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Department of Applied Human Nutrition

Experience of Food Insecurity and Cultural Foodways: A Case Study with Newcomer Mothers from Nigeria Living in Urban Nova Scotia

By

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Definition of Terms

Cooking as Inquiry (CAI) – A qualitative research method that involves cooking as a participatory and embodied form of data collection, allowing participants to share their lived experiences through food preparation (Brady, 2011).

Cultural Foodways – Cultural foodways encompasses how food is acquired, prepared, and shared within communities (Brellas & Martinez, 2024).

Food Insecurity – The limited or uncertain access to adequate, culturally appropriate, and nutritious food due to financial or other resource constraints (FAO, 2023).

Household Food Insecurity (HFI) – An inadequate or insecure access to food due to financial constraints (Tarasuk et al., 2014).

Immigrant– Immigration, Refugees and Citizenship Canada (IRCC) defines an immigrant as a person who has been granted permanent resident status in Canada, including those admitted under economic, family, and refugee/humanitarian classes (IRCC, 2024).

Newcomer – A *newcomer* in this study refers to an immigrant or refugee who has arrived in Canada within the past five years (Government of Canada, Statistics Canada, 2024). This operational definition is aligned with Statistics Canada and IRCC usage, where "newcomer" generally refers to individuals who have recently arrived in Canada and are navigating early stages of integration (IRCC, 2024; Immigration, 2025b).

Refugee – A person who is forced to flee from persecution and who is outside of their home country (Canadian Council for Refugees, n.d.)

Operational Definition of Terms

Adaptation Strategies – The coping mechanisms employed by newcomer Nigerian mothers to maintain their cultural foodways despite economic and accessibility challenges. These may include ingredient substitution, modified cooking techniques, and reliance on community networks.

Cooking as Inquiry (CAI) – In this study, CAI sessions involve participants preparing traditional Nigerian meals while discussing their food insecurity experiences, adaptation strategies, and cultural identity. These sessions are recorded and analyzed for thematic patterns.

Cultural Foodways – This study defines cultural foodways as the everyday food choices, preparation methods, and dietary practices of newcomer Nigerian mothers, including how they maintain or modify these traditions post-migration.

Food Insecurity – In this study, food insecurity refers to the lived experiences of newcomer Nigerian mothers in Halifax who face challenges accessing culturally appropriate and sufficient food due to financial, social, or structural barriers. These experiences are assessed through participants' narratives in interviews and cooking sessions.

Household Food Insecurity – An inadequate or insecure access to food due to financial constraints (Tarasuk et al., 2014).

Immigrant – For the purpose of this study, an *immigrant* is a person who has chosen to move and settle permanently in another country (Canadian Council for Refugees, n.d.). Compared with the IRCC (2024) legal categorization of immigrant, this definition adopts a more inclusive conceptual lens to reflect the diverse lived realities of newcomer Nigerian mothers, including their immigration

status (e.g., work permit, study permit, or recent PR status) and the transitions associated with immigration and resettlement.

Lead Participant Researcher – Lead participant researchers are participants who meet the study's requirements and help guide the Cooking as Inquiry sessions by sharing their experiences.

Newcomer Nigerian Mothers – This study focuses on Nigerian women who have immigrated to Halifax, Nova Scotia, within the last five years, have at least one child, and experience or have experienced food insecurity.

Abbreviations and Acronyms

CAI - Cooking as Inquiry

FAO- Food and Agriculture Organization

HFI - Household Food Insecurity

HRM - Halifax Regional Municipality

IRCC- Immigration Refugee and Citizenship Canada

LPR- Lead Participant Researcher

MSVU - Mount Saint Vincent University

NS - Nova Scotia

PR - Permanent Resident

REB - Research Ethics Board

UREB - University Research Ethics Board

WFS- World Food Submit

Abstract

Background: Household food insecurity (HFI) disproportionately affects recent newcomers to Canada. Rates are even higher among households with children and those of African descent, with race and migration status amplify vulnerability. Monitoring of HFI at the population level, however, does not capture access to culturally appropriate food. Understanding how disruptions in cultural foodways affects the experience of HFI among racialized newcomers is of particular concern for urban communities such as the Halifax Regional Municipality (HRM), Nova Scotia, where newcomers exceed a third of the population.

Research Question: This study explored how and why changes in cultural foodways impact the food security of newcomer Nigerian mothers with young children living in urban Nova Scotia. It specifically aimed to examine how changes in food practices affect mothers' immediate food security situation and their long-term ability to maintain their cultural food identity.

Methods: An exploratory qualitative multi-case study design was used for this study. Six Nigerian mothers who had lived in HRM for five years or less, had young children, and had experienced food insecurity were purposively recruited as the "cases". Data were collected using a participatory approach that included semi-structured individual interviews with two of the six participants as lead participant researchers, and subsequently two small group (n=3) workshops where participants prepared and shared a traditional Nigerian meal together and participated in facilitated group discussions. Data organization and thematic analysis were supported by MAXQDA 24 software and informed by the Dietary Transition Trajectories Framework and Bronfenbrenner's Ecological Systems Theory.

Findings: Participants' experiences of food insecurity were shaped by precarious employment, the rising cost of living, high prices of cultural foods, and limited access to culturally appropriate food sources. Mothers adopted coping strategies such as bulk purchasing, ingredient substitutions, travelling long distances for food, and collaborative buying networks. Although some used food banks, the lack of culturally appropriate options often reinforced feelings of exclusion, stigma, shame, and helplessness. Emotional impacts included anxiety, guilt, and concerns about children being disconnected from their cultural roots and developing unhealthy eating habits. While some mothers gradually integrated Canadian foods into their diets, others remained strongly attached to traditional foodways, highlighting the deep link between food, cultural identity, and emotional well-being.

Implications: This study advances understanding of how changes in cultural foodways intersect with food insecurity for racialized newcomer mothers with young children, and their families. It highlights the need for theoretical models of food insecurity to better account for cultural food access and identity preservation. Future research should explore the experiences of children and other racialized newcomer groups in culturally disrupted food environments and examine the role of immigration, settlement and employment status on the experience of food security. Supporting culturally meaningful food access is crucial for fostering inclusive food systems and communities, and to promote successful newcomer settlement and well-being.

1.0 Introduction

The 1996 World Food Summit (WFS), convened by the United Nations' Food and Agriculture Organization (FAO), defined food security (FS) as a state where "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2006, p. 1560). While this broad definition emphasizes multiple dimensions of food security including availability, accessibility, utilization, and stability, Canada has historically approached the monitoring of food security at the population level more narrowly. In 2005, Canada adopted the United States Department of Agriculture's Household Food Security Survey Module (HFSSM), a standardized and validated scale of food insecurity severity that measures household food insecurity (HFI), understood as inadequate or insecure access to food due to financial constraints (Tarasuk et al. 2018; Klingbaum and Tarasuk, 2018; Health Canada, 2020).

As research on HFI evolved, it became widely recognized as a serious public health issue in Canada (Tarasuk et al., 2016). Responding to persistent advocacy by Canadian civil society organizations (e.g., DeShutter, 2012; *Wrapping up Eat Think Vote with an Open Letter to the Prime Minister*, 2021), Canada's first-ever national food policy, a Food Policy for Canada (FPC) was introduced in 2019. Acknowledging its significance, the Government of Canada prioritized food security, defining it as "all people in Canada are able to access a sufficient amount of safe, nutritious, and culturally diverse food" (Agriculture and Agri-Food Canada, 2019, p. 5). While it is significant that the policy recognized the importance of culturally diverse food, it did not provide specific strategies or actions that ensure access to cultural foodways, such as supporting culturally relevant

food production, improving availability of traditional ingredients, or addressing systemic barriers faced by racialized and newcomer communities from accessing their cultural foods which are essential aspect of cultural food security. Cultural food security (CFS) refers to the ability to access and acquire culturally appropriate foods that align with one's ethnic background (Mori & Onyango, 2023). Mori & Onyango (2023) and Power (2008) describe CFS as integral to cultural identity, emphasizing its role in food security policies and interventions. Despite increasing recognition of its significance to food security and food policy, CFS remains largely overlooked in how food insecurity is conceptualized and measured in Canada.

A core component of CFS is the preservation of cultural foodways, which encompass how food is acquired, prepared, and shared within communities (Brellas & Martinez, 2024; Shah, 2018). These foodways include social, economic, and ceremonial practices, reflecting deeply rooted historical, religious, and environmental influences (Pilcher, 2012). Maintaining cultural foodways is essential for preserving cultural identity and heritage, particularly among newcomers adapting to new food environments.

Canada, a multicultural society, has been shaped by Indigenous, French, and British influences, alongside a growing number of newcomer communities (Canadian Multiculturalism, 2018). According to the 2021 Census, immigrants comprise over 23% of Canada's population, with an additional 2.5% consisting of non-permanent residents, including international students and temporary foreign workers (Immigration Refugee and Citizenship Canada, 2022). Despite Canada's multicultural policies, newcomers face intersecting barriers that threaten their identity, sense of belonging, and long-term settlement. One critical yet under explored issue among newcomers is their

food security, not just in terms of economic access to food, but also the availability of culturally appropriate options.

While Canadian data on newcomer food insecurity remains limited, recent estimates highlight significant disparities. In 2023, nearly 23% of Canadian households experienced food insecurity, affecting an estimated 8.7 million people, including 2.1 million children (Statistics Canada, 2024). These same data show that 40.4% of people who identified as Black compared with 20.3% of those who identified as White lived in a household experiencing food insecurity (Statistics Canada, 2024). Li, St-Germain, and Tarasuk (2023) reported that in 2022, the prevalence of household food insecurity (HFI) was notably higher among households where the primary income earner was a recent immigrant (26.1%) compared to households where the main income earner was Canadian-born (16.4%), a non-recent immigrant (19.7%), or classified as Other[1] (18.4%). However, after adjusting for differences in sociodemographic and economic characteristics, recent immigrant status was not associated with increased vulnerability to HFI. In contrast, households with a non-recent immigrant as the main income earner had slightly greater odds of food insecurity compared to those with Canadian-born earners, even after accounting for these factors. These data underscore the racialized nature of food insecurity and increased vulnerability for newcomer families, particularly those who are of African descent.

Mothers, as primary caregivers, often bear the emotional and physical burden of ensuring their children are well-fed, even when resources are scarce (Lindberg et al., 2024). For newcomer mothers, the challenge may be even greater, as they navigate unfamiliar food systems while striving to preserve their cultural foodways (Vahabi & Damba, 2013; Campbell et al., 2021). Barriers such as high costs of culturally relevant foods, limited ethnic food options at food banks, and economic constraints

further intensify their food insecurity (Ramsahoi et al., 2022; Sanou et al., 2014; Vahabi & Damba, 2013). This highlights the need for further research on barriers to accessing culturally appropriate foods, the economic challenges faced by marginalized communities, and the effectiveness of community-based initiatives in addressing systemic inequities.

1.1. Problem statement

Household food insecurity (HFI) is disproportionately higher among newcomer populations in Canada, with 26.1% of recent immigrants experiencing food insecurity compared to 16.4% of Canadian-born individuals (Li et al., 2022). While income inadequacy is a key driver of this disparity, food insecurity among newcomers is further complicated by disruptions in cultural foodways barriers to accessing, affording, and preparing traditional foods, disruptions that not only impact nutrition but also erode cultural identity, emotional well-being, and social connection (Tarraf et al., 2017; Vahabi & Damba, 2013).

This issue of HFI is particularly pressing in Nova Scotia (NS), where food insecurity affects 21.3% of households, higher than the national average of 17.8%, making it the third-highest rate in Canada (Li et al., 2022). Given the racialized nature of food insecurity, Nigerian newcomers represent a significant yet understudied population. They make up 44.7% of Black immigrants in the province of Nova Scotia (African Nova Scotian Road to Economic Prosperity, 2024, p.13), yet research often homogenizes the experiences of African or Black newcomers, masking important cultural and regional differences. Nigerian food culture is deeply rooted in tradition, with specific ingredients, preparation methods, and communal eating practices. The inability to access or maintain these practices in a new environment may leads to cultural disconnection.

Mothers, particularly in immigrant households, are often the primary caregivers and food providers (Brouwer & Holla, 2021). Female-headed households and families with children are among the most food-insecure in Canada three times and twice the prevalence of HFI, respectively (Tarasuk et al., 2016). Newcomer mothers face additional challenges as they navigate unfamiliar food systems while trying to preserve cultural norms for their children (Campbell et al., 2021; Hamelin et al., 1999; Vahabi & Damba, 2013). These data raise questions about the dual burden experienced by newcomer mothers in providing nutritional care under financial constraints and maintaining cultural food identities in the face of limited availability of traditional ingredients and unfamiliar Canadian grocery systems.

