive analyses provided a comprehensive overview of the study population, including age distribution, gender breakdown, immigration status, and the prevalence of chronic health conditions.

Before conducting regression analyses, bivariate analyses were conducted to examine the relationships between independent variables and the four WHOQOL-BREF domains. The results from these analyses provided insights into which independent variables were significantly associated with each WHOQOL-BREF domain, guiding the selection of variables for inclusion in the regression models.

Finally, multiple linear regression models were fitted to examine the variables associated with the four WHOQOL-BREF domains. The model-building process began with bivariate analyses to identify significant predictors, which were then included in the regression models. Covariates such as age, gender, and immigration status were controlled for to isolate the effects of housing and health-related factors. Assumptions of multicollinearity were checked using Variance Inflation Factors (VIF), with all VIF values below 10, indicating no multicollinearity issues. Standardized regression coefficients (β), standard errors (SE), t-values, and p-values were reported to evaluate the strength and significance of associations.

3.10 Ethical Considerations

Ethical approval for this study was obtained from the Lakehead University Research Ethics Board (REB) (Romeo File No: 1470242) before data collection began (see Appendix I). Given that this study involved vulnerable populations, such as asylum seekers and refugees, additional ethical considerations were put in place to ensure the protection of participants. Participants were informed that their involvement in the study would not influence their refugee status or asylum claims in any way. This reassurance was clearly communicated in the study description provided in all forms, emails, and recruitment materials (see Appendices C, D, E, F, G).

The study description (Appendix D) outlined the research objectives and explained the intent to explore the association between living in social housing or shelters and the physical and mental health outcomes of asylum seekers and refugees. Prior to participation, informed consent was obtained from all participants (see Appendix E), emphasizing their right to withdraw from the study at any time without any negative consequences. Additionally, participants were made aware that their responses would remain anonymous and confidential, with all data being reported in aggregate form. Upon completion of the survey, the data was securely stored on a password-protected device. Information on available mental health resources was also provided to participants (see Appendix H).

Chapter 4: Results

4.1 Demographic Characteristics

The present study included a total of 283 participants (Table 1 summarizes the demographic characteristics of the study participants). Among these, 42.8% (N = 121) of respondents identified as asylum seekers, while 57.2% (N = 162) identified as refugees,

reflecting a diverse asylum seekers and refugee population seeking stability and protection in Canada. Furthermore, of the 283 respondents, 51% (N = 144) identified as male, 46% (N = 130) as female, and 2.1% (N = 6) as non-binary. Additionally, 0.7% (N = 2) of respondents self-identified with another gender description. Participants' birth year ranged from 1954 to 2006, with a mean birth year of 1990.5 (SD = 10.28), indicating a mean participant age of approximately 33.5 years.

The majority of participants reported being single, accounting for 65% (N = 184) of the sample. Married or cohabitating individuals comprised 18.4% (N = 52), while 8.1% (N = 23) were divorced or separated. Additionally, 4.6% (N = 13) of the respondents were widowed. Regarding the country of origin, respondents originated from various countries, reflecting the global nature of asylum and refugee-seeking patterns. The majority of participants were from Sudan (11 %, N = 31), Syria (10.2%, N = 29), Eritrea (8.1%, N = 23), and Nigeria (6.0%, N = 16). Smaller numbers were from countries such as Afghanistan (3.5%, N = 10), Iran (4 %, N = 11), and Kenya (4 %, N = 11).

Moreover, we also explored how long respondents had been living in Canada; most respondents are relatively recent arrivals. Of the 283 individuals who participated in this study, 33 % (N = 93) had been in Canada for less than a year, while 48 % (N = 136) had been residing in Canada for 1 to 5 years. Smaller groups had been in the country for 6 to 10 years (11.3%, N = 32) and more than 10 years (1.8%, N = 5).

In terms of location, a significant majority of respondents, 70.3% (N = 199), resided in Ontario. Other provinces with notable asylum seekers and refugee populations included Alberta (6.0%, N = 17), Quebec (7.4%, N = 21), and Manitoba (6.7%, N = 19). Smaller numbers were

found in British Columbia (1.8%, N = 5) and Saskatchewan (1.8%, N = 5). Additionally, Nova Scotia (1.1%, N = 3) and Nunavut (0.4%, N = 1) had minor representations.

Education levels varied among respondents. The present study found a high rate of primary education but less so for higher education levels. Specifically, 81% (N = 229) had completed elementary education, 65.4% (N = 185) had finished secondary education, 27.2% (N = 77) had attended college, and 22.6% (N = 64) had obtained a university degree. Lastly, income levels provided insight into the economic conditions of the respondents. Fifty-nine percent (N=168) of respondents reported an annual income of less than $10,000, indicating substantial financial hardship. Another 35.3% (N = 100) had incomes between $10,000 and $50,000, while only 3.5% (N = 10) earned between $50,000 and $100,000, and a mere 0.7% (N = 2) earned $100,000 to $150,000.

Table 1: Demographic Characteristics of Participants (N = 283)

Variable	**Frequency (N)**	**Percentage (%)**	**M**	**SD**
Immigration Status				
Asylum Seekers	121	42.8%		
Refugees	162	57.2%		
Gender				
Male	144	51%		
Female	130	46%		
Non-binary	6	2.1%		
Other	2	0.7%		
Age				
Mean Age			33.5	10.28

Mean birth year			1990.5	10.28
Marital Status				
Single	184	65.0%		
Married/Cohabitating	52	18.4%		
Divorced/Separated	23	8.1%		
Widowed	13	4.6%		
Country of Origin				
Sudan	31	11.0%		
Syria	29	10.2%		
Eritrea	23	8.1%		
Nigeria	16	6.0%		
Afghanistan	10	3.5%		
Iran	11	4.0%		
Kenya	11	4.0%		
Duration of Residence in Canada				
Less than 1 year	93	33.0%		
1 to 5 years	136	48.0%		
6 to 10 years	32	11.3%		
More than 10 years	5	1.8%		
Province or Territory of Residence				
Ontario	199	70.3%		

Alberta	17	6.0%		
Quebec	21	7.4%		
Manitoba	19	6.7%		
British Columbia	5	1.8%		
Saskatchewan	5	1.8%		
Nova Scotia	3	1.1%		
Nunavut	1	0.4%		
Education Levels				
Elementary Education	229	81.0%		
Secondary Education	185	65.4%		
College	77	27.2%		
University Degree	64	22.6%		
Annual Income				
Less than $10,000	168	59.4%		
$10,000-$50,000	100	35.3%		
$50,000-$100,000	10	3.5%		
$100,000-$150,000	2	0.5%		

N = Total number of participants; % = Percentage of participants within each category.

4.2 Homelessness Experience

More than half of the participants (60.1%, N = 166) reported experiencing homelessness at some point, while 39.9% (N = 110) indicated no experience of homelessness. Among the participants who experienced homelessness, 59.7% (N = 71) were asylum seekers, compared to 60.5% (N = 95) who were refugees. Table 2 presents the overall distribution of homelessness

experiences, and homelessness experiences by immigration status. The missing data accounted for 2.5% of the total cases (N = 7).

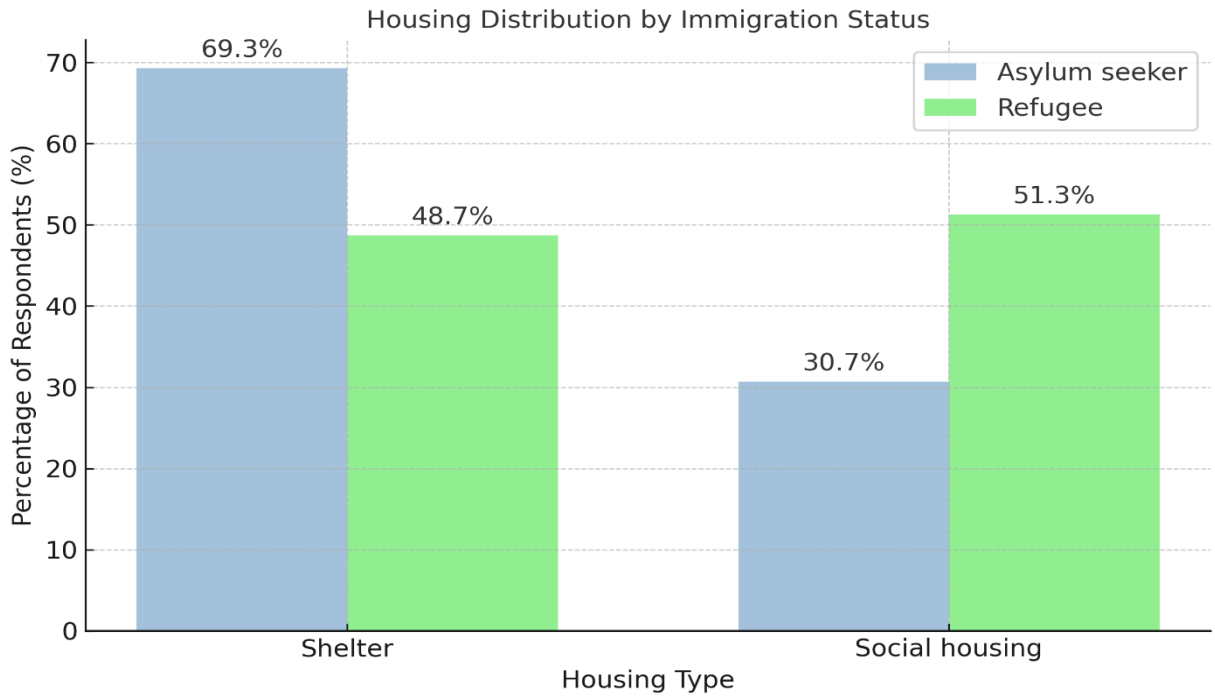
Table 2: Distribution of Homelessness Experiences by Immigration Status

Homelessness Experience	**Asylum Seekers (n = 119)**	**Refugees (n = 157)**	**Total (n = 276)**
No	48 (40.3%)	62 (39.5%)	110 (39.9%)
Yes	71 (59.7%)	95 (60.5%)	166 (60.1%)
Total	119 (100%)	157 (100%)	276 (100%)

4.3 Housing Type

We observed that the distribution of housing types among respondents was as follows: 54.1% (N = 153) of participants reported living in a shelter, while 39.9% (N = 113) reported living in social housing. A total of 6.0% of participants had missing data for housing type. Among asylum seekers, 69.3% (N = 79) were living in a shelter and 30.7% (N = 35) in social housing. Conversely, 48.7% (N = 74) of refugees were living in a shelter, and 51.3% (N = 78) were living in social housing. Figure 1 presents the distribution of housing types among participants based on their immigration status. A chi-square test of independence revealed a statistically significant association between immigration status (asylum seeker vs. refugee) and housing type (shelter vs. social housing), χ^2 (1, N = 266) = 11.33, $p < .001$, indicating that asylum seekers were more likely to reside in shelters compared to refugees.