Moreover, the existing conceptualization and measurement of HFI in Canada with its focus exclusively on economic access to food (Health Canada, 2012), overlooks cultural dimensions such as the availability of culturally appropriate foods, shifts in dietary habits, and emotional responses to food-related adaptation. Our understanding of how food insecurity is uniquely experienced by subgroups like Nigerian newcomer mothers is limited. This study addresses this gap by exploring how the changes in cultural foodways among newcomer Nigerian women with young children affect theirs and their families' food security, and the factors contributing to these experiences. By exploring the intersections of food access, financial constraints, and cultural adaptation, this research provides insights into the lived experiences of Nigerian immigrant mothers in HRM, which can ultimately deepen our understanding of cultural food security and its relationship to HFI, informing how policies and community programs and supports can better meet the needs of this population.

1.2. Research Question

How and why do the changes in the cultural foodways experienced by newcomer Nigerian women with young children impact theirs and their families' food security?

1.3. Objectives of the study

1. To explore the experiences of food insecurity, including contributing factors and coping strategies among newcomer Nigerian mothers with young children

2. To explore the post-migration cultural foodways experiences of newcomer Nigerian mothers with young children.

3. To explore the role of cultural foodways on the food (in)security of newcomer Nigerian mothers with young children, and their families.

1.4. Significance of study

The study's significance lies in its dual contribution; first, it fills a gap in the academic literature and provides a foundation for much needed scholarship on the determinants of nutritional health and more broadly well-being among newcomer Nigerian mothers and families, and second, it offers practical insights for local policy and practice. Academically, it advances our theoretical and empirical understanding of the intersections between cultural identity, food access, and well-being, areas that have been underexplored in existing research. Practically, the insights derived from this research can be used to inform a wide range of community partners and organizations. Community groups and food banks, such as Feed Nova Scotia, along with local food programs and public health agencies, can use these findings to develop culturally relevant food programs and nutrition education

initiatives. In doing so, policymakers at the provincial, and municipal levels are better positioned to incorporate the cultural dimensions of food security into settlement and social welfare policies. The relevance of this study is further emphasized by national immigration trends. Canada's immigrant population is projected to continue rising steadily in the coming years. This demographic shift reinforces the importance of understanding the lived experiences of newcomer communities, particularly in relation to food security and cultural wellbeing. Research that captures these realities is essential to informing responsive, inclusive programming and policies.

Furthermore, by highlighting the essential role of culturally significant foodways in fostering health and community resilience, this study provides critical evidence to support advocacy efforts for food justice and newcomer rights. Its findings are valuable for ethnic food retailers and cultural organizations who aim to enhance the availability and affordability of culturally relevant foods. Additionally, settlement and newcomer support organizations, such as the Immigrant Services Association of Nova Scotia (ISANS), can leverage this research to enhance their settlement programs, employment training, and food-related support services tailored to Nigerian and other African immigrant families.

Dietitians, including those affiliated with Dietitians of Canada, the Dietetian Network of Nova Scotia, and Nova Scotia Health (NSH), can also utilize the study's findings to inform culturally responsive nutrition counselling and community-based interventions. By integrating the lived experiences of immigrant families, dietitians can better address systemic barriers to food access, promote culturally respectful dietary guidance, and advocate for inclusive food policies within healthcare and public health systems.

1.5 Scope of the Study

This study examines the experiences of food insecurity and changes in cultural foodways among newcomer Nigerian mothers with young children in the Halifax Regional Municipality, NS. It explores the role of cultural foodways in HFI, focusing on how these women navigate food practices in the context of migration and settlement. The research integrates multiple qualitative methods using a multi-case study design and Cooking as Inquiry (CAI) workshops, to provide an in-depth understanding of participants lived experiences.

2.0 Literature Review

This chapter provides an overview of the literature on food security in Canada, focusing on newcomer households, particularly newcomer Nigerian mothers. It defines key concepts and examines factors contributing to food insecurity, including financial constraints and access to culturally appropriate food. In addition, literature on the health impacts of food insecurity, the role of cultural foodways in newcomer well-being, and coping strategies used by newcomers is also examined. The chapter concludes with an overview of the two theoretical frameworks guiding the study; "Bronfenbrenner's Ecological Systems Theory and Dietary Transition Trajectories of Canadian Immigrants Framework".

2.1 Understanding Food Security and Food Insecurity in Canada

Food security is a fundamental determinant of health, influencing physical, mental, emotional, social, spiritual health and overall quality of life. In Canada, food insecurity is recognized as a serious public health issue, disproportionately affecting marginalized groups including low-income households, single-parent families, Indigenous communities, racialized groups, and newcomers (Tarasuk et al., 2023). It can show up as worries about running out of food, eating less and skipping meals, and in extreme cases, going whole days without eating because of a lack of food and money for food (Health Canada, 2018; Tarasuk et al., 2018). Statistics reveal that one in eight households in Canada experiences food insecurity, with even higher rates in certain provinces and among marginalized communities (Government of Canada, Statistics Canada, 2023).

2.1.1 The Concepts of Food Security, Food Insecurity and Hunger

The concept of food security first emerged as part of the larger discourse and worldwide priority to address the availability and accessibility of food for all during the global financial crisis in the mid-1970s (Koç, 2018). The concept of food security has evolved over time. It was formally defined at the 1996 World Food Summit as a condition where "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2006, p. 1560). According to FAO, food security is built upon four pillars: availability, accessibility, utilization, and stability (FAO, 2006). Availability refers to the sufficient production and supply of food at all levels (household, community, national). Accessibility includes both economic and physical access to food, ensuring that individuals have the resources to obtain food. Utilization pertains to how food is used, considering nutritional quality, safety, and cultural appropriateness. Stability underscores the importance of having a reliable and consistent food supply over time (FAO, 2006). As a signatory to the 1996 World Food Summit, Canada adopted the FAO's definition, reflected in the 1998 Canada's Action Plan for Food Security (Koç & Bas, 2012; Canada, 1998) recognizing financial constraints as the primary determinant of food insecurity in Canada (Public Health Agency of Canada, 2022), however, the measurement of HFI exclusively assesses the ability of a household to afford the food it needs (Tarasuk et al., 2018).

Qualitative research conducted by Radimer et al. (1990) explored food insecurity among low-income women and developed a conceptual framework to describe the experience of food insecurity at both the individual and household levels. This framework identified four dimensions of food insecurity: quantitative, qualitative, psychological, and social, which were later validated by Kendall

et al. (1995). These dimensions, as presented in Table 1, capture both tangible and intangible aspects of food insecurity.

Table 1

Dimensions of food insecurity by Radimer et al., 1990.

	Individual level	**Household level**
Quantitative	Insufficient intake	Food depletion
Qualitative	Nutritional inadequacy	Unsuitable food
Psychological	Lack of choice, feelings of deprivation	Food anxiety
Social	Disrupted eating patterns	Food acquisition in socially unacceptable ways

Note. Adapted from Kendall et al., 1995.

At the individual level, food insecurity typically leads to reduced food intake, limited dietary choices, and compromised nutritional status, contributing to long-term health consequences (Tarasuk, 2001). Food insecurity is experienced differently at the household level, where concerns about food shortages, difficulties acquiring sufficient food, and compromised meals are prevalent (Health Canada, 2018). Research has shown that adults in food-insecure households often reduce their food

intake to ensure children have enough to eat, leading to unequal food distribution within families (Tarasuk, 2001; Leddy et al., 2020; McIntyre et al., 2003; Williams, McIntyre & Glanville, 2010).

Food insecurity is also conceptualized as a managed process (Hamelin et al., 2002), wherein individuals and households employ strategies to cope with food shortages, such as stretching food supplies, seeking external assistance, or modifying eating patterns. It is also a temporal and dynamic condition, meaning it can fluctuate over time with varying levels of severity (Tarasuk, 2001). The graded severity ranges from marginal food insecurity (worrying about running out of food) to severe food insecurity (going without food for a day or more). Hunger, though closely linked to food insecurity, is a distinct concept. Occurring at an individual level, it refers to the physiological experience of discomfort or distress due to insufficient food intake (Dietitians of Canada, 2024). While food insecurity may lead to hunger, it also includes less visible struggles such as anxiety about food supply, dietary compromises, and reliance on emergency food programs (Tarasuk, 2001).

The measurement of food insecurity at the population level in Canada focuses primarily on household and individual-level food insecurity as a consequence of financial and resource constraints within the household. The Household Food Security Survey Module (HFSSM) is Canada's primary tool for monitoring food insecurity. It assesses household food security status based on a series of questions about food access, affordability, and experiences of food insufficiency. Understanding the HFSSM provides essential context for the sections that follow on food insecurity prevalence and its impacts on vulnerable groups, including newcomer mothers with young children.

Literature on studies targeting newcomer mothers with young children in Canada is limited and more so in NS (Kengneson et al., 2021; Tarraf et al., 2018; Quintanilha et al., 2019). The studies

also mainly looked at the economic determinants of food insecurity, with few (Tarraf et al., 2018) on the cultural and social dimensions of food insecurity among newcomers.

2.1.2 Prevalence of Food Insecurity in Canada

Food insecurity is a significant public health issue in Canada. Over the years, the prevalence of household food insecurity (HFI) has increased, rising from 12.9% in 2021 to 16.9% in 2022. In 2023, nearly 23% of Canadian households experienced food insecurity, affecting an estimated 8.7 million people, including 2.1 million children (Statistics Canada, 2024). This escalation has been driven by economic inflation, stagnant wages, and rising housing costs (Statistics Canada, 2023).

While food insecurity impacts a wide range of demographics, certain groups are disproportionately affected due to socio-economic challenges, barriers to access, and systemic inequities (Tarasuk et al., 2023). Among the most vulnerable are low-income households, lone mothers, seniors, Indigenous communities, racialized groups, and newcomers (Government of Canada, Statistics Canada, 2023).

Low-income families in Canada experience food insecurity at nearly twice the national average, with 35% affected compared to the overall rate of 18% (Government of Canada, Statistics Canada, 2023). Lone mothers are particularly at risk, with 48% of those below the poverty line and 40% of those above it experiencing food insecurity (Government of Canada, Statistics Canada, 2023).

Racialized households similarly experience heightened levels of food insecurity. Among families above the poverty line, food insecurity rates are 33% for Black households, 28% for Filipino households, 21% for Arab households, and 19% for South Asian households—compared to 14% for non-racialized, non-Indigenous families (Government of Canada, Statistics Canada, 2023). This

disparity indicates that race and ethnicity, rather than income alone, are significant factors contributing to higher food insecurity levels in Canada.

Newcomers, particularly refugees, also face significantly higher rates of food insecurity compared to Canadian-born individuals. In 2023, 26.1% of newcomer households reported food insecurity, compared to 16.4% of Canadian-born households (Government of Canada, 2023). The rates are even higher among racialized newcomers, often exceeding 35%, highlighting the compounded challenges they face in accessing affordable and culturally appropriate foods (Berhe et al., 2024b; Dhunna & Tarasuk, 2021).

Food insecurity varies across provinces in Canada, with some regions experiencing significantly higher rates than others. In Nova Scotia, food insecurity is notably higher than the national average, with 28.9% of individuals living in food-insecure households in 2023, up from 22.0% in 2022 (Tarasuk & Li, 2024). Similarly, Prince Edward Island experienced an increase from 23.6% to 28.6%, while Newfoundland and Labrador saw a rise from 22.5% to 25.8%. In New Brunswick, the rate grew from 22.5% to 25.9%, reflecting a broader trend of increasing food insecurity across the Atlantic provinces. Although Quebec continues to have the lowest food insecurity rate in the country, it still saw an increase from 14.7% in 2022 to 15.7% in 2023 (PROOF, 2024).

Several factors contribute to these rising rates, including inflation, stagnant wages, and inadequate income support programs (Tarasuk & Mitchell, 2023). In rural areas, limited access to grocery stores and fewer food assistance programs further exacerbate food insecurity (Beaton et al., 2021). Given the rising prevalence of food insecurity and its disproportionate impact on certain communities, there remains a significant gap in research and monitoring that specifically addresses

the unique experiences of newcomer populations, particularly racialized immigrant groups like Nigerian newcomers. Despite the broader focus on food insecurity in Canada, the intersection of migration, race, and food insecurity is underexplored. This gap may make it more challenging to create policies and interventions that are culturally relevant and responsive to the specific needs of these communities.

In Nova Scotia, where food insecurity rates are higher than the national average (Tarasuk, & Li, 2024), the compounded challenges faced by newcomer families such as barriers to accessing culturally appropriate foods, economic constraints, and lack of community support require urgent attention. Further research into the experiences of newcomer Nigerian mothers, specifically in the context of food insecurity, is critical to developing tailored interventions that address both the structural and cultural aspects of the issue.

2.1.3 Health Effects of Food Insecurity

Food insecurity has serious implications for health and well-being, affecting individuals and families across age groups. It adversely affects mental, physical, and social health outcomes, shaping overall quality of life and long-term well-being beyond the influence of other social determinants of health; the consequences are particularly pronounced for vulnerable populations, including children, adults, and newcomer families (Hutchinson & Tarasuk, 2021). This section examines these impacts, focusing on mental health challenges, physical health risks, and broader social and economic consequences.

Adults in food-insecure households are more likely to experience poor mental health, including depression, anxiety disorders, mood disorders, and suicidal thoughts compared to

individuals in food-secure households (Myers, 2020; Tarasuk et al., 2023; Jessiman-Perreault & McIntyre, 2017). Among children, food insecurity whether experienced directly or within the household has been shown to be associated with poor physical, cognitive, social, and behavioral development (Cook & Frank, 2008; Ke & Ford-Jones, 2015; Lane et al., 2019; Williams et al., 2010, 2012). Even marginal or moderate HFI has been shown to be associated with developmental challenges such as poor cognitive development, behavioural problems, emotional difficulties, and lower academic achievement. while severe food insecurity significantly increases the risk of depression, anxiety, and chronic diseases such as obesity and type 2 diabetes (Tarasuk et al., 2023). Additionally, stress within food-insecure families can impact parent-child interactions and overall family well-being (Gallegos et al., 2021).

Food insecurity also contributes to poor physical health. Households with limited resources often rely on energy-dense, nutrient-poor foods, which increase the risk of chronic conditions such as obesity, hypertension, and heart disease (Tarraf et al., 2017; Ke & Ford-Jones, 2015). However, financial constraints are not the sole factor; chronic stress, disrupted eating patterns, and social determinants of health further exacerbate negative health outcomes (Laraia, 2013; Myers et al., 2017). Limited access to healthcare services due to language barriers or unfamiliarity with available resources can also worsen health disparities among food-insecure populations (Vahabi & Damba, 2013).

For newcomer families, the pressure of providing food while adapting to a new environment amplifies mental health challenges, particularly for mothers, who often experience heightened anxiety and stress (Dubey, 2023). Food insecurity among newcomer mothers is associated with psychological distress as they navigate unfamiliar food systems, cultural dietary shifts, and limited social support

networks (Vahabi & Damba, 2013; Tarasuk et al., 2023). These stressors may contribute to social isolation and hinder emotional well-being (Dou et al., 2022).

Children in food-insecure households are more likely to experience malnutrition, fatigue, frequent illness, and difficulty concentrating in school (Faught et al., 2017), further compounding the challenges faced by newcomer families. For newcomer children, food insecurity is often exacerbated by dietary changes and limited access to culturally familiar foods, which can lead to nutrient deficiencies and disruptions in eating habits (Tarasuk et al., 2020). Research indicates that food-insecure newcomer children are at higher risk of experiencing emotional distress, anxiety, and social exclusion, particularly when they struggle to adapt to unfamiliar school meal programs and school environments (Vahabi et al., 2013).

Beyond individual health, food insecurity has broader social and economic consequences. It reduces social integration and community engagement, as financial limitations prevent individuals from fully participating in social activities (Tarasuk, Mitchell, & Dachner, 2016). For newcomers, these barriers can hinder their successful integration into Canadian society and contribute to economic marginalization (Ghadi et al., 2023; Vahabi & Damba, 2013).

Although research on food insecurity among newcomer populations has increased over the last few years, there is limited published literature examining the implications of HFI on the health of distinct cultural groups, including newcomer mothers and their families. Moreover, there is a paucity of research on how acculturation stress, and lack of access to cultural foodways and other systemic barriers shape food insecurity, and impact health among newcomers in Canada, particularly for specific cultural groups such as Nigerian women and their families.

2.2. Experiences of Food Insecurity among Newcomer Households

Food insecurity is a multidimensional issue that affects both individuals and households in complex ways (Asma & Kotani, 2023; FAO, 2022, p. 2). Recent data from Statistics Canada's Canadian Income Survey show that newcomer households in Canada face disproportionate levels of household food insecurity (Government of Canada, Statistics Canada, 2023), with systemic factors such as income disparities, high housing costs, limited access to culturally appropriate foods, and challenges in obtaining foods that align with cultural practices contributing to their elevated risk.

Moreover, the stressors related to adapting to a new environment further compound these issues, which are not yet well understood in the Canadian context, particularly for racialized newcomer mothers and families. Immigrants and refugees must navigate unfamiliar food systems while balancing economic constraints (Hadley et al., 2007; Vahabi & Damba, 2013). Intrahousehold dynamics are understood to play a critical role in the experience of food insecurity, influencing the distribution, access, and control of food among household members (Tarasuk, 2001), these dynamics are shaped by social, cultural, economic, and gender-based factors (Berti, 2012). While it is well recognized in the published literature that these factors are distinct for different newcomer populations, what is less well understood is how the distinct interplay of these factors impact how different newcomer populations experience food insecurity. Understanding the complexities and nuance of the experience of food insecurity for newcomer populations, particularly for understudied populations such as newcomer families with children, is essential for assessing the lived experiences of food-insecure households and developing effective interventions.

2.2.1 Household Food Insecurity Experiences among Newcomer Mothers

The role of mothers in food provisioning is central to understanding HFI. In many cultures, including Nigerian culture, mothers bear primary responsibility for ensuring their families have access to nutritious food (Ene-Obong et al., 2017). This expectation is both a responsibility and a cultural obligation tied to family health and unity (Abubakar & George, 2020). For newcomer mothers in Canada, financial constraints and limited access to culturally significant ingredients make fulfilling this role particularly challenging (Vahabi & Damba, 2013)

Research shows that newcomer mothers often make personal sacrifices to prioritize their children's nutritional needs, sometimes forgoing meals themselves (Ene-Obong et al., 2017; Hanson et al., 2007). Quintanilha et al. (2019) found that financial limitations restrict mothers' ability to regulate their children's diets, leading to frustration and guilt. Vahabi et al. (2013) further highlighted the emotional burden on mothers when they are unable to provide essential foods for their children's well-being.

Despite extensive research on food insecurity among newcomers and racialized populations, there is no specific information on the experience of food insecurity among Nigerian newcomer mothers in Canada. Existing published literature focuses on general immigrant and refugee populations (Vahabi et al., 2013; Tarasuk et al., 2020), and to date, there remains a gap in our understanding how food insecurity uniquely affects Nigerian mothers navigating both cultural and structural challenges.

2.2.2 Household Food Insecurity Experiences among Newcomer Fathers

Newcomer fathers experience financial hardship and food insecurity as a disruption to their traditional role as providers, with their ability to provide sufficient and culturally appropriate food for their family being compromised. Studies on newcomer families indicate that food insecurity is often linked to low income, unstable employment, and high living costs, which can disrupt traditional meal patterns and contribute to household tension (Vahabi et al., 2013; Tarasuk et al., 2020). While research on Nigerian newcomer fathers in Canada is limited, studies on other newcomer groups suggest that the stress of food insecurity may negatively impact fathers' mental well-being and family dynamics (Lane et al., 2019). In Nigerian families, men are primarily responsible for securing financial resources to meet household needs, including food (Akintara, 2024; Ene-Obong et al., 2017). When fathers struggle to fulfill this role due to financial constraints, they often experience stress, frustration, and a sense of failure (Patrick, 2024; Roberts et al., 2014).

However, to date no research has specifically examined the experiences of Nigerian newcomer fathers in Canada. Most studies focus on general immigrant and refugee populations, leaving a gap in understanding how food insecurity uniquely affects fathers navigating both cultural expectations and economic challenges in a new environment.

2.2.3 Household Food Insecurity Experiences among Newcomer Children

Evidence suggests that the profound impacts of HFI on the physical health, cognitive development, and academic performance of children (Faught et al., 2017) may be compounded by a variety of distinct and exacerbated challenges faced by both newcomer families and children themselves in adapting to unfamiliar school meal programs and school environments (Vahabi et al.,

2013). While recent studies have brought increased attention to the urgency of addressing food insecurity among newcomer families, specific research on the experience of food insecurity and its impact on the health, well-being and development of Nigerian newcomer children in Canada is currently lacking. Studies that focus on general newcomer populations overlook how cultural food preferences, socio-economic constraints, and resettlement stressors uniquely shape the experiences of Nigerian children navigating food insecurity. Exploratory research on their unique experiences and challenges is needed to inform further research, policies and programs, to address questions such as related to school meal inclusivity, culturally appropriate food security initiatives and nutritional access.

2.3 Factors associated with Household Food Insecurity among Newcomers

Food insecurity is shaped by a complex interplay of socio-ecological and psychosocial factors, which for newcomers, brings a myriad of interconnected challenges that restrict their ability to access and afford adequate and culturally appropriate food, impacting their well-being and settlement. Currently, published research on the challenges faced by Nigerian newcomer mothers in Canada has been limited to being categorized within broader groups such as Africans or general newcomers. While of value for providing a general understanding of the processes of settlement, current published research fails to capture the distinct challenges encountered by Nigerian newcomer mothers in Canada, particularly in relation to food socioecological and psychosocial factors.

2.3.1 Socioecological Factors

2.3.1.1 Employment, Income Disparities and Housing Affordability. Immigrant workers in high-income countries tend to earn less than their non-immigrant counterparts within the same occupation category. They are also likely to work in lower-skilled and low-paid jobs that do not match their education skill (International Labour Organization (ILO), 2020, Pg. 1). This may be due to unrecognized education and training from their previous country of residence, or the immigration status of the immigrant in the host countries was also found to affect their purchasing power, forcing them to change their diet after arriving in the host country as observed by Munger et al., 2014; McMorrow & Saksena, 2021. In Canada, the hourly wages of university-educated landed immigrants living in Canada are, on average, one-fifth lower than those of their Canadian-born peers (Immigrant Wage Gap, 2016).

Thus, not surprisingly, data from studies of household food insecurity (HFI) among newcomers reinforces the well-established link between HFI and income (Li et al., 2023). Newcomers face significant barriers to accessing the food they desire, with low income being a primary challenge due to its negative impact on purchasing power (Tarasuk et al., 2020; Vahabi & Damba, 2013). In their study of refugee families in Canada, Moffat et al. (2017) found that financial constraints negatively impact food choices for newcomer households, which may lead to malnutrition, resulting in a decrease in macronutrient and micronutrient intake, and overall deterioration of physical health, impacting weight and mental health (Li et al., 2023; Jolly & Thompson, 2022; Quintanilha et al., 2019).

2.3.1.2 Housing Affordability. Compounding the challenges of employment and income disparities, newcomers in Canada face significant challenges in securing affordable housing, particularly in urban areas where rising costs and limited supply have worsened accessibility (Moore, 2021; Hulchanski, 2010). In Nova Scotia, the rental vacancy rate is less than 1%, making it increasingly difficult for low-income individuals to find housing that does not exceed 30% of their pre-tax income (Moore, 2024; Tello, 2024).

According to the 2018 Canadian Housing Survey, 31% of recent immigrant households (353,900) spent over 30% of their income on housing, a significantly higher proportion compared to non-immigrant households (Government of Canada, Statistics Canada, 2021). Housing affordability is further impacted by barriers to accessing essential services, including language difficulties, cultural differences, and limited social support (Sanou et al., 2014; Osei-Kwasi et al., 2019). Additionally, newcomers often struggle to navigate healthcare, education, and employment systems, making settlement even more difficult (Tarraf et al., 2018; Vahabi et al., 2013; Pandey et al., 2021).

2.3.2 Psychosocial Factors

2.3.2.1 Social Exclusion. Social exclusion is a significant issue faced by newcomers, particularly immigrants and refugees, who encounter barriers to full participation in the social, economic, and political life of their host countries. As discussed by Lane et al. (2019), newcomers, especially those from culturally and economically disadvantaged backgrounds, often struggle to access essential social and public services, which increases their vulnerability to exclusion. This exclusion extends beyond a lack of access to material resources; it also affects social and psychological aspects, making it challenging for newcomers to integrate into their communities.