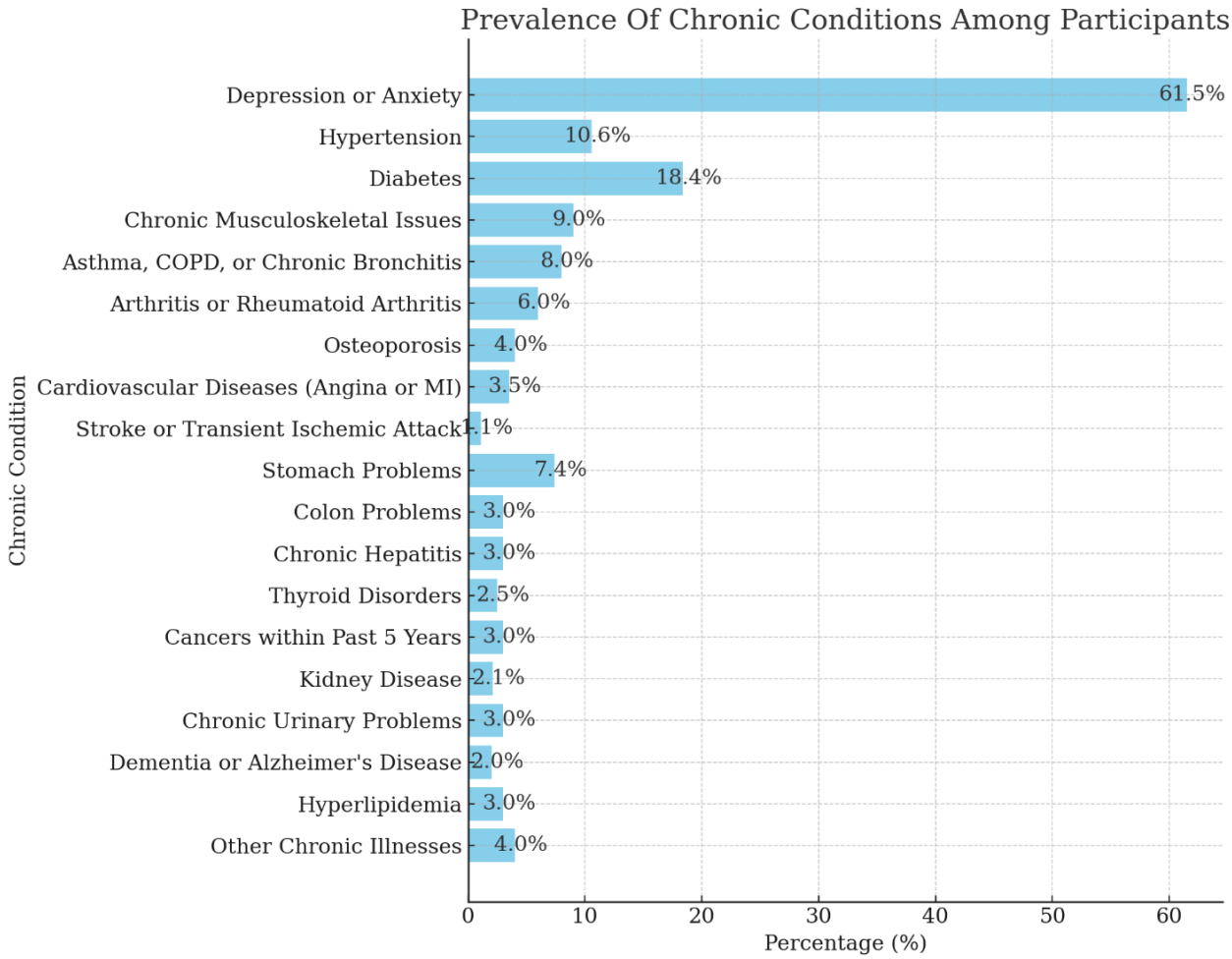
Figure 1: Housing Distribution by Immigration Status



4.4 Chronic Health Conditions

The present study found that participants reported a high prevalence of chronic conditions (see Figure 2 for an illustration of the prevalence of chronic conditions). Among the respondents, 61.5% (N = 174) reported depression or anxiety, 10.6% (N = 30) had hypertension, and 18.4% (N = 52) reported diabetes. Additionally, 9 % (N = 25) of participants reported chronic musculoskeletal issues causing pain or limitation. Asthma, chronic obstructive pulmonary disease (COPD), or chronic bronchitis were noted by 8% (N = 22) of the sample.

Figure 2: Prevalence Of Chronic Conditions Among Participants



Participants were further categorized into three groups based on the number of chronic conditions they reported (see Table 3 for the distribution of participants by chronic conditions category). The "No conditions" group comprised 27.2% of the participants, the "1-2 conditions" group comprised 54.4%, and the "3 or more conditions" group comprised 18.4%.

Table 3: Distribution of Participants by Chronic Conditions Category(N=283)

Chronic Conditions Category	**Frequency (N)**	**Percentage (%)**
No conditions	77	27.2%
1-2 conditions	154	54.4%
3 or more conditions	52	18.4%
Total	283	100.0%

4.5 Current Housing Conditions

In the present study, we also assessed the overall housing conditions using questions related to current housing conditions, safety and security, adequacy of space, community satisfaction, and access to essential services. These questions were adapted from the Canadian housing survey (Statistics Canada, 2022). The assessment revealed that the overall quality of housing was notably poor, with 54.7% (N = 155) reporting their housing as poor or very poor (see Table 4). Similarly, perceptions of safety were low, with 45.6% (N = 129) describing their housing as unsafe or very unsafe. Regarding space adequacy, 46.7% (N = 132) found their housing to be slightly or very cramped. Community satisfaction was low, with 44.2% (N = 125) of participants dissatisfied or very dissatisfied with their living environment. Maintenance and repairs were often neglected, with 48.1% (N = 136) of participants reporting that issues were rarely or never addressed. Missing data were minimal and ranged from 0.4% to 1.8%.

Table 4: Distribution of Participants by Current Housing Conditions (N = 283)

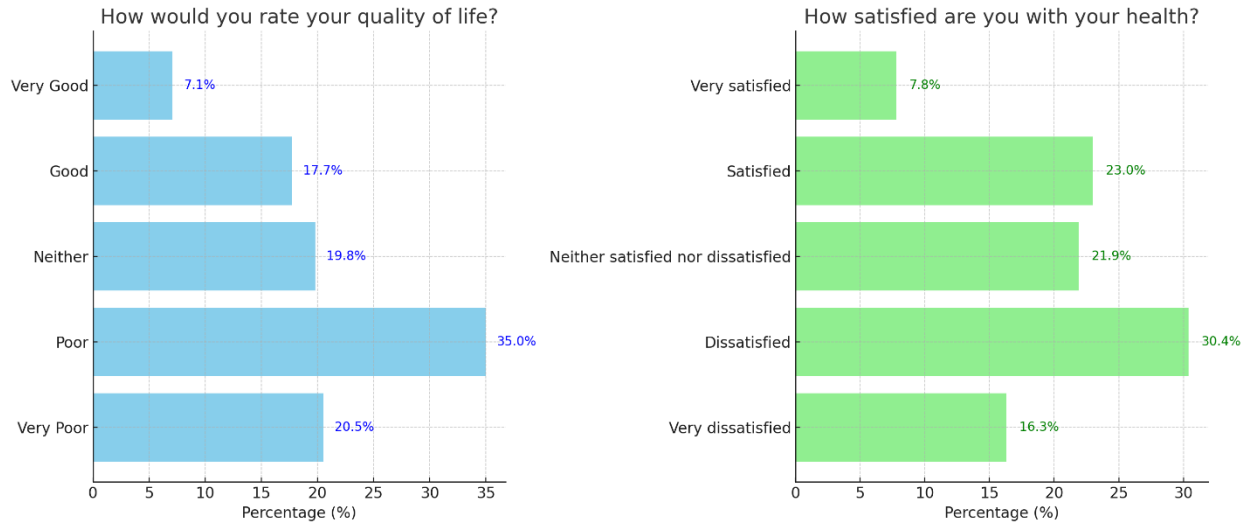
Category	Frequency (N)	Percentage (%)
Current Housing Conditions		
Excellent	15	5.3%
Good	45	15.9%
Fair	68	24.0%
Poor	74	26.1%
Very Poor	81	28.6%
Safety and Security		
Very Safe	28	9.9%
Safe	54	19.1%
Neutral	69	24.4%
Unsafe	64	22.6%
Very Unsafe	65	23.0%
Adequacy of Space		
More than enough	14	4.9%
Adequate	61	21.6%
Neutral	75	26.5%
Slightly cramped	67	23.7%
Very cramped	65	23.0%
Community Satisfaction		
Very Satisfied	23	8.1%

Satisfied	53	18.7%
Neutral	77	27.2%
Dissatisfied	62	21.9%
Very Dissatisfied	63	22.3%
Maintenance and Repairs		
Always	22	7.8%
Often	42	14.8%
Occasionally	78	27.6%
Rarely	73	25.8%
Never	63	22.3%

4.6 WHOQOL-BREF Scores for Overall Quality of Life and Health Satisfaction

Most participants rated their quality of life as either poor or very poor (55.5%, N = 157), while 19.8% (N = 56) rated it as neither poor nor good, and 24.8% (N = 70) rated it as good or very good (Figure 3 presents the distribution of responses for both quality of life and health satisfaction). Regarding health satisfaction, 46.7% (N = 132) of participants were either dissatisfied or very dissatisfied with their health, while 21.9% (N = 62) reported feeling neither satisfied nor dissatisfied. A total of 30.8% (N = 87) of participants were satisfied or very satisfied with their health. A small percentage of responses were missing (0.7%, N = 2).