Indeed, earlier research by Wu and Penning (2013) highlights that immigrants report significantly higher levels of loneliness compared to native-born Canadians. The authors describe how the disconnect between their experiences and the social networks of the host society contributes to these feelings of isolation, and how factors such as language barriers, unfamiliar cultural norms, and the absence of family and community support networks further exacerbate this sense of disconnection from the wider society (Wu and Penning, 2013). Sartori et al. (2019) describe how social exclusion diminishes individuals' capacity for societal participation, lowers self-esteem, and contributes to mental health issues such as anxiety and depression. This exclusion not only affects individuals but also has societal ramifications. In Canada, where newcomers comprise a significant portion of the population, this exclusion poses broader implications for the country's social cohesion and inclusivity (Caidi & Allard, 2005).

The impact of social exclusion becomes more pronounced when combined with other challenges, such as food insecurity. Newcomers often find themselves trapped in a cycle where financial constraints and limited access to culturally appropriate food deepen their isolation. As noted by Pineau et al. (2021b), food insecurity is not just about a lack of food; it is a broader social issue that entraps individuals in marginalized positions. Those facing food insecurity may avoid social interactions due to embarrassment about their economic situation or the unavailability of culturally familiar foods. This exclusion fosters feelings of powerlessness and alienation, perpetuating a vicious cycle of exclusion and vulnerability. Research on social exclusion among newcomers also reveals that factors such as race, immigration status, and cultural background intersect shape individuals' experiences, including those related to their ability to access food. For example, a study by Crawford et al. (2023) and Szaflarski & Bauldry (2019) found that racialized newcomers experience higher

levels of exclusion due to discrimination. These experiences are compounded by the challenges associated with adapting to a new food system, which may not accommodate their dietary preferences, thus increasing their feelings of isolation (Hanna et al., 2023).

Literature on studies targeting Nigerian newcomer mothers in Canada was limited, as they are often grouped within broader categories such as newcomers or African immigrants. As a result, their unique experiences of social exclusion remain underexplored.

2.3.2.2 Stigma. Stigma occurs when individuals or groups are perceived as deviating from societal norms, leading to assumptions about their inferiority (Ahemedani, 2011). It is deeply embedded in societal expectations and can create barriers to social inclusion for newcomers, particularly immigrants and refugees. Stigmatization can affect multiple aspects of their lives, from social interactions to access to essential services, further marginalizing them within their host society (Pineau et al., 2021b).

For many newcomers, stigma becomes a significant obstacle to seeking support, as fear of judgment or discrimination discourages them from accessing necessary resources. This can be particularly challenging in situations of food insecurity, where individuals may struggle to obtain assistance despite severe financial hardship. Stigma manifests in different ways, including negative social perceptions from others and institutional barriers in service access. The following sections explore stigma in interpersonal interactions (2.3.2.2.1) and its impact on access to services (2.3.2.2.2), highlighting how these challenges contribute to food insecurity among newcomers.

2.3.2.2.1 Stigma with People. Generally, the published literature suggests that the relationship between stigma and food insecurity is both complex and impactful. In their recent narrative review of stigma, social exclusion, and shame among women with experience of HFI in high-income countries, Pineau et al., (2021b), found that food insecurity often accompanies feelings of shame and social exclusion, making it difficult for individuals to seek help. Other research indicates that individuals relying on food assistance programs, such as food banks, may experience feelings of inferiority and shame, further deepening their exclusion and alienation (Brennan-Tovey et al., 2023; Fang et al., 2021; Ramsahoi et al., 2022).

Additionally, stigma may be linked to mental health struggles among newcomers. Many immigrants, especially those experiencing food insecurity, struggle with anxiety, depression, and feelings of powerlessness (Public Health Agency of Canada, 2024). Ibrahim et al. (2020) highlight that mental health stigma prevents many newcomers from seeking necessary support due to fear of being perceived as weak or mentally unstable. Newcomers, particularly those experiencing food insecurity, often feel judged or excluded when seeking support (Osei-Kwasi et al., 2019). Research suggests that the stigma surrounding social support may be linked to the perception that those who utilize these services are dependent, incapable, or inferior (Ahad et al., 2023; DiComo & Mychailyszyn, 2021).

2.3.2.2.2 Stigma with Services. Newcomers frequently encounter stigma when accessing social services specifically. Fang et al. (2021) found that food-insecure individuals may avoid food assistance programs to prevent being labeled as "needy" or "inferior." This avoidance can lead to

worsened health and social outcomes, as individuals may choose to go without food rather than risk being stigmatized.

Food banks and other social services may be viewed as stigmatizing, as a sign of poverty and failure, further deterring individuals from using these supports (Brennan-Tovey et al., 2023). Research by Vahabi et al. (2013) and Tarraf et al. (2018) suggests that newcomers may feel particularly hesitant to seek social support services due to cultural differences, language barriers, and limited knowledge of available resources.

Racial and cultural factors can further compound the stigma faced by newcomers. Racialized newcomers, particularly those from non-Western countries, may experience dual stigma related to both their immigration status and racial identity (Salami et al., 2018). Mooten (2021) found that racialized immigrants face greater discrimination in employment and social services, which can reduce their ability to access essential resources.

2.3.3 Policy and Services.

Policies and services play a crucial role in determining food security among newcomers by shaping access to financial resources, housing, employment, and food assistance programs. While some policies provide essential support, structural gaps within these systems often contribute to food insecurity (Deaton & Scholz, 2022).

For many newcomers, socio-ecological factors create economic instability, making it difficult to afford food that is both sufficient and culturally appropriate (Sanou et al., 2014). These challenges, compounded by limited recognition of foreign credentials, work permit restrictions, and precarious employment conditions, further undermine financial stability and increase vulnerability to food

insecurity (Tarraf et al., 2018). Additionally, eligibility restrictions for government assistance programs prevent many recent immigrants from accessing financial support during their early settlement period, leaving them without critical aid when they need it most.

Food assistance programs, while intended to address food insecurity, often fall short of meeting the cultural and dietary needs of diverse immigrant communities. Many food banks and community meal programs lack culturally appropriate food options, making them less accessible or effective for newcomers (Osei-Kwasi et al., 2019). Moreover, language barriers and bureaucratic complexities in service delivery make it difficult for immigrants to navigate available resources, leading to underutilization of critical support systems (Fang et al., 2021).

Addressing these challenges requires policy reforms that prioritize accessibility, affordability, and economic stability. Expanding affordable housing programs, improving employment policies, and ensuring culturally inclusive food assistance services can help reduce food insecurity among newcomers and support their long-term well-being.

2.4 The Health of Newcomers and the Healthy Immigrant Effect

The Healthy Immigrant Effect (HIE), or the Immigrant Paradox, describes the phenomenon where new immigrants to Canada generally display better health outcomes than the Canadian-born population. Upon their arrival, immigrants typically report lower levels of disabilities and fewer chronic health conditions, indicating that they are healthier than their native counterparts. However, over time, this health advantage tends to diminish, and immigrants often experience a decline in health as they adjust to their new environment. This paradox has been widely studied and remains a significant area of research in immigrant health. Studies, including those conducted by Elshahat et al.

(2021), confirm that immigrants generally arrive in Canada with better health outcomes than the Canadian-born population. These findings are often attributed to the rigorous selection processes during immigration, which may prevent individuals with health conditions from qualifying for entry.

The strength of the Healthy Immigrant Effect is not uniform across all immigrant groups and tends to vary based on factors such as immigration status and the length of time spent in Canada (Li et al., 2016; Newbold, 2009). Research by Statistics Canada (2019) indicates that self-reported health is better among immigrants who have been in Canada for fewer than three years than those who have lived there for three or more years. Immigrants in the family class, such as spouses and children of Canadian citizens, tend to report better health outcomes than refugees or those arriving through economic migration pathways. This may be due to differences in socioeconomic status, support systems, and access to healthcare upon arrival.

Over time, immigrants' health typically declines. The deterioration has been attributed to several factors, including the stress of resettling in a new country, changes in diet and lifestyle, reduced physical activity, and difficulties in accessing healthcare services (Vahabi & Damba, 2013) Refugees, who often face additional stressors related to displacement and trauma, may experience a more pronounced decline in health over time (Lu & Ng, 2019). While the healthy immigrant effect has been studied broadly, there is a lack of research focusing specifically on Nigerian newcomer mothers, to understand how their health trajectories change overtime. However, Ehigiato (2017) conducted a study highlighting several barriers newly arrived Nigerians face in accessing healthcare services in Canada. These include systemic issues like long wait times, negative attitudes from physicians, and experiences of discrimination, as well as personal challenges such as unfamiliarity with the Canadian healthcare system and cultural differences in health-seeking behaviors. The study

emphasizes the need for culturally sensitive healthcare practices and improved support systems to facilitate better integration and health outcomes for Nigerian immigrants. Additionally, Higginbottom et al. (2015) conducted a systematic review of immigrant women's experiences with maternity care in Canada, identifying barriers such as lack of information, insufficient support, and mismatched expectations between patients and healthcare providers, which can adversely affect birth and postnatal outcomes. While this research provides valuable insights, it often does not disaggregate data to reflect the specific experiences of Nigerian newcomer mothers, underscoring the need for more targeted studies.

The decline in health among newcomers over time has been documented, with factors such as socioeconomic challenges, discrimination, and limited access to culturally appropriate healthcare services contributing to this trend. However, specific investigations into how these factors uniquely impact Nigerian newcomer mothers in Canada remain scarce.

2.5 Post-Migration Cultural Foodways and its implications

2.5.1 Cultural Foodways and its Role in Newcomer Wellbeing

Culture encompasses the combination of people, shared practices, values, and behaviours that significantly influence an individual's sense of identity, belonging, and social cohesion (Batey et al., 2023). Power (2008) initially introduced the concept of cultural food security to address the challenges Aboriginal people face in Canada, suggesting it represents a level of food security beyond individual, household, and community levels.

Cultural foodways include the production, acquisition, preparation, consumption, and sharing of food, which is deeply embedded in life's social, economic, and ceremonial aspects (Brellas &

Martinez, 2024). These practices equip individuals and communities with the means to sustain cultural traditions while fostering a sense of identity and belonging (Berggreen-Clausen et al., 2021). Immigrant groups, in particular, often encounter complexities when adapting to new food environments, which can challenge their ability to maintain traditional food practices (Lillekroken et al., 2024). According to Brellas and Martinez (2024), food is acquired through farming, hunting, and fishing to preserve cultural values. Food preparation rituals and eating customs are vital links to home countries, helping maintain cultural continuity and contributing to emotional well-being and stability in a new environment.

The disruption of cultural foodways can significantly impact the mental and physical health of newcomer families (Che et al., 2018). Many immigrants struggle to access culturally relevant foods, leading to cultural identity loss, displacement, and psychological distress (Moffat et al., 2017). Research has shown that health behaviours, including dietary habits, are closely tied to cultural norms and practices (Tarraf et al., 2017).

The emotional repercussions of food insecurity among immigrants are well-documented. For example, Dou et al. (2022) and Wright et al. (2021) found that the inability to access culturally significant food often results in cultural dislocation, stress, and sadness. These feelings tend to be more pronounced for individuals and families already adjusting to life in a new country, where food is a vital connection to one's heritage.

According to James (2004) and Parasecoli (2014), cultural foodways are about what is eaten and how food builds community and social networks, and many immigrant communities have adapted by forming food-focused social gatherings, such as communal cooking or shared meals, essential for maintaining cultural bonds and providing mutual support. The process of cultural adaptation often

leads to dietary modifications, with some immigrant populations opting for more affordable or readily available food substitutes, which can negatively impact nutritional quality (Tarraf et al., 2017). Shifts from traditional to more generic food options can affect short-term satisfaction and long-term health outcomes, potentially increasing the risk of diet-related diseases such as obesity and diabetes (Dou et al., 2022; Sanou et al., 2013; Wright et al., 2021).

Literature on studies targeting cultural foodways is limited in Canada, and more so in the context of Nigerian newcomer mothers. As highlighted previously, existing studies have primarily focused on African immigrants and newcomers more broadly, rather than specifically on Nigerian mothers. These studies mainly examined the impact of cultural food access on food insecurity, without specifically addressing how the shifts in cultural food practices within the context of settlement contribute to food insecurity among Nigerian newcomer mothers and their families.

2.5.2 Navigating Food Insecurity Through Cultural Foodways: The Experiences of Newcomer Mothers.

The connection between food insecurity and cultural foodways has profound implications for newcomer mothers, who are often responsible for maintaining cultural food practices. Research has shown that immigrant mothers, particularly those with young children, experience heightened levels of food insecurity due to their dual struggles of adapting to new food systems and maintaining cultural food practices (Tarasuk, 2001).

Studies have shown that newcomer mothers often resort to unhealthy coping mechanisms, such as purchasing cheaper, processed foods when access to culturally appropriate ingredients is limited (Kuo, 2014; Lane, 2017; Wood et al., 2021). Research by Kim and Gittelsohn (2019) have

shown that participation in community food programs and the sharing of culturally relevant food practices serve as vital strategies for dealing with food insecurity. Community gardens, food banks with culturally relevant foods, and other communal resources can provide both nutritional and emotional support, reinforcing cultural identity while alleviating some of the pressures of food insecurity (Doustmohammadian et al., 2022).

Published studies examining cultural foodways among newcomer mothers in Canada was limited, and more so in the specific context of Nigerian newcomer mothers. The studies also mainly looked at the impact of cultural food access on food insecurity, with limited focus on how shifts in cultural food practices contribute to food insecurity among Nigerian newcomer mothers and their families, as well as the specific strategies they employ to navigate these challenges.

2.6 Coping Strategies for Food Insecurity Among Newcomers

Coping strategies are the actions individuals take to secure food when faced with food insecurity. These strategies may include seeking assistance from charitable food programs, relying on family or friends for support, or, in extreme cases, resorting to food theft (Kempson et al., 2003). According to Deschak et al. (2022), while food theft is considered an unconventional and socially unacceptable means of acquiring food, individuals may turn to it when purchasing food is not feasible. These coping mechanisms highlight the difficult choices people face in ensuring food access.

According to Esin and Ayyıldız (2024), a study on refugee women shows that they cope with food insecurity by choosing less preferred and cheaper food, reducing portion sizes, and prioritizing their children's meals over their own. Some women skip meals entirely or borrow money to afford food when resources are scarce.

Coping strategies for food insecurity among newcomers involve a range of actions influenced by financial constraints, social connections, and community infrastructure. Newcomers, especially those with young children, often rely on multiple approaches to manage food insecurity (Dlamini et al., 2023). These strategies may include seeking food assistance from charitable organizations, depending on extended family or friends for food support, or, in some cases, resorting to extreme measures like food theft. These coping mechanisms highlight both the urgency of their situation and the significant strain food insecurity places on newcomers as they navigate a new environment.

Mothers, in particular, adopt various coping strategies shaped by their cultural background, family structure, and resilience. A study by Quintanilha et al. (2019) found that immigrant women participating in a perinatal program in Edmonton experienced high levels of food insecurity and employed various coping strategies to manage their food needs. These strategies included relying on community support, accessing food banks and community kitchens, purchasing cheaper or less preferred foods, and prioritizing their children's nutrition by reducing their own food intake. Some sought assistance through food vouchers or nutrition programs, while others practiced careful budgeting by stretching meals, cooking in bulk, and cutting back on non-essential expenses (Screti et al., 2024; St-Germain & Tarasuk, 2018). Additionally, some mothers turn to additional sources of income, such as working multiple jobs, to cope with food insecurity. A study by Sheely (2020) found that lone mothers often take on multiple jobs as a strategy to secure financial stability and afford food for their families. However, this coping mechanism comes with challenges, including reduced family time, increased physical exhaustion, and heightened stress, which can further impact their overall well-being. The ongoing struggle to secure food while adapting to a new cultural and economic

landscape places considerable mental and physical strain on newcomers, particularly mothers (Pourmotabbed et al., 2020).

2.7. Theoretical Framework

This study is grounded in two theoretical frameworks: Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1977, 1994) and the Transition Trajectories of Canadian Newcomers (Tarraf et al., 2017b). Together, these frameworks provide a comprehensive lens to explore the experiences of food insecurity and cultural foodways, as well as their interconnectedness, among newcomer Nigerian mothers in HRM. The Bronfenbrenner's model emphasizes the multi-layered ecological systems influencing the individual experiences of the mothers participating in this study, while the transition trajectories framework provides a cultural and dietary perspective, mapping out the phases newcomers navigate in their dietary adaptation process.

2.7.1 Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner's ecological systems theory provides an understanding of the multifaceted experiences the newcomer Nigerian mothers navigating food insecurity in Halifax This theory examines the dynamic interactions between individuals and the layered environments in which they live, emphasizing the interdependence of systems that influence human development (Bronfenbrenner, 1977, 1994). By utilizing this framework, the study contextualizes food insecurity as a phenomenon shaped by various environmental, cultural, and systemic factors. Bronfenbrenner conceptualized human development as occurring within five interrelated systems (figure 1): the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. These systems interact in

complex ways, influencing individuals and their families across time and space. Applying this model

to the research provides an opportunity to understand how newcomer Nigerian mothers experience,

cope with, and adapt to food insecurity within their unique socio-cultural and economic contexts.

Figure 1

Ecological Model for the Food Experiences of Newcomer Nigerian Mothers
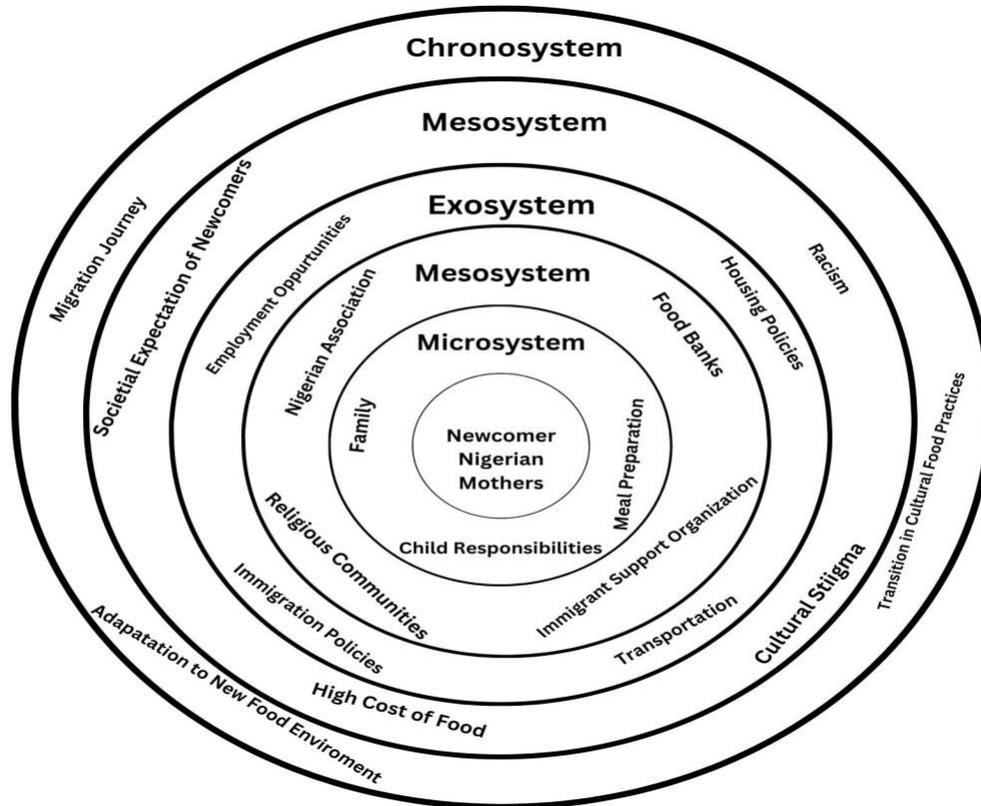
The *microsystem* is the innermost layer of the ecological system, representing the immediate environment where direct interactions take place, such as within the household, with family members, and neighbors. For Nigerian mothers in this study, the microsystem encompasses their role in preparing and providing meals and the daily challenges of securing adequate and culturally appropriate food for their families. In this layer, the mother's gender, race, and immigration status significantly shape her experience. As the primary caregiver in the household, the mother is typically the one responsible for feeding her family, a role often emphasized by cultural gender norms. This responsibility places additional pressure on her, particularly when navigating unfamiliar food systems

in a new country (Zivot et al., 2022). Her race as a Black Nigerian immigrant may affect how she is treated by others, influencing her access to resources and opportunities. Additionally, her immigration status means that she may be unfamiliar with local food systems and may struggle to find culturally familiar ingredients, further adding to her stress and food insecurity (Nkimbeng et al., 2020).

The *mesosystem* involves the interconnections between multiple microsystems, such as relationships between family, community groups, and support programs. For newcomer Nigerian mothers, this may include interactions with local food banks, immigrant support organizations, Nigerian associations, and religious communities that provide both practical assistance and a sense of belonging. These connections offer crucial support and resources that help mitigate food insecurity, but their availability depends on the mother's ability to engage with these networks.

The *exosystem* which is the layer external to the mesosystem, includes broader linkages, and policies that indirectly affect the structures in individuals' immediate environments, such as employment opportunities, housing policies, and government welfare programs. For newcomer Nigerian mothers, systemic barriers like insufficient access to affordable housing, limited transportation, and underemployment can worsen food insecurity. Policies related to immigration and settlement services, cultural food prices and availability can also shape their experiences, highlighting the structural dimensions of their challenges.

The *macrosystem* which is the layer external to the exosystem that includes broader societal, cultural, and ideological patterns that exert influence on the structural factors that may impact new Nigerian mothers. For example, systemic racism affects their ability to access well-paying jobs and public services, making it harder to afford food and support their families. Stigmatization can lead to negative stereotypes, making them hesitant to seek help from services like food banks. Cultural norms

and societal expectations can challenge the preservation of their cultural foodways, as Canadian food culture may differ from their own, placing little value on the accessibility of ingredients for traditional meals can be difficult to find. Societal perceptions of immigrants, often seen as either "successful" or "struggling," can lead to exclusion and isolation, limiting their access to resources (Daly et al., 2023).

The *chronosystem,* which is the final system, focuses on changes over time, capturing the evolution of individual and systemic experiences. For Nigerian mothers, migration often brings significant changes to their cultural foodways and food security. In the early stages of migration, they may face numerous challenges, such as finding culturally familiar food or adjusting to local food but systems. Over time, however, they may develop adaptive strategies, such as learning new cooking techniques or connecting with other immigrant families for support. The cultural transitions are also important as the children may experience food insecurity differently or grow up with a blended food culture, incorporating both Canadian and Nigerian food traditions.

In this study, the microsystem was explored through in-depth semi-structured interviews and cooking as inquiry (CAI) sessions with newcomer Nigerian mothers. These methods provided direct insight into their daily experiences of securing and preparing culturally appropriate meals within their households. By analyzing their narratives, I examined how gender roles, racial identity, and immigration status shaped their food access, decision-making, and coping strategies. The transcriptions were coded using thematic analysis in MAXQDA, allowing for a detailed understanding of how their immediate environment family dynamics, household responsibilities, and neighborhood interactions impacted their food security and cultural foodways.

2.7.2 Dietary Transition Trajectories of Canadian Immigrants Framework

The "Dietary transition trajectories of Canadian immigrants" framework proposed by Tarraf et al. (2017b) (Figure 2), was developed to highlight the importance of incorporating cultural perspectives into traditional understandings of food security, particularly for newcomers to Canada. This framework situates dietary acculturation within a broader context, emphasizing how changes in food access and consumption patterns affect immigrant populations.

According to Tarraf et al. (2017b, p. 44), dietary acculturation is "the process by which immigrants adopt the dietary practices of the host country." Figure 2 outlines the modified dietary trajectories of Canadian newcomers, illustrating how limited access to cultural food can push individuals toward adopting Canadian dietary habits. The accommodation phase is the initial stage of dietary acculturation, and it involves the adoption of the host country, which is affected by several factors such as limited or no access to cultural food, the equipment needed to make such food, and unfamiliarity with local food markets or grocery stores.

The adaptation phase occurs when women begin to identify marketplaces and grocery stores that carry some of the cultural food items previously unavailable to them. This discovery often happens through interactions with other newcomers, particularly those from similar backgrounds. At this stage, they gain access to both Canadian and cultural foods, allowing them to develop unique dietary patterns that blend elements of both. This transition presents an opportunity for women to either maintain their cultural diet or incorporate more Canadian foods, which may be more affordable (Nisbet et al., 2022).