Figure 3: Self-Reported Quality of Life and Health Satisfaction



4.7 WHOQOL-BREF Domains

Regarding the four WHOQOL-BREF domains (Table 5), the physical health domain had the highest mean score of 3.01 (SD = 0.67). The psychological health domain followed with a mean score of 2.78 (SD = 0.86). Social relationships scored slightly lower, with a mean of 2.62 (SD = 1.02). Finally, the environment domain had the lowest mean score of 2.60 (SD = 0.85).

Table 5: Descriptive Statistics for WHOQOL-BREF Domains (N = 283)

Domain	N	Minimum	Maximum	Mean	Std. Deviation
Physical	283	1.00	5.00	3.01	0.67
Psychological	283	1.00	5.00	2.78	0.86
Social Relationships	283	1.00	5.00	2.62	1.02
Environment	283	1.00	5.00	2.60	0.85

4.8 Bivariate Analysis

Bivariate analyses were conducted using Pearson and Spearman correlation coefficients to explore the relationships between independent variables (immigration status, gender, age, marital status, country of origin [conflict vs. no conflict], duration of residence in Canada, province/territory of residence [Ontario vs. elsewhere], housing type [Shelter vs. Social], university education, annual income, homelessness experience, current housing conditions, depression or anxiety, and total number of chronic conditions) and the dependent variables (physical, psychological, social relationships, and environment domains).

The correlation analysis revealed several significant associations between physical health domain and various variables (Table 6). Age showed a significant positive correlation with physical health ($r[df=260] = .151$, $p = .014$), indicating that as age increases, there is an increase in physical health scores. Similarly, the duration of residence in Canada was positively associated with physical health, showing a significant correlation ($\rho[df =263] = .163$, $p = .008$), suggesting that individuals who have resided in Canada for a longer period tend to report better physical health.

Conversely, homelessness experience demonstrated a significant negative correlation with physical health ($r[df =273] = -.176$, $p = .003$), indicating that individuals with a history of homelessness report lower physical health scores. Additionally, current housing conditions were negatively correlated with physical health ($\rho[df =280] = -.286$, $p < .001$), suggesting that poorer current housing conditions are associated with lower physical health outcomes. Depression or anxiety also showed a significant negative correlation with physical health ($r[df =279] = -.128$, $p = .032$), indicating that individuals experiencing depression or anxiety tend to have lower physical health scores. Total number of chronic conditions showed a significant negative

correlation between physical health and the total number of chronic conditions, (ρ[df =280] = -.147, p = .014), indicating that as the number of chronic conditions increases, physical health tends to decrease. This relationship suggests that individuals with a higher number of chronic conditions report poorer physical health.

Table 6: Bivariate Correlations Between Physical Health and Independent Variables

Independent Variable	**Correlation Coefficient**	**Degrees of Freedom (df)**	**p-value**	**95% CI (Lower, Upper)**
Immigration Status	r = -.028	280	.641	(-.144, .089)
Gender	r = .014	271	.814	(-.105, .133)
Age	r = .151	260	.014	(.031, .267)
Marital Status	ρ = -.061	269	.315	(-.183, .062)
Country of Origin (conflict vs. no conflict)	ρ = .010	263	.893	(-.129, .112)
Duration of Residence in Canada	ρ = .163	263	.008	(.040, .281)
Province/Territory of Residence (Ontario vs. elsewhere)	ρ = -.029	267	.416	(-.074, .172)

Housing type (Shelter vs. Social)	r = -.040	263	.514	(-.160, .081)
University education	r = -.124	236	.057	(-.247, .004)
Annual Income	ρ = .013	277	.824	(-.109, .133)
Homelessness Experience	r = -.176	273	.003	(-.288, -.059)
Current Housing Conditions	ρ = -.286	280	<.001	(-.393, -.172)
Depression or Anxiety	r = -.128	279	.032	(-.239, -.009)
Total Number of Chronic Conditions	ρ = -.147	280	.014	(-.262, -.027)

The correlation analysis also revealed several significant associations within the psychological health domain (Table 7). Province/territory of residence (Ontario vs. elsewhere) showed a significant negative correlation with psychological health ($r[df = 268] = -.136$, $p = .026$), suggesting that individuals residing in Ontario tend to report lower psychological health scores compared to those living elsewhere. Depression or anxiety also showed a significant negative correlation with psychological health ($r[df = 281] = -.179$, $p = .002$), indicating that individuals experiencing depression or anxiety tend to have lower psychological health scores.

Additionally, current housing conditions were negatively correlated with psychological health ($\rho[df = 282] = -.297$, $p < .001$), suggesting that poorer current housing conditions are associated with lower psychological health outcomes.

Table 7: Bivariate Correlations Between Psychological Health and Independent Variables

Independent Variable	**Correlation Coefficient**	**Degrees of Freedom (df)**	**p-value**	**95% CI (Lower, Upper)**
Immigration Status	r = -.021	283	.726	(-.137, .096)
Gender	r = .014	274	.818	(-.105, .132)
Age	r = .107	263	.082	(-.014, .225)
Marital Status	ρ = -.014	272	.817	(-.136, .109)
Country of Origin (conflict vs. no conflict)	r = .028	266	.649	(-.093, .148)
Duration of Residence in Canada	ρ = .160	266	.009	(.037, .278)
Province/Territory of Residence (Ontario vs. elsewhere)	r = -.136	270	.026	(-.251, -.017)

Housing type (Shelter vs. Social)	r = -.106	266	.084	(-.224, .014)
University education	r = -.154	238	.018	(-.275, -.027)
Annual Income	ρ = .087	280	.145	(-.034, .206)
Homelessness Experience	r = -.123	276	.041	(-.237, -.005)
Current Housing Conditions	ρ = -.297	283	<.001	(-.403, -.183)
Depression or Anxiety	r = -.179	283	.002	(-.290, -.064)
Total Number of Chronic Conditions	ρ = -.134	283	.024	(-.250, -.014)

In the social relationships domain (Table 8), the duration of residence in Canada was positively correlated with social relationships (ρ[df = 262] = .170, p = .006), indicating that longer residence in Canada is associated with better social relationships. On the other hand, province/territory of residence (Ontario vs. elsewhere) showed a significant negative correlation with social relationships (r[df = 266] = -.161, p = .008), suggesting that those residing in Ontario reported poorer social relationships compared to those living elsewhere. Homelessness experience was also significantly negatively correlated with social relationships (r[df = 271] = -

.183, p = .002), indicating that individuals with a history of homelessness tend to have poorer social relationships. Furthermore, current housing conditions were negatively associated with social relationships (ρ[df = 279] = -.313, p < .001), indicating that poorer current housing conditions are linked to weaker social relationships.

Table 8: Bivariate Correlations Between Social Relationships and Independent Variables

Independent Variable	**Correlation Coefficient**	**Degrees of Freedom (df)**	**p-value**	**95% CI (Lower, Upper)**
Immigration Status	r = .020	280	.740	(-.098, .137)
Gender	r = .031	271	.607	(-.088, .150)
Age	r = .115	260	.064	(-.007, .234)
Marital Status	ρ = -.040	269	.514	(-.162, .084)
Country of Origin (conflict vs. no conflict)	r = .003	263	.965	(-.118, .124)
Duration of Residence in Canada	ρ = .170	263	.006	(.046, .288)
Province/Territory of Residence (Ontario vs. elsewhere)	r = -.161	267	.008	(-.276, -.042)

Housing type (Shelter vs. Social)	r = -.011	263	.862	(-.160, .081)
University education	r = -.119	236	.068	(-.243, .009)
Annual Income	ρ = .124	277	.040	(.002, .241)
Homelessness Experience	r = -.183	273	.002	(-.296, -.066)
Current Housing Conditions	ρ = -.313	280	<.001	(-.418, -.200)
Depression or Anxiety	r = -.191	279	.001	(-.302, -.076)
Total Number of Chronic Conditions	ρ = -.144	280	.016	(-.260, -.024)

For the environment domain (Table 9), the analysis revealed a significant negative correlation between province/territory of residence (Ontario vs. elsewhere) and environment ($r[df = 268] = -.185$, $p = .002$), suggesting that those living in Ontario tend to report poorer environmental quality. Similarly, university education was negatively correlated with the environment domain ($r[df = 236] = -.200$, $p = .002$), indicating that higher educational attainment is associated with lower environmental quality perceptions. Homelessness experience also demonstrated a significant negative correlation with the environment domain ($r[df = 274] = -$

.155, p = .010), indicating that individuals with a history of homelessness tend to report poorer environmental quality. Additionally, current housing conditions were negatively correlated with the environment domain (ρ[df = 282] = -.369, p < .001), suggesting that poorer housing conditions are associated with lower environmental quality. Lastly, depression or anxiety was found to be significantly negatively correlated with the environment domain (r[df = 281] = -.147, p = .013), indicating that individuals experiencing depression or anxiety tend to perceive their environment as poorer.

Table 9: Bivariate Correlations Between Environment and Independent Variables

Independent Variable	**Correlation Coefficient**	**Degrees of Freedom (df)**	**p-value**	**95% CI (Lower, Upper)**
Immigration Status	r = -.010	283	.866	(-.127, .107)
Gender	r = .045	274	.457	(-.074, .163)
Age	r = .174	263	.005	(.055, .289)
Marital Status	ρ = -.027	272	.663	(-.148, .096)
Country of Origin (conflict vs. no conflict)	r = -.008	266	.894	(-.128, .112)
Duration of Residence in Canada	ρ = .143	266	.020	(.020, .262)

Province/Territory of Residence (Ontario vs. elsewhere)	r = -.185	270	.002	(-.297, -.067)
Housing type (Shelter vs. Social)	r = -.080	266	.192	(-.199, .040)
University education	r = -.200	238	.002	(-.319, -.075)
Annual Income	ρ = .084	280	.159	(-.037, .203)
Homelessness Experience	r = -.155	276	.010	(-.269, -.038)
Current Housing Conditions	ρ = -.369	283	<.001	(-.468, -.260)
Depression or Anxiety	r = -.147	283	.013	(-.259, -.031)
Total Number of Chronic Conditions	ρ = -.124	283	.037	(-.240, -.004)

4.9 Multiple Linear Regression

To examine the variables associated with the quality of life of asylum seekers and refugees in Canada, multiple linear regression analyses were conducted. For each of the four domains of quality of life (Physical Health, Psychological Health, Social Relationships, and Environment), the model included the following variables: age, immigration status (asylum seeker and refugee), current housing conditions, homelessness experience, report of depression or anxiety, housing type (shelter vs. social housing), gender (male and female), and the total number of chronic conditions. The assumptions for linear regression were assessed, including multicollinearity, which was evaluated using Variance Inflation Factors (VIF). All VIF values were below the threshold of 10, indicating no multicollinearity issues. The results for each domain are presented below.

Physical Health

The overall model was statistically significant ($F[8, 226] = 2.861$, $p = .005$, Adjusted $R^2 = .060$). The model explains 6.0% of the variance in physical health. Of all the variables entered in the model, three were statistically significant (Table 10). Current Housing Conditions ($\beta = -.167$, $t = -2.549$, $p = .011$) was a statistically significant variable associated with physical health, suggesting that as respondents reported poorer quality of housing, they reported poorer physical health. Homelessness Experience ($\beta = -.137$ $t = -2.022$, $p = .044$) was also a statistically significant variable, indicating that those who had experienced homelessness reported poorer physical health. Total Number of Chronic Conditions ($\beta = -.147$, $t = -1.992$, $p = .048$) was another statistically significant variable, showing that an increase in the number of chronic conditions was associated with poorer physical health.

Table 10: Multiple Linear Regression Coefficients For physical health

Variable	**B**	**SE**	**Beta**	**t**	**p-value**	**95% CI Lower**	**95% CI Upper**	**VIF**
Age	0.003	0.005	0.047	0.681	0.497	-0.006	0.012	1.175
Asylum seeker and Refugee	0.009	0.092	0.006	0.095	0.924	-0.172	0.19	1.142
Current Housing Conditions	-0.094	0.037	-0.167	-2.549	0.011	-0.167	-0.021	1.073
Homelessness Experience	-0.187	0.093	-0.137	-2.022	0.044	-0.37	-0.005	1.136
Depression or anxiety	-0.003	0.098	-0.003	-0.036	0.971	-0.196	0.189	1.262
Housing type (Shelter vs. Social housing)	-0.163	0.091	-0.120	-1.785	0.076	-0.342	0.017	1.131
Gender (male and female)	0.018	0.088	0.013	0.199	0.842	-0.157	0.192	1.085

Total Number of Chronic Conditions	-0.058	0.029	-0.147	-1.992	0.048	-0.115	-0.001	1.358

Psychological Health

For psychological health, the overall model was also statistically significant ($F[8, 227] = 4.469$, $p < .001$, Adjusted $R^2 = .106$). The model explains 10.6% of the variance in psychological health. Among the variables, two variables were statistically significant in this model (Table 11). Current Housing Conditions ($\beta = -.265$, $t = -4.143$, $p < .001$) was a statistically significant variable associated with psychological health, suggesting that as respondents reported poorer quality of housing, they reported poorer psychological health. Housing type (Shelter vs. Social Housing) ($\beta = -.161$, $t = -2.451$, $p = .015$) was also a statistically significant variable associated psychological health, indicating that those living in shelters reported poorer psychological health compared to those in social housing.

Table 11: Multiple Linear Regression Coefficients for Psychological Health

Variable	**B**	**SE**	**Beta**	**t**	**p-value**	**95% CI Lower**	**95% CI Upper**	**VIF**
Age	0.003	0.006	0.036	0.534	0.594	-0.008	0.014	1.173
Asylum seeker and Refugee	-0.092	0.112	-0.055	-0.828	0.409	-0.312	0.128	1.141

Current Housing Conditions	-0.187	0.045	-0.265	-4.143	<.001	-0.276	-0.098	1.073
Homelessness Experience	-0.124	0.112	-0.073	-1.106	0.27	-0.346	0.097	1.133
Depression or anxiety	-0.185	0.119	-0.108	-1.551	0.122	-0.419	0.05	1.265
Housing type (Shelter vs. Social housing)	-0.272	0.111	-0.161	-2.451	0.015	-0.491	-0.053	1.13
Gender (male and female)	-0.022	0.107	-0.013	-0.207	0.836	-0.234	0.19	1.082
Total Number of Chronic Conditions	-0.045	0.035	-0.091	-1.263	0.208	-0.114	0.025	1.36

Social Relationships

For social relationships, the overall model was statistically significant ($F[8, 225] = 3.647$, $p < .001$, Adjusted $R^2 = .083$). The model explains 8.3% of the variance in social relationships. Two variables were statistically significant in this model (Table 12). Current Housing Conditions ($\beta = -.198$, $t = -3.040$, $p = .003$) was a statistically significant variable associated with social relationships, suggesting that as individuals reported poorer quality of housing, they reported

poorer social relationships. Homelessness experience (β = -.152, t = -2.273, p = .024) was another statistically significant variable associated with social relationships, indicating that respondents who had experienced homelessness reported poorer social relationships.

Table 12: Multiple Linear Regression Coefficients for Social Relationships

Variable	**B**	**SE**	**Beta**	**t**	**p-value**	**95% CI Lower**	**95% CI Upper**	**VIF**
Age	0.005	0.007	0.046	0.669	0.504	-0.009	0.018	1.175
Asylum seeker and Refugee	0.04	0.138	0.019	0.288	0.773	-0.232	0.312	1.141
Current Housing Conditions	-0.17	0.056	-0.198	-3.04	0.003	-0.28	-0.06	1.077
Homelessness Experience	-0.318	0.14	-0.152	-2.273	0.024	-0.594	-0.042	1.14
Depression or anxiety	-0.22	0.147	-0.105	-1.493	0.137	-0.51	0.07	1.261
Housing type (Shelter vs. Social housing)	-0.202	0.137	-0.098	-1.473	0.142	-0.472	0.068	1.127

Gender (male and female)	-0.01	0.133	-0.005	-0.078	0.938	-0.273	0.252	1.085
Total Number of Chronic Conditions	-0.053	0.044	-0.089	-1.217	0.225	-0.139	0.033	1.358

Environment

Lastly, for the environment domain, similar to the other three domains, the overall model was also statistically significant ($F[8, 227] = 5.302$, $p < .001$, Adjusted $R^2 = .128$), explaining 12.8% of the variance in the environment domain. In this model, two variables were statistically significant. Current Housing Conditions ($\beta = -.314$, $t = -4.982$, $p < .001$) was a statistically significant variable associated with environmental quality, suggesting that as respondents reported poorer quality of housing, they reported poorer environmental quality. Housing type (shelter vs. social housing) ($\beta = -.144$, $t = -2.218$, $p = .028$) was also a statistically significant variable, indicating that those residing in shelters reported poorer environmental quality compared to those in social housing.

Table 13: Multiple Linear Regression Coefficients for Environment

Variable	**B**	**SE**	**Beta**	**t**	**p-value**	**95% CI Lower**	**95% CI Upper**	**VIF**
Age	0.009	0.005	0.108	1.635	0.103	-0.002	0.02	1.173

Asylum seeker and Refugee	0.01	0.11	0.006	0.087	0.93	-0.207	0.226	1.141
Current Housing Conditions	-0.222	0.045	-0.314	-4.982	<.001	-0.31	-0.134	1.073
Homelessness Experience	-0.142	0.111	-0.083	-1.282	0.201	-0.36	0.076	1.133
Depression or anxiety	-0.057	0.117	-0.033	-0.483	0.63	-0.288	0.175	1.265
Housing type (Shelter vs. Social housing)	-0.243	0.109	-0.144	-2.218	0.028	-0.458	-0.027	1.13
Gender (male and female)	0.017	0.106	0.01	0.157	0.876	-0.192	0.225	1.082
Total Number of Chronic Conditions	-0.04	0.035	-0.082	-1.154	0.25	-0.109	0.028	1.36

Chapter 5: Discussion

The present study examined the association between housing and the quality of life (physical and mental health) of asylum seekers and refugees (ASR) in Canada. The demographic

characteristics of the 283 participants in this study offer important insights into the population surveyed. The gender distribution of the sample revealed a slightly higher representation of males, with 51.1% identifying as male and 46.1% as female This aligns with existing literature, where males often represent a significant portion of ASR populations due to socio-political factors that influence migration patterns (UNHCR, 2021).

Participants were generally young, with a mean age of approximately 33.5 years, reflecting the global trend of young adults dominating ASR populations (UNHCR, 2021). Notably, 65% of participants were single, a trend that underscores the transitional and challenging circumstances refugees and asylum seekers often face (Hynie, 2018). Additionally, we observed that the most participants were from countries experiencing ongoing conflicts, such as Sudan, Syria, and Eritrea. This is consistent with global refugee trends, where a large proportion of refugees come from conflict zones (United Nations Office for the Coordination of Humanitarian Affairs [UN OCHA], 2022). Most respondents were relatively recent arrivals, with 81% having been in Canada for five years or less. Ontario emerged as the primary destination for newcomers, with 70.3% of participants residing in the province. This reflects Ontario's status as a significant entry point and settlement area for immigrants in Canada (UNHCR Canada, 2024). However, it is important to acknowledge that the recruitment strategies used in this study may have also influenced the high representation of participants from Ontario. The convenience sampling method employed may have led to a concentration of participants from areas where it was easier to access social housing and shelters, particularly in urban centers like Ontario.

In addition, variations in housing and health outcomes among provinces may stem from differences in provincial policies, resource availability, and infrastructure supporting ASRs. For instance, Ontario's extensive settlement programs and housing initiatives likely contribute to

better housing stability compared to provinces with fewer resources or smaller ASR populations. Similarly, differences in provincial healthcare systems, particularly in mental health service coverage and accessibility, may influence disparities in health outcomes (IRCC, 2024). For example, provinces with limited access to mental health services might experience higher rates of psychological distress among ASRs. These sub-national differences emphasize the importance of tailoring interventions and policies to address provincial disparities.