In the integration phase, women become more accustomed to Canadian foodways while still valuing the social and cultural significance of their traditional foods. Rather than fully replacing one

diet with another, they navigate a balance between the two, integrating familiar flavors and practices with those of their new environment.

Figure 2

Dietary Transition Trajectories of Canadian Immigrants.
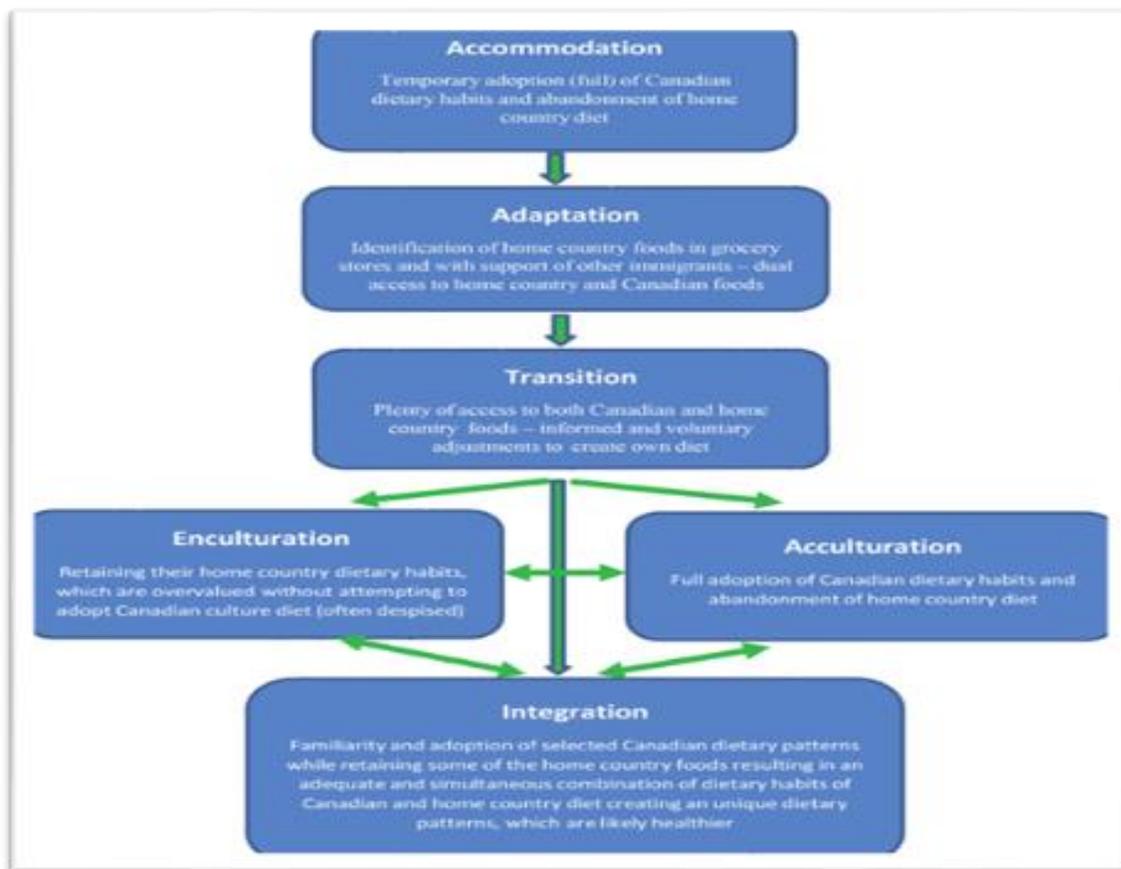
Note. *Reprinted from Tarraf et al. (2017b).*

2.8 Summary and Identification of Knowledge Gaps

This chapter reviewed the literature on food insecurity (HFI) among newcomer households in Canada, particularly among African immigrant populations and newcomer mothers. Key findings from the literature highlight that financial instability, underemployment, income disparities, and high living costs are significant contributors to food insecurity among these groups (Moffat et al., 2017; Li et al., 2023). Most of the studies reviewed were quantitative, particularly cross-sectional surveys, which provide valuable data on the prevalence and general causes of food insecurity. However, these studies often lack the depth required to fully understand the lived experiences of newcomer mothers, particularly in relation to their coping strategies and how they navigate food insecurity in a cultural context. As such, the literature points to a need for more qualitative research that delves deeper into these personal and emotional dimensions.

The literature also indicates that newcomer mothers experience additional barriers to accessing culturally appropriate food, which can compound the effects of food insecurity. A key gap in the research is that while studies highlight limited access to culturally relevant foods and structural barriers such as discrimination in food systems (Osei-Kwasi et al., 2019; Che et al., 2018), there is limited exploration of how these factors specifically affect newcomer mothers compared to other immigrant groups or Canadian-born mothers. Newcomer mothers, particularly those from African descent, may face unique challenges in securing foods that meet both cultural and dietary needs, making them more vulnerable to food insecurity.

Additionally, the studies reviewed often focus on general immigrant populations or racialized groups, without sufficiently distinguishing the particular experiences of newcomer mothers who are

navigating multiple roles such as caregiver, worker, and community member while adjusting to a new environment. Comparatively, studies on Canadian-born mothers or other racialized groups do not account for the intersectionality of cultural identity, immigration status, and gender, which uniquely shapes the food security experiences of newcomer mothers.

While some literature acknowledges the role of social networks and community organizations in mitigating food insecurity, these studies often overlook the specific needs of immigrant mothers and how these networks can be better structured to meet those needs. There is also a noticeable gap in research exploring long-term policy interventions and grassroots initiatives designed specifically to support newcomer mothers in overcoming food insecurity. Furthermore, much of the research is concentrated in urban areas, with very little focus on the experiences of newcomer mothers in rural or suburban areas where the challenges of food access and cultural integration may be even more pronounced.

Knowledge gaps and limitations include a lack of qualitative studies that explore the personal narratives of newcomer mothers, particularly their strategies for coping with food insecurity and maintaining cultural identity through food. There is also limited research on longitudinal studies that assess the effectiveness of long-term interventions aimed at improving food security in newcomer communities. Additionally, policy research focused on how to integrate culturally appropriate food access into Canadian food programs for immigrants is lacking.

3.0 Methodology

3.1 Introduction

This chapter explores this study's methodology, providing a comprehensive understanding of how theoretical framework informed the research approach. It describes the methodological strategies employed to collect, analyse, and interpret data, ensuring rigour and relevance in exploring the phenomenon of the intersection of food insecurity and cultural foodways. Additionally, it outlines the conceptual foundations that guided my investigation into the experiences of food insecurity and cultural foodways among newcomer Nigerian mothers in urban Nova Scotia.

3.2 Researcher Positionality and Paradigm

As a Nigerian researcher exploring the topic of food insecurity among newcomer Nigerian women with children, my path is linked deeply to my cultural heritage and my experience as a new immigrant. Being of Nigerian origin/descent and currently living in HRM, Nova Scotia, Canada, I am aware of the complexities and difficulties that Nigerian immigrant women may face, especially concerning cultural food.

While growing up in Nigeria, food was not only a source of nourishment; it also represented customs, ties to the community, and individual identity. As an immigrant, I have had to adjust to a new environment, which has included figuring out and navigating unfamiliar eating systems and trying to stay connected to the food of my culture.

I have a distinct perspective on this research issue because of my own experiences and background. However, I do take into consideration the diversity of the Nigerian immigrant population and the range of experiences that people may have. I acknowledge that my perspective is only one piece of the puzzle and approach this research with humility.

In addition, I am determined to carry out this work sensitively and ethically, recognizing the importance of reflexivity. By engaging in reflexivity, I will continually interrogate my biases, assumptions, and positionality about the immigrant Nigerian women whose voices I aim to elevate. This self-awareness will help me navigate the power dynamics that come with research more effectively, ensuring that I treat the women involved with integrity and respect for their diverse perspectives and experiences.

My cultural background, immigration experience, and commitment to social justice have molded my position as a Nigerian researcher starting this project. With empathy, sincerity, and a strong desire to see positive change, I hope to shine a light on the complex reality of the role that changes in cultural foods and foodways serve in the lives of newcomer Nigerian women with young children concerning food security.

This study is grounded in an interpretive paradigm, which views knowledge as subjective and socially constructed. This perspective shapes my understanding of food insecurity among newcomer Nigerian women in HRM, Nova Scotia. By employing participatory methods such as cooking as inquiry, I engage directly with participants, creating space for them to share their lived experiences and perspectives on cultural foodways and food security. A key aspect of this approach is maintaining critical reflexivity continually examining my own biases, assumptions, and positionality as a Nigerian researcher. This self-awareness helps me navigate power dynamics thoughtfully and conduct the study with integrity and respect for the diverse realities within the Nigerian immigrant community.

3.3 Research Methods

This study focused on understanding the food security experiences and cultural food practices of Nigerian mothers who immigrated to Canada within the last five years. This qualitative research was grounded in a critical social science (CSS) paradigm. The approach to this research aligns with critical social science with its focuses on making visible and addressing power structures, inequalities, and social injustices that disproportionately affect marginalized groups (Killen et al., 2021). The participants in this study, who are racialized women and newcomers to Canada, are especially vulnerable to systemic power dynamics. These dynamics manifest through unequal access to income, employment, healthcare, and essential services, shaped by intersecting forms of structural racism and gendered inequality (Canadian Women's Foundation, 2023; Public Health Agency of Canada, 2023).

This study built upon the community-based participatory research approach and methods of Cooking as Inquiry (CAI) to examine societal contradictions and power dynamics (Wallerstein et al., 2019) related to food insecurity and cultural foodways among newcomer Nigerian mothers. Cooking as Inquiry (CAI), developed by Brady in 2011, is a participatory and embodied data collection method that combines autoethnography and collective biography, using food and cooking as a means of knowledge creation. The approach includes participatory group cooking sessions in a shared community space, during which researchers and participants cook and share a meal together while sharing their experiences.

In utilizing participatory research, this study sought to produce "new knowledge by systematic inquiry with the collaboration of those affected by the issue being studied, for the purposes of education and taking action or effecting social change" (Green et al., 1995, p. 4). It centered the experiences of women of African descent specifically, newcomer mothers from Nigeria by providing

a space for them to share their culturally specific experiences and perspectives. These narratives offered insight into how food insecurity and changes in cultural foodways post-migration intersected with exclusionary social relations at both institutional and interpersonal levels. This study contributed a nuanced understanding of these intersecting issues within the urban Nova Scotian context of Halifax Regional Municipality (HRM).

3.3.1 Research Design

A qualitative multi-case study was an appropriate design for examining the experiences of food insecurity and cultural foodways among newcomer Nigerian mothers in Halifax Regional Municipality (HRM). Qualitative research is well-suited for studying social phenomena in-depth, as it facilitates the collection of rich, narrative data and employs a flexible, interpretive approach to inquiry (Moser & Korstjens, 2017).

A case study approach was chosen because it enables a comprehensive exploration of complex social issues within real-life contexts, allowing for nuanced and context-specific understandings (Crowe et al., 2011). Specifically, a multi-case study design was employed, with each mother representing an individual case. This approach not only captured the diversity of experiences among participants but also identified common patterns and themes across cases, providing a broader understanding of the population under study (Yin, 2014).

To enhance the validity and trustworthiness of the findings, participants were purposefully selected, and data were collected through multiple methods including individual interviews, cooking as inquiry sessions, and field notes, strengthened the study's credibility (Burns, 2012; Stake, 2006). Participants' engagement in the adapted Cooking as Inquiry (CAI) approach ensured a comprehensive

collection of qualitative data, combining personal narratives with group insights into the women's experiences of food insecurity, how their cultural foodways and practices had changed with their immigration to Canada, and how this had interacted with their food insecurity and coping strategies.

3.3.2 Study location

This case study was conducted in an urban area within Nova Scotia, specifically in the Halifax Regional Municipality (HRM). As the capital and largest municipality in the province, HRM also stands as the most populous urban center in Atlantic Canada (McCann, 2012). It consists of urban communities, including Halifax, Dartmouth, Bedford, and Sackville, but its boundaries also include several rural areas, such as Musquodoboit Valley, the Eastern Shore, and Prospect. Newcomers comprise 23%, 7.4% and 35.2% of the population in Canada, Nova Scotia, and HRM, respectively, with 30% of newcomers to Nova Scotia having arrived in the five years preceding the Census, i.e., from 2016 to 2021 (Government of Canada, Statistics Canada, 2022). The percentage of racialized individuals in the population was significantly higher in HRM (16.0%) than in other parts of Nova Scotia (Nova Scotia Department of Finance - Statistics, 2022).

This study's target population consists of women with young children who originally immigrated from Nigeria to Nova Scotia within the last five years (Government of Canada, Statistics Canada, 2017). Given that Nigerian newcomers represent approximately 44.7% of Black newcomers in the province, (African Nova Scotian Road to Economic Prosperity, 2024, p.13). Focusing on Nigerian newcomer mothers with young children is essential due to their significant demographic presence, unique cultural foodways, and heightened vulnerabilities, which makes them likely to face unique cultural and socio-economic challenges related to food insecurity (Lindsay et al., 2014).

3.3.3 Sampling Strategy

This study employed a purposive sampling strategy (Figure 3) to recruit newcomer Nigerian mothers who could provide meaningful insights into food insecurity and cultural foodways. The sampling approach was structured into two categories: Lead Participant Researchers (LPRs) and Cooking as Inquiry (CAI) Participants.

3.3.3.1 Sample size. In all, six Nigerian mothers with children ages 0-6 years who had migrated to Halifax within the past five years with current or previous experience of food insecurity (past 12 months) were recruited, ensuring an adequate sample size for in-depth qualitative case-study analysis and meaningful interaction with each participant while enabling a comprehensive exploration of individual experiences with a diverse range of perspectives.

The LPRs were newcomer Nigerian mothers (n=2) who participated in one-on-one interviews, sharing their experiences with food insecurity and cultural foodways in Canada. They also co-facilitated data collection during the CAI sessions.

The CAI participants, consisted of six mothers, including the two LPRs, all of whom took part in group cooking sessions.

3.3.3.2 Sampling Procedure and Recruitment. The study employed purposive sampling to identify participants with relevant experiences related to the phenomenon of interest (Palinkas et al., 2013). Recruitment was conducted from September 2024 to November 2024 through the Association of Nigerians in Nova Scotia (ANNS), a non-profit society established in 2017 to support the socio-economic, cultural, and civic interests of Nigerians in Nova Scotia. A recruitment poster detailing the study was sent to ANNS's community email, requesting permission to share it

on their social media platform; Once approved and circulated, 11 mothers contacted the researcher privately via either WhatsApp or email to express their interest to participate in the study.

Potential participants were subsequently contacted by telephone and completed a 15-minute researcher administered pre-screening questionnaire to determine their eligibility to participate in the study. The questionnaire included questions related to demographics (such as age, marital status, and number of children), socioeconomic status (including employment, income, and education), food insecurity (using selected items from the Household Food Security Survey Module [HFSSM] [Health Canada, 2012]), and cultural foodways (such as frequency of preparing traditional meals and access to culturally significant ingredients). While the primary purpose of the screening was to assess eligibility based on predefined inclusion criteria, some responses, particularly those related to food insecurity and cultural foodways, also informed the subsequent analysis. This structured approach ensured consistency and fairness in participant selection.

Following the screening, seven mothers met the inclusion criteria and were initially enrolled in the study. However, one participant later withdrew, resulting in a final sample of six mothers. The most common reason for ineligibility was residence outside the study area, with two mothers living in Cape Breton, where they were pursuing their studies. Additionally, two mothers were unable to proceed with the screening process because their responses to the Household Food Security Survey Module (HFSSM) (Health Canada, 2012) triggered an automatic skip pattern, leading to an early termination of the questionnaire and, consequently, their ineligibility for the study.

To ensure methodological rigor and inclusivity, recruitment for both LPRs and CAI participants occurred simultaneously, giving all eligible individuals an equal opportunity to engage in the study. LPRs were selected through a transparent and structured process designed to minimize

bias. Selection was entirely voluntary and based on participants expressed interest during pre-screening. Those who demonstrated a strong willingness to share their lived experiences and commit to all phases of the research, including semi-structured individual interviews, CAI sessions, were considered for the LPR role. Participants were not required to hold formal community leadership roles; however, previous involvement in Nigerian immigrant networks or informal leadership was seen as an added strength. Importantly, the selection process prioritized participants' readiness to engage deeply with the research rather than their external status, ensuring an inclusive, participant-driven approach that centered on eligibility, interest, and sustained commitment.

This structured and impartial approach to participant selection ensured fairness and inclusivity, allowing for a comprehensive exploration of food insecurity and cultural foodways among newcomer Nigerian mothers in Nova Scotia. LPRs contributed longitudinal insights through their ongoing involvement in all stages of the study, including individual interviews, CAI sessions, and follow-up discussions. To enhance the richness of the data and ensure a diversity of perspectives, additional participants were recruited specifically for the CAI sessions. This strategy maintained a manageable group size conducive to meaningful engagement in both dialogue and cooking activities.

Figure 3

Sampling Procedure
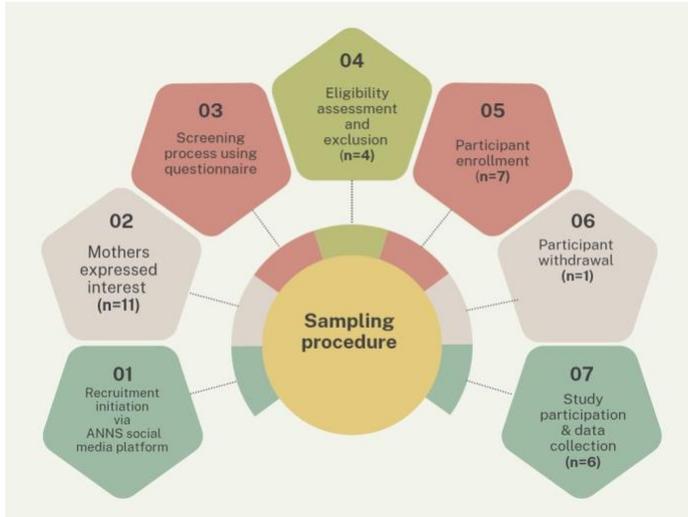
3.3.3.3 Study's Inclusion and Exclusion Criteria.

3.3.3.3.1 Inclusion criteria. Participants for the main study were recruited based on the following eligibility criteria to ensure the study accurately reflected the experiences of the intended population:

- Women who had immigrated to Canada from Nigeria.

- Mothers with at least one child between 0-6 years of age.

- Residents of Halifax Regional Municipality (HRM), Nova Scotia.

- Had lived in Canada for five years or less.

- Experience of food insecurity (current or within past 12 months).

- Willing to participate in cooking as an inquiry (CAI) session.

3.3.3.3.2 Exclusion criteria. Participants were excluded from the study if they met any of the following criteria:

- Women who had not immigrated to Canada from Nigeria.

- Mothers without at least one child between 0-6 years.

- Individuals who were not residents of HRM, Nova Scotia.

- Women who had lived in Canada for more than five years.

- Those without current or past experiences of food insecurity in the past 12 months.

- Individuals unwilling or unable to participate in the cooking as inquiry (CAI) session.

- Those who could not speak, read, or understand English sufficiently to engage in the study.

3.4 Data Collection Tools

This study employed three data collection tools: a pre-screening questionnaire that determined participant eligibility and collected socio-demographic information, an interview guide that facilitated one-on-one interviews with Lead Participant Researchers (LPRs), and a discussion guide that engaged participants in conversations during the Cooking as Inquiry (CAI) sessions.

3.4.1. Pre-Screening and Sociodemographic Questionnaire

This pre-screening and sociodemographic questionnaire played a dual role in the study. It served as a screening tool to ensure that participants met the eligibility criteria. It wasalso used to collect baseline sociodemographic and food security-related data, helping to contextualize the participants' experiences in relation to their socio-economic background.

The pre-screening and sociodemographic questionnaire originally developed by FoodARC's Dismantling stigma project research team was adapted for this study. The FoodARC questionnaire contained two parts:

- The 18-item Household Food Security Survey Module (HFSSM), which assessed the food security status of the participants.

- A 7-item sociodemographic questionnaire, which gathered demographic data and helped determine participant eligibility.

To better align with the objectives of this study, the sociodemographic questionnaire was modified (Appendix A) to include additional questions on:

- Cultural food security – to understand how participants accessed and maintained their traditional food practices.

- Household roles in food preparation – to explore responsibilities in meal planning and cooking.

- Income sources and immigration streams – to examine socio-economic factors influencing food security.

- Challenges in accessing culturally appropriate foods – to investigate barriers related to food availability and affordability in HRM, NS.

These modifications were made to capture the unique lived experiences of this population regarding food practices, adaptation, and cultural continuity. The questionnaire provided quantitative and descriptive data that informed the subsequent in-depth interviews and Cooking as Inquiry (CAI) workshops, ensuring a holistic understanding of food security and cultural foodways among participants.

3.4.2. Interview Guide for LPRs

The semi-structured interview guide (Appendix B) was used to facilitate in-depth interviews with Lead Participant Researchers LPRs. The guide consisted of open-ended questions designed to explore:

- Participants' understandings of food insecurity and its impact on their wellbeing.

- How they accessed food, particularly culturally significant foods.

- The importance of cultural food and how their food practices had evolved post-migration.

- Their experiences with social exclusion and the role of community support in mitigating food insecurity.

The semi-structured nature of the interviews allowed for flexibility, enabling participants to share personal narratives while also ensuring consistency in data collection across interviews.

3.4.3. Discussion Guide for Cooking as Inquiry Workshop (CAI)

The Cooking as Inquiry (CAI) workshop guide (Appendix C) was developed to facilitate discussions among all participating mothers (including the LPRs). The guide focused on:

- The role of food in shaping cultural identity and family traditions.

- Changes in food choices since immigrating to Canada.

- Challenges in accessing culturally important ingredients.

- The impact of financial stability on food choices and meal preparation.

By incorporating hands-on cooking activities with guided discussions, the CAI approach fostered an engaging, participatory environment where mothers could share their experiences and coping strategies related to these discussion topics.

3.5 Data Collection Methods

This study employed a multi-method data collection approach consistent with Yin's (2014) case study methodology. Data collection from the participants occurred across five key stages:

1. Pre-screening and Sociodemographic questionnaire: This screening tool ensured participants met the eligibility criteria and collected demographic data.

2. In-depth semi-structured interviews: Conducted exclusively with the LPRs, these interviews provided detailed personal narratives on food insecurity and cultural food experiences.

3. Cooking as Inquiry (CAI) workshops: These interactive group sessions involved participants preparing culturally significant meals while sharing personal food stories. Following the cooking activity, group discussions were facilitated to reflect on participants' experiences, explore cultural food practices, and discuss adaptation strategies in the context of post-migration food insecurity. The sessions encouraged collective reflection and embodied participation, fostering a supportive space for storytelling and knowledge sharing.

4. Participant observation

5. Memoing/ Journaling

These five stages are visually summarized in Figure 4 below, and each stage is subsequently described.

Figure 4

Data Collection Methods
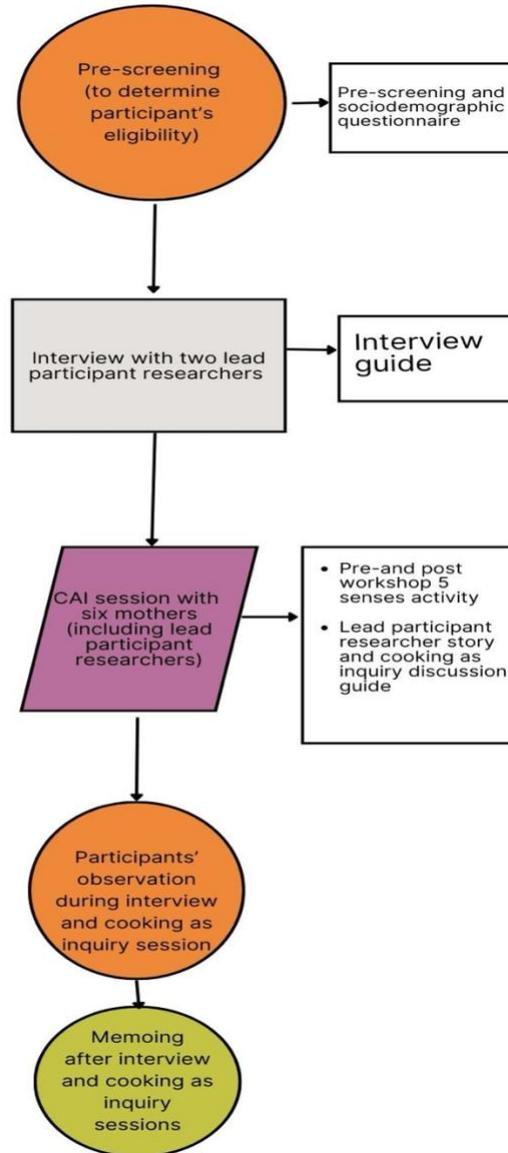
3.5.1 Pre-Screening

In this study, pre-screening interviews were conducted over the phone using the pre-screening and socio-demographic questionnaire provided in Appendix A. Participants scheduled a call at a time they found comfortable, ensuring they could be in a quiet and private environment due to the sensitivity of the questions. The researcher introduced the study and its objectives, obtained verbal consent, and marked responses as participants answered each question. The interviews lasted approximately 15–20 minutes. Those who met the eligibility criteria were invited to proceed with the study, while those who did not qualify were thanked for their time and informed that they would not be moving forward in the study.