Education levels varied among respondents, with a high rate of basic education but a significant decline at higher education levels. Only 22.6% had obtained a university degree, highlighting the educational disruptions caused by displacement (Dryden-Peterson, 2015). Moreover, the economic conditions of the participants were concerning, with 59.4% reporting an annual income of less than $10,000, highlighting significant financial hardship. This aligns with previous literature emphasized the economic challenges faced by asylum seekers and refugees, highlighting that these challenges significantly affect their overall well-being. Allsop and colleagues (2014) reviewed evidence showing that poverty among asylum seekers and refugees in the UK is widespread and often exacerbated by the asylum process itself. Their study found that income is a crucial determinant of health, with low socioeconomic status strongly associated with poorer mental health outcomes, such as PTSD, distress, and depression. They also noted that refugees frequently experience prolonged periods of poverty due to loss of material assets and limited economic opportunities, which supports the observed financial struggles among participants in the current study.

The present study also found that a significant proportion of participants, precisely 60.1%, reported having experienced homelessness at some point. This high prevalence underscores the instability and precarious living conditions often faced by refugees and asylum

seekers. Recent data shows that newcomers to Canada, including asylum seekers and refugees, constitute approximately 7% of the emergency shelter user population (Housing, Infrastructure and Communities Canada, 2022). This indicates that asylum seekers and refugees are disproportionately affected by homelessness. Moreover, consistent with previous literature, our study identified a high prevalence of chronic health conditions among ASR. For instance, Kinzie et al. (2008) found higher rates of diabetes and hypertension among refugees, while Yun et al. (2012) highlighted chronic disease and insurance coverage challenges among refugees in the United States.

Consistent with previous studies (Palimaru et al., 2023) highlighting the importance of stable housing for overall health, our findings suggest that poorer housing conditions are associated with lower scores across all four domains of the WHOQOL-BREF, namely physical, psychological, social relationships, and environmental quality. For example, individuals reporting poorer current housing conditions had significantly poor physical health outcomes, psychological health outcomes, social relationships, and environmental quality. These findings align with research by Ziersch et al. (2017), who emphasized that housing quality, stability, and safety are critical factors affecting both physical and mental health for refugees and asylum seekers. Housing insecurity and inadequate living environments elevate stress levels, exacerbating both physical and mental health challenges (Ziersch et al., 2017).

Another important finding in this study was the association between homelessness experience and poorer health outcomes. Our results showed that participants who had experienced homelessness had significantly lower physical health and social relationship scores. These results are consistent with the findings of previous studies; a study by Beiser (2009) emphasizes that the economic hardship experienced by refugees significantly impacts their

health outcomes. Refugees with lower annual incomes face barriers to accessing healthcare services, nutritious food, and stable housing, which are critical for maintaining physical health. Additionally, previous experiences of homelessness can lead to long-term health issues, as inadequate living conditions and lack of access to healthcare during periods of homelessness can have lasting effects (Fornaro et al., 2022).

Additionally, the presence of chronic conditions further exacerbated poor health outcomes. Our results demonstrated that an increase in the number of chronic conditions was associated with declines in physical health. This is consistent with findings by Ziersch et al. (2017), who highlighted that asylum seekers living in poor-quality housing experienced negative health effects, particularly in terms of both physical and mental well-being. Similarly, Jones et al. (2022) found that the stressful and unstable environments of shelters significantly contribute to higher rates of chronic health issues among refugees.

Furthermore, the type of housing in which participants resided also associated with health outcomes, particularly for psychological health and environmental quality. Our results indicate that individuals living in shelters reported poorer psychological and environmental outcomes compared to those living in social housing. This finding underscores the importance of providing asylum seekers and refugees with stable and secure housing options. As noted by Marçal et al. (2021), shelter environments can exacerbate mental health issues due to overcrowding, lack of privacy, and constant stress. Their study highlights that overcrowding in shelters delays successful exit, exacerbates stress, and increases the risk of mental health disorders.

Several housing-focused organizations and programs in Canada play a pivotal role in supporting ASRs. For example, Costi Immigrant Services in Ontario offers housing support, settlement assistance, and employment services, while YMCA Immigrant Services provides

transitional housing and support for refugees. National initiatives such as the Resettlement Assistance Program (RAP) deliver temporary accommodation and financial support for newly arrived refugees (IRCC, 2024). However, significant gaps remain in the accessibility and adequacy of these services, particularly for ASRs (House of Commons, 2019). Strengthening collaborations between local governments and organizations like these could enhance the availability of stable housing options, especially in underserved areas.

This study underscores the critical role of stable housing in shaping the physical, psychological, and social well-being of ASRs. Policymakers could prioritize investments in affordable and secure housing tailored to the needs of ASRs, with particular attention to transitional housing and rent subsidies as targeted interventions to address homelessness. Enhanced mental health services integrated within housing programs could also mitigate the psychological distress linked to housing instability.

Policies aimed at improving housing quality and reducing overcrowding in shelters are essential. For example, enforcing minimum housing standards could ensure safety and livability, while programs such as housing-first initiatives can facilitate quicker transitions from shelters to stable housing environments (Gaetz et al., 2013). Additionally, addressing the intersection of health, housing, and socioeconomic factors is crucial for comprehensive support.

The findings of this study contribute to the growing body of evidence highlighting the important role of housing in determining health outcomes for ASRs.

Moreover, the study highlights the need for culturally sensitive and context-specific approaches to housing and health service delivery. For example, integrating health assessments into housing programs can help identify and address health concerns early, leading to better long-term outcomes. These insights serve as a foundation for improving support systems for ASRs,

reinforcing the importance of addressing immediate hardships while promoting sustainable well-being.

5.1 Strengths and Limitations

5.1.1 Strengths

This study has several strengths. Firstly, to our knowledge, it is the first study to examine the association between housing and the health of asylum seekers and refugees in Canada. This provided a unique opportunity to gather valuable insights into this understudied area. Secondly, the findings from this study serve as a foundation for future research and policy development, which is essential for guiding further investigations in this area. Additionally, the simultaneous assessment of both outcome and exposure variables allowed for a more comprehensive analysis. The use of the World Health Organization's Quality of Life - BREF (WHOQOL-BREF) survey, a validated tool for assessing quality of life, added to the robustness of the study.

5.1.2 Limitations

There were also some limitations to consider. Firstly, due to the cross-sectional design of the research, any associations observed between exposure and outcome should not be assumed to be causal. In other words, we could not conclude that one directly caused the other based on this study alone. Furthermore, the large number of tests of association conducted could lead to some spurious results. That said, many of the associations were statistically significant at the $p < .001$ level. Secondly, language barriers presented a limitation, as individuals who did not speak English, Arabic, or French and who did not reside in social housing or shelters were excluded from the study. This may have introduced a selection bias, potentially affecting the generalizability of the results. Lastly, because the survey relied on self-reported information,

there was a possibility of information bias, as some participants may not have responded accurately or may have had difficulty recalling certain details.

In addition to language barriers, the recruitment strategy primarily targeted participants through specific social service agencies, such as shelters and social housing providers. While this helped include people living in these conditions, it may have caused selection bias by leaving out those not connected to these services but who may still be asylum seekers or refugees facing housing insecurity in other shelters or social housing.

Chapter 6: Conclusion

In conclusion, this study highlights the significant associations between poor housing conditions and negative health outcomes among asylum seekers and refugees in Canada. Our findings indicate that stable housing may play an important role in promoting better physical, psychological, and social well-being. By improving housing conditions and addressing the specific challenges faced by these populations, we might help mitigate the negative impacts of homelessness and housing insecurity on health. Targeted interventions include addressing the homelessness among this population, providing stable housing solutions, and ensuring access to health services for managing chronic conditions and mental health. This study contributes to the growing body of literature that calls for urgent action to improve housing and health outcomes for vulnerable populations such as asylum seekers and refugees.

6.1 Future Directions

Future research should consider longitudinal designs to better understand the causal relationships between housing conditions and health outcomes. Additionally, the relatively low percentage of variance explained by our models—ranging from 6.0% for physical health to 12.8% for the environment domain—suggests that additional factors beyond housing conditions

may contribute to the overall quality of life (QoL) among ASR. This underscores the need for future research to incorporate a broader range of variables, including socioeconomic status, access to healthcare, and lifestyle factors, which were not fully captured in this study.

Given the high prevalence rates of chronic conditions and mental health issues in this population in Canada, future studies should also focus on the impact of comorbidities and how they interact with housing conditions to affect health outcomes. Future Studies should also explore the impact of asylum application waiting times on mental health outcomes.

Lastly, while quantitative studies have examined aspects of housing and health among vulnerable populations, there is a notable gap in the literature regarding qualitative research on this topic, especially in the Canadian context. Qualitative studies exploring the lived experiences of asylum seekers and refugees could provide deeper insights into the contextual factors affecting their health and well-being. Such research would enhance our understanding of the unique challenges ASRs face and inform the development of more effective and culturally sensitive interventions.

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Appendices

7.1 Appendix A: World Health Organization Quality of Life (WHOQOL-BREF) Survey

ID **Date Administered**

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

		Very poor	Poor	Neither poor nor good	Good	Very good
2.	How satisfied are you with your health?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The following questions ask about how much you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	Extremely
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4.	How much do you need any medical treatment to function in your daily life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5.	How much do you enjoy life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6.	To what extent do you feel your life to be meaningful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7.	How well are you able to concentrate?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8.	How safe do you feel in your daily life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9.	How healthy is your physical environment?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The following questions ask about how completely you experienced or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely

10.	Do you have enough energy for everyday life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11.	Are you able to accept your bodily appearance?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12.	Have you enough money to meet your needs?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13.	How available to you is the information that you need in your day-to-day life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14.	To what extent do you have the opportunity for leisure activities?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

		Very dissatisfied	Dissatisfied	Neither satisfied or dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with you sleep?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
17.	How satisfied are you with your ability to perform your daily living activities?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18.	How satisfied are you with your capacity for work?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19.	How satisfied are you with yourself?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
20.	How satisfied are you with your personal relationships?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
21.	How satisfied are you with your sex life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
22.	How satisfied are you with the support you get from your friends?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
23.	How satisfied are you with the conditions of your living place?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
24.	How satisfied are you with your access to health services?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
25	How satisfied are you with your transport?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always

26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Do you have any comments about the assessment?
SCORING:

		Equations for computing domain scores	Raw Score	Transformed Score (0-100)
Domain 1	Physical Health	(6-Q3) + (6-Q4) + Q10 + Q15 + Q16 + Q17 + Q18 ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐		
Domain 2	Psychological	Q5 + Q6 + Q7 + Q11 + Q19 + (6-Q26) ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐☐		
Domain 3	Social Relationships	Q20 + Q21 + Q22 ☐☐+ ☐☐+ ☐☐		
Domain 4	Environment	Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24 + Q25 ☐☐+☐☐+ ☐☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐☐+ ☐		
		Total Score		

7.2 Appendix B: Demographic and Housing Information

For this study we need to know some information about you. All responses are completely confidential.

1. Date of completion of survey: _____ / _____ / _____

   Day / Month / Year

2. Gender: Check only one. ☐ Male ☐ Female ☐ non-binary ☐ Self-describe (__)

3. In what year were you born? [YYYY]_____

4. Marital status: Check only one.

   ☐ Married/cohabitating

   ☐ Single

   ☐ Divorced /separated

   ☐ Widowed

5. Country of origin: _____

6. Immigration status: Check only one.

   ☐ Asylum seeker

   ☐ Refugee

7. How long have you been living in Canada?

   ☐ Less than 1 year

   ☐ 1 to 5 years

   ☐ 6 to 10 years

☐ 10+ years

8. Housing type: indicate your place of residence. Check only one.

☐ Social housing

☐ Shelter

☐ Homeless

9. Have you ever been homeless? Check only one.

☐ Yes

☐ No

10. How would you describe the current condition of your housing?

☐ 1: Excellent

☐ 2: Good

☐ 3: Fair

☐ 4: Poor

☐ 5: Very Poor

11. To what extent do you feel safe and secure in your current living arrangement?

☐ 1: very Safe

☐ 2: Safe

☐ 3: Neutral

☐ 4: Unsafe

☐ 5: Very Unsafe

12. Does your current dwelling provide enough space for your needs?

☐ 1: More than enough

☐ 2: Adequate

☐ 3: Neutral

☐ 4: Slightly cramped

☐ 5: Very cramped

13. How satisfied are you with the overall community environment where you currently reside?

☐ 1: Very Satisfied

☐ 2: Satisfied

☐ 3: Neutral

☐ 4: Dissatisfied

☐ 5: Very Dissatisfied

14. Have any necessary repairs or maintenance issues been addressed promptly in your current dwelling?

☐ 1: Always

☐ 2: Often

☐ 3: Occasionally

☐ 4: Rarely

☐ 5: Never

15. How easily can you access essential services such as healthcare, education, and public transportation from your current location?

☐ 1: Very Easily

☐ 2: Easily

☐ 3: Moderately

☐ 4: With Difficulty

☐ 5: Very Difficult

16. Please indicate each education level that you have completed.

	Yes	No
Elementary	☐	☐
Secondary	☐	☐
College	☐	☐
University	☐	☐

17. For each of the following conditions, please indicate if you have the condition.

No Yes

☐ ☐ Hypertension (high blood pressure)

☐ ☐ Depression or anxiety

☐ ☐ Chronic musculoskeletal conditions causing pain or limitation.

☐ ☐ Arthritis or rheumatoid arthritis

☐ ☐ Osteoporosis

☐ ☐ Asthma, chronic obstructive pulmonary disease (COPD), or chronic bronchitis

☐ ☐ Cardiovascular disease (angina, myocardial infarction, atrial fibrillation, poor circulation in the lower limbs)

☐ ☐ Heart failure (including valve problems or replacement)

☐ ☐ Stroke and transient ischemic attack

☐ ☐ Stomach problem (reflux, ulcer, or heartburn)

☐ ☐ Colon problem (irritable bowel, Crohn's disease, ulcerative colitis, diverticulosis)

☐ ☐ Chronic hepatitis

☐ ☐ Diabetes

☐ ☐ Thyroid disorder

☐ ☐ Any cancer in the previous 5 years (including melanoma but excluding other skin cancers)

☐ ☐ Kidney disease or failure

☐ ☐ Chronic urinary problem

☐ ☐ Dementia or Alzheimer's disease

☐ ☐ Hyperlipidemia (high cholesterol)

☐ ☐ Other: specify _____

7.3 Appendix C: Invitation letter for Participants

Dear [Participant's Name],

You are invited to take a part in a research study on asylum seekers and refugees being led by Dr. Rebecca Schiff.

The purpose of this research is to examine the relationship between living in social housing or shelters and the well-being of refugees and asylum seekers in Canada, both in terms of their physical and mental health. Your participation will help improve our understanding of the impact of housing on the health and well-being of asylum seekers and refugees in Canada and potentially benefit others who face similar challenges. We anticipate that the information we acquire will provide valuable insights into the specific challenges faced by asylum seekers and refugees residing in social housing or shelters, potentially highlighting the need for improved housing access, policy recommendations, and targeted mental health support services to enhance their overall well-being and successful integration in Canada.

Your participation will involve spending approximately 15 minutes completing a survey questionnaire booklet.

If you are interested in participating or have any questions or concerns, please email our research team. Will be happy to provide more information and guide you through the process.

Sincerely,

Khater Muhajir,
Master of Health Sciences student
Lakehead University
E:kamuhaji@lakeheadu.ca

Rebecca Schiff, Ph.D.
Dean - Faculty of Human and Health Sciences
Professor - School of Health Sciences
University of Northern British Columbia
E: Rebecca.Schiff@unbc.ca

Michel Bédard, PhD, FGSA
Professor, Department of Health Sciences
Lakehead University
E- mail:
mbedard@lakeheadu.ca

7.4 Appendix D: Information letter

Dear Potential Participant:

Thank you for considering participating in this study titled “Housing and Health of Refugees and Asylum Seekers in Canada: A Cross-Sectional Study” led by Dr. Rebecca Schiff, the Dean of the Faculty of Human and Health Sciences at the University of Northern British Columbia and an adjunct professor at Lakehead University. Also participating in this research are Lakehead University professor Dr. Michel Bédard, and Master’s student Khater Muhajir.

The purpose of this research is to examine the relationship between living in social housing or shelters and the well-being of refugees and asylum seekers in Canada, both in terms of their physical and mental health. We anticipate that the information we acquire will provide valuable insights into the specific challenges faced by asylum seekers and refugees residing in social housing or shelters, potentially highlighting the need for improved housing access, policy recommendations, and targeted mental health support services to enhance their overall well-being and successful integration in Canada.

Your participation will involve spending approximately 15 minutes completing a survey questionnaire. We will be available onsite to answer any questions you may have with regard to the survey and guide you through the questionnaire if you wish.

Participation in this research is completely voluntary and you may withdraw at any time without consequence. You may also refuse to answer any questions. All responses will be accepted. There are no perceived risks or direct benefits associated with participation in this study. Participating in this research will not impact your refugee status or asylum claim.This

research is funded by the Social Sciences and Humanities Research Council of Canada (SSHRC) by way of a partnership grant: Community Housing Canada.

If you agree to participate, before starting the questionnaire, please sign and date the consent form(paper survey) or click accept for online survey. Please do not include any personal information on the questionnaire as we will not be collecting identifying information such as names and phone numbers. Due to collection and storage of data via an online tool, we cannot absolutely guarantee the full confidentially and anonymity of your data. With your consent to participate, you acknowledge this. To ensure confidentiality, we will detach the signed consent from the questionnaire. In addition, data will be stored in a secure location at Lakehead University for a period of at least seven years and access to it will be restricted to the principal investigator, thesis co-supervisor and Master's student (Dr. Schiff, Dr. Bedard and Khater Muhajir). The results of this study will be evaluated by a thesis committee, dissemination to policy and decision-makers, and may be published in scientific journals or presented at professional meetings.

A summary of the research results will be sent to those interested (you will have the opportunity indicate your interest on the consent form). If you decide at a later date that you wish to receive a summary of the results, please contact the principal investigator this project: Rebecca.Schiff@unbc.ca

If you have any comments or questions, you can contact the lead researcher: Dr. Rebecca Schiff by email: Rebecca.Schiff@unbc.ca

This research study has been reviewed and approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would

like to speak to someone outside of the research team, please contact Sue Wright at the Research Ethics Board at 807-343-8010 ext. 8283 or research@lakeheadu.ca

Sincerely,

Khater Muhajir,
Master of Health Sciences student
Lakehead University
E:kamuhaji@lakeheadu.ca

Rebecca Schiff, Ph.D.
Dean - Faculty of Human and Health Sciences
Professor - School of Health Sciences
University of Northern British Columbia
E: Rebecca.Schiff@unbc.ca

Michel Bédard, PhD, FGSA
Professor, Department of Health Sciences
Lakehead University
E- mail: mbedard@lakeheadu.ca

7.5 Appendix E: Consent Form

I_____Consent to take a part in “Housing and Health of Refugees and Asylum Seekers in Canada: A Cross-Sectional Study” The purpose of this research is to examine the relationship between living in social housing or shelters and the well-being of refugees and asylum seekers in Canada, both in terms of their physical and mental health.

I have read the information contained in the cover letter about the above titled study, which describes what I will be asked to do if I participate. I understand the purpose of the study and that participation involves spending approximately 15 minutes completing a survey questionnaire booklet. I realize that participation is voluntary, that I may refuse to answer any questions, and that I can withdraw at any time from the study without consequence.

I understand that there is no apparent risk of physical or psychological harm or direct benefit to me by participating in this study. I understand that the information I provide is confidential and will be stored in a secure location at Lakehead University for at least seven years with access restricted to the principal investigator, thesis co-supervisor and Master’s student (Dr. Schiff, Dr. Bedard and Khater Muhajir). I also understand that the research findings will be mailed to me, upon request, following the completion of the study. By consenting to participate, I have not waived any rights to legal recourse in the event of research-related harm.

_____ _____

Participant's Signature Date

I would like to receive a summary of the results

_____ Yes

_____ NO

If yes, please indicate where you would like us to send the results.

Address_____

Email _____

To be signed by the investigator or person obtaining consent

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

_____ _____ _____

Signature of investigator Name printed Year Month Day

7.6 Appendix F: Invitation Message to Residents or Clients

Dear [Participant's Name],

I hope this message finds you well. You are invited to participate in a research study led by Dr. Rebecca Schiff. The study aims to examine the relationship between living in social housing or shelters and the well-being of asylum seekers and refugees in Canada.

Your participation will involve spending approximately 15 minutes completing a survey questionnaire. To participate, please follow this link [Survey Link], where you will find more information about the study and the survey questions. If you encounter any difficulties or prefer a printed hard copy, please reach out to our research team at [kamuhaji@lakeheadu.ca]

Your participation is crucial in contributing to our understanding of the challenges faced by asylum seekers and refugees, and your insights can help shape policies and interventions to support this population.

Thank you for your time and consideration.

Sincerely,

Khater Muhajir,
Master of Health Sciences student
Lakehead University
E:kamuhaji@lakeheadu.ca

Rebecca Schiff, Ph.D.
Dean - Faculty of Human and Health Sciences
Professor - School of Health Sciences
University of Northern British Columbia
E: Rebecca.Schiff@unbc.ca

Michel Bédard, PhD, FGSA
Professor, Department of Health Sciences
Lakehead University
E- mail: mbedard@lakeheadu.ca

7.7 Appendix G: Invitation for Social Housing and Shelter Managers

Dear [Insert person's name or organization],

I hope this email finds you well. My name is Khater Muhajir, and I am a Master of Health Sciences student at Lakehead University. We are conducting a research study on housing and health f asylum seekers and refugees in Canada, led by Dr. Rebecca Schiff.

The purpose of this research is to examine the relationship between living in social housing or shelters and the well-being of refugees and asylum seekers in Canada, both in terms of their physical and mental health. We anticipate that the information we acquire will provide valuable insights into the specific challenges faced by asylum seekers and refugees residing in social housing or shelters, potentially highlighting the need for improved housing access, policy recommendations, and targeted mental health support services to enhance their overall well-being and successful integration in Canada.

Eligibility:

To be eligible to participate in the study, individuals must meet the following criteria:

- Currently residing in social housing or shelters in Canada.
- Possess a working knowledge of English, Arabic, or French.
- Fall under the category of asylum seekers or refugees.

We are reaching out to request your assistance in sharing the survey link with your clients who are currently residing in social housing or shelters.We believe that your organization plays a crucial role in supporting asylum seekers and refugees, and we would greatly appreciate your assistance in sharing information about our study with your residents or clients. Their participation is vital in contributing to a comprehensive understanding of the challenges faced by asylum seekers and refugees in terms of housing and health.

Survey Link: [Insert Survey Link] where you will find more information about the study and the survey questions. If you encounter any difficulties or prefer a printed hard copy, please email our research team at [kamuhaji@lakeheadu.ca].

Your support in distributing the survey link to eligible individuals within your organization will help us gather diverse perspectives and enhance our understanding of the challenges faced by asylum seekers and refugees in Canada.

Should you have any questions or require further information, please get in touch with our research team at kamuhaji@lakeheadu.ca. We appreciate your cooperation in advancing research that may contribute to improving the well-being of asylum seekers and refugees in our community.

Thank you for your time and consideration.

Sincerely,

Khater Muhajir, Master of Health Sciences student Lakehead University E:kamuhaji@lakeheadu.ca	Rebecca Schiff, Ph.D. Dean - Faculty of Human and Health Sciences Professor - School of Health Sciences University of Northern British Columbia E: Rebecca.Schiff@unbc.ca	Michel Bédard, PhD, FGSA Professor, Department of Health Sciences Lakehead University E- mail: mbedard@lakeheadu.ca

7.8 Appendix H: List of Mental Health Resources in Canada

By Region

Canada-wide

- Crisis Services Canada: Established in 2002, Crisis Services Canada is a nonprofit national network of existing distress, crisis, and suicide prevention line services that assist populations across Canada.
- Kids Help Phone: Canada's only 24/7 call-in service, Kids Help Phone offers professional counselling, information and referrals, and volunteer-led, text-based support to young people in both English and French.
- eMentalHealth.ca: eMentalHealth.ca is a Canada-wide mental health support service database for crisis intervention, mental health education, and services including counselling and therapy, among other health services.
- The Lifeline App: The Lifeline App is an app that offers access and guidance for individuals in crisis. Online chat, text, and email crisis help is also available.

British Columbia

- Crisis Line Association of BC (CLABC): CLABC has provided emotional support, crisis and suicide assessment and intervention, and resources to people in British Columbia for over 40 years.
- Crisis Centre BC: Crisis Centre BC provides immediate access to barrier-free, non-judgmental, confidential support and follow-up to all populations across British Columbia through 24/7 phone lines and online services.

- Options Community Services: Options Community Services is a nonprofit registered charity that provides social services. They offer crisis lines, counselling services, youth shelters and transition houses, and provide transportation for seniors and disabled people.
- Telecare Crisis & Caring Line: Telecare Crisis & Caring Line is a Christian-based centre that provides phone support in moments of personal crisis or distress, as well as mental health education and workshops.
- Crisis Prevention, Intervention & Information Centre For Northern BC: The Crisis Prevention, Intervention & Information Centre For Northern BC is a centre that provides peer support for the people of northern British Columbia through phone and online chat services.
- NEED2 Suicide Prevention, Education, and Support: NEED2 Suicide Prevention, Education, and Support offers community programs about suicide and mental health, and accessible emotional and crisis support via phone (through youthspace.ca).
- Chimo Community Services: Chimo Community Services is a nonprofit organization offering counselling, outreach and advocacy, newcomer settlement services, homeless prevention programs, transition assistance, and crisis support.
- Vancouver Island Crisis Society: Vancouver Island Crisis Society is a federally-funded crisis organization that offers workshops, crisis intervention and support, and suicide bereavement support.

Alberta

- Capella Centre: Capella Centre offers secure and confidential services to women and children escaping domestic violence and other urgent situations. Capella Centre offers programming and a crisis support line.

- Distress Centre: Distress Centre is a charitable organization that offers crisis counselling, support, referrals, and social and community support and programs. Distress Centre also offers teen peer support.
- Connecteen: Connecteen is a youth support organization that offers crisis support and counselling via phone and text. Education and programming for families is also available.
- Wood's Homes: Wood's Homes is a children's mental health centre that provides treatment and support to children, youth, and families with mental health needs.
- Some Other Solutions: Some Other Solutions offers mental health services and support through crisis line and intervention, counselling services, and information and resources. Child and youth programming is also available.
- Dr. Margaret Savage Crisis Centre: Dr. Margaret Savage Crisis Centre is a nonprofit organization that provides shelter and support to women and children in crisis, public education, mental health crisis intervention and support, and programming. Children and youth services are also available.
- Wheatland Crisis Society: Wheatland Crisis Society is an outreach community and shelter that offers programs, education, crisis intervention, and support. A 24 hour crisis line is also available.

Saskatchewan

- Hudson Bay Family & Support Centre: Hudson Bay Family & Support Centre is a nonprofit, community-based organization that provides ongoing crisis support, counselling referrals and resources, and community programs. A 24-hour crisis hotline is also available.

- NEOSS Rapid Access Counselling: NEOSS Rapid Access Counselling is a community-based nonprofit organization that offers crisis counselling and intervention, programming and education, and community-based activities and events.
- MCS Mobile Crisis Unit: MCS Mobile Crisis Unit offers mobile crisis assistance, a helpline, walk-in (COVID protocols in place), child abuse assistance, and an emergency community shelter. Education and other programming is available.
- Saskatoon Crisis Intervention Service: Saskatoon Crisis Intervention Service is a mobile crisis service that also offers intensive community support, homelessness education and intervention, job postings, and public education.
- Southwest Crisis Services: Southwest Crisis Services is a safe women's shelter that offers 24-hour crisis helpline assistance, counselling, and sexual assault services.
- West Central Crisis & Family Support Centre: West Central Crisis & Family Support Centre offers crisis and family support, a variety of community programs and mental health services, and public education. Youth services are also available.

Manitoba

- Reasons to Live: Reasons to Live is a suicide prevention and support line that offers crisis intervention and help for individuals and family members. Offered through Klinic Community Health.
- Manitoba Trauma Information and Education Centre: Manitoba Trauma Information and Education Centre is a trauma resource and recovery organization that offers education and programs.

- Klinic Community Health: Klinic Community Health offers health care services, crisis support, in-person counselling (COVID protocols in place), wellness support, and education and training.
- Teen Talk: Teen Talk is a community health care service that provides education and workshops, mental and physical health support, and referral services.

Ontario

- Crisis Line: Crisis Line is a bilingual crisis response service that offers phone support and an in-person local crisis team that responds within 24 hours.
- Reach Out Mental Health Addictions Crisis Services: Reach Out Mental Health Addictions Crisis Services is a phone, text, and web chat crisis support service that provides help in both English and French. Education and resources are also provided and an emergency crisis response team is available.
- Distress Centre Durham: Distress Centre Durham is a community-based centre that provides crisis support, emotional support and management education, and community events and programming.
- Telephone Aid Line Kingston: Telephone Aid Line Kingston is a crisis support phone line that provides crisis support and referral services. Mental health information and resources are also available.
- KFL&A Public Health: KFL&A Public Health is a clinic that offers mental health support, education, and referrals.
- Developmental Services of Leeds and Grenville: Developmental Services of Leeds and Grenville offers a variety of clinical and support services to persons with developmental/intellectual disabilities, including mental health services and education.

- Distress Centre Halton: Distress Centre Halton is a community-based support centre that offers crisis intervention and assistance and mental health services. Help is also provided to seniors, caregivers, and individuals awaiting mental health services.
- Talk4Healing: Talk4Healing is a culturally-grounded and fully confidential helpline for Indigenous women across Ontario. Assistance is available in 14 languages.
- Distress Centre of Ottawa and Region: Distress Centre of Ottawa and Region is a crisis and mental health support line that offers assistance by phone or text.
- Telecare Distress Centre of Peterborough: Telecare Distress Centre of Peterborough is a local call centre that offers mental health crisis and emotional support services.
- Distress Centres of Greater Toronto: Distress Centres of Greater Toronto provides crisis assistance and intervention, hosts fundraisers, and provides public education. A survivor support program is also available.
- Compass Community Services: Compass Community Services provides counselling, peer support, workplace wellness programming, and developmental services. Walk-in counselling services are also available.
- The Downtown Mission of Windsor: The Downtown Mission of Windsor is a Christian-based distress centre that provides emotional support, crisis intervention, suicide prevention, and community referrals. A crisis line is also available.
- York Support Services Network: York Support Services Network is a community crisis response service available over the phone, text, or live chat. A mobile response team and short-term crisis beds are available.

Quebec

- Association québécoise de prévention du suicide: Association québécoise de prévention du suicide is a suicide prevention organization that provides suicide crisis intervention, a crisis line, education, and events and programming to provide community education and awareness around suicide.
- Centre de prévention suicide Arthabaska-Érable: Centre de prévention suicide Arthabaska-Érable is a nonprofit suicide prevention centre that aims to reduce suicide deaths, raise public awareness, and provide public education and programming. A crisis line is also available.
- Bas-Saint-Laurent Suicide Prevention and Crisis Intervention Center: Bas-Saint-Laurent Suicide Prevention and Crisis Intervention Center is a suicide prevention, education, and awareness centre that provides a crisis hotline, crisis hosting, clinical support for professionals, and monitoring.
- Centre prévention suicide le Faubourg: Centre prévention suicide le Faubourg is a suicide prevention and support organization that provides crisis assistance, education and training, and other programming.
- Centre de prévention suicide: Centre de prévention suicide is a suicide prevention centre with a crisis line, clinical support for workers, training programs, transition support and programs, and suicide and bereavement follow-up.

New Brunswick

- Chimo Helpline: Chimo Helpline is a crisis and emotional support phone line accessible at all times. Clinical and counselling referrals are provided and mental health education is available.

- Horizon Health Network: Horizon Health Network provides a province-wide mobile crisis unit directory, and a variety of mental health services, including diagnostics, veterans health services, and addictions services.

Nova Scotia

- Nova Scotia Mental Health Services: Nova Scotia Mental Health Services is run by the Nova Scotia Health Authority, and provides mental health support and programs across Nova Scotia for a variety of demographics including seniors and youth.
- Nova Scotia Mental Health and Addictions: Nova Scotia Mental Health and Addictions provides mental health and addictions services to professionals who provide support, programs, and services. A provincial mental health and addictions crisis line is also available.

Prince Edward Island

- The Island Helpline: The Island Helpline is a bilingual crisis and emotional support line that provides crisis assistance and intervention, referrals, and general education.
- Prince Edward Island Mental Health Services: Prince Edward Island Mental Health Services provides a directory of education, referrals, and support across the province.

Newfoundland & Labrador

- Eastern Health Mental Health and Addictions: Eastern Health Mental Health and Addictions is a hospital-based mental health and addictions service that provides assistance over the phone, in person, and online. Psychiatric unit assessments are also available.

Yukon

- Government of Yukon, Mental Health and Wellness Services: Government of Yukon, Mental Health and Wellness Services provides mental health services and individual counselling, outreach services, and community support. Psychiatric consultations are available.
- Crisis Centre Chat: Crisis Centre Chat provides immediate access to barrier-free, non-judgmental, confidential support and follow-up to all populations through 24 hour phone lines and online services.

Northwest Territories

- Northwest Territories Health and Social Services: Northwest Territories Health and Social Services is a public directory of mental health services and addictions recovery. Community counsellors are available, as well as a help line.

Nunavut

- Kamatsiaqtut Nunavut Helpline: Kamatsiaqtut Nunavut Helpline is a crisis and emotional support helpline that serves family members and loved ones, as well as individuals in distress.
- Government of Nunavut, Department of Health: Government of Nunavut, Department of Health provides education and mental health assistance, along with a mental health clinic and services directory. Counselling and Indigenous services are available.

By population

Youth

- Connecteen: Connecteen is a youth support organization that offers crisis support and counselling via phone and text. Education and programming for families is also available.

- NEED2 Suicide Prevention, Education, and Support: NEED2 Suicide Prevention, Education, and Support offers programs about suicide and mental health, and accessible emotional and crisis support via phone (through youthspace.ca).
- Wood's Homes: Wood's Homes is a children's mental health centre that provides treatment and support to children, youth, and families with mental health needs.
- Some Other Solutions: Some Other Solutions offers mental health services and support through crisis line and intervention, counselling services, and information and resources. Child and youth programming is also available.
- Dr. Margaret Savage Crisis Centre: A nonprofit organization that provides shelter and support to women and children in crisis, public education, mental health crisis intervention and support, and programming.
- West Central Crisis & Family Support Centre: West Central Crisis & Family Support Centre offers crisis and family support, a variety of community programs and mental health services, and public education. Youth services are also available.
- Teen Talk: Teen Talk is a teen-focused community health care service that provides education and workshops, mental and physical health support, and referral services.
- Telecare Distress Centre of Peterborough: Telecare Distress Centre of Peterborough is a call centre that offers mental health crisis and emotional support services to all ages from children and youth to seniors.
- Nova Scotia Mental Health Services: Nova Scotia Mental Health Services is a provincially-funded and run organization that provides mental health supports and programs for a variety of demographics including seniors and youth.

- Kids Help Phone: A text, online chat, and phone support service for youth across Canada. They also serve adults.

Indigenous and First Nations

- Talk4Healing: Talk4Healing is a culturally grounded and fully confidential helpline for Indigenous women across Ontario. Assistance is available in 14 languages.
- Network for Aboriginal Mental Health Research: Network for Aboriginal Mental Health Research is a database that is frequently updated with mental health resources for First Nations, Indigenous, Métis, and Inuit peoples across Canada.
- Hope for Wellness Help Line: Hope for Wellness Help Line is a federally-run help line that offers immediate help, counselling, and crisis intervention to all Indigenous peoples across Canada.
- Indian Residential School Survivors Society: Indian Residential School Survivors Society is a society for Indian residential school survivors across Canada that offers counselling, support, and a crisis line.
- Healing in Colour: Healing in Colour is a therapist directory and resource that focuses on serving BIPOC (Black, Indigenous, people of colour) folks across Canada.
- Wabano Centre: Wabano Centre is an Indigenous centre that merges traditional healing practices with contemporary therapeutic methods.
- Canadian Mental Health Association: Canadian Mental Health Association offers mental health and wellness services for Indigenous children and youth. Traditional healing practices are employed.

- Native Counselling Services of Alberta (NCSA): Native Counselling Services of Alberta is a service that promotes resilience through programs and services that are grounded in reclamation of identity, interconnectedness, reconciliation, and traditional healing.
- Government of Nunavut, Department of Health: Government of Nunavut, Department of Health offers education and assistance, and mental health clinic and services directory. Counselling services and Indigenous services are available.

Military/Veterans

- Royal Canadian Legion: The Royal Canadian Legion offers mental health and post-traumatic stress disorder (PTSD) help lines, a family information line, referrals, resources, and other information provided through the Royal Canadian Legion.
- Veterans Affairs Canada: Veterans Affairs Canada is a federally-run, public department for mental health and wellness of veterans and military personnel that provides referrals, counselling services, assessments, compensation, and medical costs for eligible individuals.
- Wounded Warriors Canada: Wounded Warriors Canada is a national mental health service provider for veterans, first responders, and their families. Education and programs are also available.
- Veterans Emergency Transition Services (VETS Canada): Veterans Emergency Transition Services is a grassroots organization that provides an emergency phone line, advocates for mental health and wellness and hosts events.
- Canadian Forces Member Assistance Program (CFMAP): Canadian Forces Member Assistance Program is a federally-run department that offers confidential, voluntary, short-term counselling to assist with resolving life stressors. Eligibility required.

Mental health organizations and associations

- Canadian Mental Health Association (CMHA): The Canadian Mental Health Association is a national organization that provides mental health programs, support, and education. Local branches are also available.
- Canadian Sport Psychology Association (CSPA): Canadian Sport Psychology Association is an organization dedicated to applied sport psychology, facilitating the development of mental and emotional skills, techniques, attitudes, and perspectives that lead to performance enhancement and personal development.
- Mental Health Commission of Canada: The Mental Health Commission of Canada leads the development and dissemination of programs and tools to support mental health and wellness of Canadians.
- Canadian Psychiatric Association: The Canadian Psychiatric Association is an association of psychiatrists across Canada that works to promote the highest quality of care and treatment for persons with mental illness through advocacy of research and education.
- Canadian Counselling and Psychotherapy Association: Canadian Counselling and Psychotherapy Association is a regulatory organization that oversees Canadian counsellors and psychotherapists by providing clinical supervisions, advocacy, education, and other clinical resources.

Canadian Psychological Association: Canadian Psychological Association is a national organization that supports Canadian pshologists through advocacy, education, collaboration, and research

7.9 Appendix I: REB Approval Letter

Lakehead UNIVERSITY

Research Ethics Board
t: (807) 343-8283
research@lakeheadu.ca

February 20, 2024

Principal Investigator: Dr. Rebecca Schiff
Co-Investigator: Dr. Michel Bedard
Student: Khater Muhajir
Health and Behavioural Sciences\Health Sciences
Lakehead University
SN 1006
955 Oliver Road
Thunder Bay, ON P7B 5E1

Dear Drs. Rebecca Schiff and Michel Bedard, and Khater Muhajir:

Re: Romeo File No: 1470242
Granting Agency: SSHRC, UAlberta, LU
Agency Reference #: 1467715

On behalf of the Research Ethics Board, I am pleased to grant ethical approval to your research project titled, "Housing and Health of Asylum Seekers and Refugees in Canada: A Cross-Sectional Study".

Ethics approval is valid until February 20, 2025. Please submit a Request for Renewal to the Office of Research Services via the Romeo Research Portal by January 20, 2025, if your research involving human participants will continue for longer than one year. A Final Report must be submitted promptly upon completion of the project. Access the Romeo Research Portal by logging into myInfo at:

https://erpwp.lakeheadu.ca/

During the course of the study, any modifications to the protocol or forms must not be initiated without prior written approval from the REB. You must promptly notify the REB of any adverse events that may occur.

Best wishes for a successful research project.

Sincerely,

Dr. Claudio Pousa
Chair, Research Ethics Board

/dg