During the pre-screening process, Lead Participant Researchers (LPRs) were identified to help foster trust, enhance participant engagement, and provide culturally relevant insights throughout the study. As described in Section 3.3.3.2, their selection was based on voluntary interest, demonstrated commitment, and active involvement in the Nigerian immigrant community.

3.5.2. Semi-Structured Interviews with Lead Participants

Each Lead Participant (LPR) participated in a one-on-one, semi-structured interview two weeks before their assigned Cooking as Inquiry (CAI) workshop. These interviews explored their lived experiences with food insecurity and cultural foodways, setting the stage for their role in the CAI session.

The semi-structured interview process was designed to create a safe and inclusive space for participants to share their experiences. The same approach was used for both interviews, with the

only difference being the location. The first interview was conducted at the public libraries in HRM. These locations were reserved a few days in advance to ensure a quiet and comfortable setting.

a. The session began with a warm welcome to ensure participants felt comfortable, followed by an overview of the study, including its objectives, confidentiality measures, and the participant's role. Participants received a list of community resources (Appendix G) available to support them. The consent form (Appendix D) was reviewed, clarifying data confidentiality and handling, and the right to withdraw at any time. Any questions were addressed before participants signed the consent form, formally agreeing to participate and to be audio recorded. Before beginning the interview, they received a $30 honorarium in appreciation of their time and contribution.

b. The research followed the semi-structured interview guide (Appendix B), allowing participants to share their experiences while the researcher used prompts to explore responses in greater depth. While interviews were audio-recorded for accuracy, handwritten notes were also taken to highlight key points and identify areas for further elaboration. Each interview lasted approximately 60-90 minutes and took place in a neutral and private study room at the participant's preferred library location.

c. At the end of the interview, participants were thanked for their time and informed that they would receive a verbatim transcript of their interview one week before the Cooking as Inquiry (CAI) session. This allowed them to review their responses and reflect on their experiences before participating in the CAI sessions. Any final questions or reflections were addressed before concluding the interview.

d. Following the interview, the audio recording was securely saved for transcription. A verbatim transcript was prepared for thematic analysis, and participants received a reminder a few days before the CAI session to review their transcript and prepare to share their experiences.

3.5.3. Cooking as Inquiry Workshops

As an embodied, participatory data-gathering approach that integrates food and cooking as sources of knowledge (Brady, 2011), Cooking as Inquiry (CAI) extends beyond verbal and visual narratives to include sensory and emotional dimensions of lived experiences (Lordly et al., 2012; Williams et al., 2017).

Data collection for this stage took place in December 2024. Two CAI sessions were conducted on separate days; each scheduled approximately three weeks after the one-on-one interview with a Lead Participant Researcher (LPR). The sessions took place at St. Andrew's Community Center in Halifax, Nova Scotia. Each four-hour session included one LPR and two additional Nigerian newcomer mothers, totaling three participants per session. The same structure and facilitation approach were used for both sessions.

a. Welcome, Framing, and Consent

Each session began with a welcome where participants were re-introduced to the study objectives. They reviewed and signed the consent form and confidentiality agreement (Appendix F), reinforcing the importance of privacy in group discussions. Participants received a handout listing community resources and were given an honorarium of $60 in appreciation of their time and contributions. The researcher also presented the workshop structure and guiding questions to establish a shared understanding of the session's purpose.

b. Facilitated "5 Senses" Activity

To initiate participant reflection, each session began with a "5 Senses Activity" to explore participants' home cooking experiences. Each participant received sticky notes and was prompted to reflect on the following sensory aspects of cooking:

- Sight – What do you typically see when cooking?

- Sound – What sounds do you associate with cooking?

- Smell – What aromas are familiar in your kitchen?

- Taste – How do you experience flavors while cooking?

- Touch – What textures do you notice?

Participants recorded their reflections on sticky notes, which helped center their attention on sensory aspects of food and set the tone for the interactive cooking experience. Some participants voluntarily shared their reflections during a brief discussion.

c. Preparing a Nigerian Meal Together

In each session, participants collaboratively prepared a culturally significant Nigerian dish. Meals were selected based on participant preferences, cultural relevance, ingredient availability, and feasibility within the session's timeframe. Recipes were reviewed as a group before cooking began. The dishes prepared were:

- Session 1: Poundo yam and egusi soup with smoked haddock and beef

- Session 2: Semo and Nigerian spinach soup with smoked haddock and beef

Participants took on different roles in the cooking process, allowing for shared engagement, conversation, and the exchange of techniques.

d. Storytelling and Facilitated Dialogue

While the food was cooking, the LPR shared her personal story, supported through a facilitated discussion process. She spoke about her experiences with food insecurity, cultural adaptation, and accessing traditional foods in Canada. This sharing created space for the other participants to reflect, ask questions, and contribute their own perspectives. After the story-sharing, the group engaged in a guided discussion using open-ended questions adapted from Appendix C, designed to explore cultural foodways, coping strategies, and community supports.

e. Shared Meal and Continued Discussion

Once the meal was prepared, participants sat down to eat together, continuing their conversation in a more relaxed setting. This part of the session created opportunities for informal dialogue and the building of community among participants.

f. post-cooking "5 Senses" Reflection

Following the meal, participants completed a second "5 Senses" activity. Using sticky notes, they recorded their sensory experiences during the actual cooking session using the same five prompts provided at the beginning of the workshop. This exercise allowed for comparison between their anticipated and real-time sensory experiences and reinforced the significance of sensory engagement in cooking and cultural connection.

g. Session Wrap-Up

The workshop concluded with a brief wrap-up discussion. Participants shared final thoughts on their experience and reflected on how the session influenced their understanding of food security,

cultural identity, and the importance of communal food practices. Leftover portions of the meal were packaged for participants to take home. Field notes and audio recordings were collected to document the session process and inform later analysis.

3.5.4. Participant Observation

Participant observation was conducted during the CAI sessions to capture nonverbal expressions, behaviors, and interactions that complemented participants' verbal responses. The researcher observed how participants engaged in the cooking process, interacted with one another, and responded to discussions, noting gestures, facial expressions, and body language that provided deeper insights into their experiences.

3.5.5. Memoing/Journaling

After each interview with the lead participants, the researcher recorded reflective notes, ideas, and insights through memoing to capture key themes and document nonverbal cues observed during the discussions. Additionally, memoing was conducted after each CAI session and other data collection activities to document observations, emerging themes, and researcher reflections. These notes captured participants' interactions, cooking processes, and any unexpected insights that arose during discussions, ensuring a comprehensive understanding of their experiences.

3.6. Methods/Strategies for Ensuring Rigor and Quality

3.6.1. Pretesting

Prior to the study, a pretest was conducted to ensure quality, dependability, and credibility (Hurst et al., 2015) by testing both the interview guide and the Cooking as Inquiry (CAI) workshop structure. Two mothers who met the study's eligibility criteria were recruited for the pretest, with one serving as the lead participant researcher (LPR). The interview was conducted in person at Mount Saint Vincent University (MSVU) in the Child and Youth Study boardroom (CAR 112), while the CAI workshop took place at Vincent's Restaurant at MSVU, where the LPR and the second participant engaged in the cooking and discussion.

This process was carried out to assess the effectiveness of the data collection instruments and procedures in capturing participants' experiences. Following the pretest, minor adjustments were made to refine interview questions for clarity, enhance discussion prompts during the CAI session, and ensure the overall structure effectively facilitated in-depth participant engagement.

3.6.2. Credibility

To ensure credibility, multiple data collection methods were employed. Interviews were audio-recorded, and participants were interviewed until no new information emerged. Triangulation strengthened the credibility and depth of the findings. The researcher utilized a combination of individual interviews and Cooking as Inquiry (CAI) sessions to gain diverse insights into how mothers navigated food environments and cultural food traditions. Data from both methods were compared by identifying commonalities and differences, cross-checking findings for consistency, and

integrating insights to provide a comprehensive understanding of participants' food practices and challenges.

3.6.3. Trustworthiness

Ensuring rigor and data quality in qualitative research is essential for producing credible and insightful findings (Johnson et al., 2020). This study employed key strategies to enhance transferability, dependability, and confirmability in data collection and analysis.

Transferability was addressed by providing detailed descriptions of the research setting, participant selection, and data collection methods. By clearly outlining the study context and demographic characteristics of participants, this research allows others to assess whether the findings may be applicable in similar settings.

Dependability was ensured through consistent data collection and analysis procedures. A structured approach was used for conducting interviews and Cooking as Inquiry (CAI) sessions, ensuring that data were collected systematically. Transcriptions were carefully reviewed for accuracy, and coding was conducted systematically using MAXQDA to maintain consistency throughout the analysis.

Confirmability was maintained by documenting all research decisions and ensuring that findings were derived directly from participants' responses. Reflexive journaling was used throughout the research process to acknowledge and critically reflect on the researcher's positionality, assumptions, and emotional responses. These written reflections helped minimize bias and guided ethical and interpretive decisions during data collection and analysis. Transparency was further

supported through a systematic coding process. Direct quotes from participants were used to support the study's conclusions, ensuring that the findings accurately reflect their experiences.

3.7. Data Analysis

Morse (1994) asserts that all qualitative analysis, regardless of approach, involves comprehending the phenomenon under study, synthesizing its relationships and linkages, theorizing about observed patterns, and recontextualizing findings within the broader knowledge base. This study employed a two-stage data analysis process, incorporating thematic analysis (TA) (Clarke & Braun, 2014) and within-case and cross-case analysis (Halkias et al., 2023). Data analysis was conducted using thematic analysis, and MAXQDA 24 (VERBI Software, 2024) was used to systematically code and interpret qualitative insights.

Data analysis began with a within-case analysis, where data from each participant's interview and Cooking as Inquiry (CAI) session transcripts, and field notes, were analyzed individually to explore personal experiences, unique insights, and key patterns.

Thematic analysis followed the process outlined by Braun and Clarke (2006), which included the following steps:

a. Transcription: Audio recordings were transcribed verbatim.

b. Familiarization: The researcher repeatedly reviewed transcripts and field notes to deeply engage with the data and identify emerging patterns.

c. Coding: Initial codes were generated to highlight key features relevant to the research questions.

d. Theme Development: Codes were organized into potential themes, which were reviewed for coherence and accuracy.

e. Reporting: Selected themes were written up with supporting participant quotes to reflect shared and divergent experiences.

A second stage of thematic analysis involved cross-case comparison to identify patterns that cut across individual cases, highlighting commonalities and differences in how participants navigated food insecurity and cultural foodways. This approach enabled a deeper understanding of shared structural challenges, culturally rooted coping mechanisms, and variations shaped by personal, familial, and contextual factors.

A reflexive process was embedded throughout analysis. As a Nigerian newcomer and researcher, I engaged in ongoing reflection to examine how my cultural background, assumptions, and positionality might influence interpretation. Practical steps included maintaining a reflexive journal, recording memos in MAXQDA after coding sessions, and discussing my reflections and coding choices with my co-supervisors to ensure clarity and consistency in the analysis. Reflexive memoing helped track interpretive shifts and ensure transparency. One surprising aspect of this process was how frequently mothers used cooking not just as a routine task but as a space of emotional release and cultural affirmation, even when resources were limited. This insight deepened the understanding of cultural foodways as active, resilient responses to structural barriers.

Together, the within-case and cross-case thematic analyses contributed to a nuanced understanding of how Nigerian newcomer mothers with young children navigate food insecurity.

This layered approach ensured both depth and breadth, enhancing the cultural sensitivity and trustworthiness of the findings.

3.8. Ethical Considerations

Ethical considerations are crucial to ensuring the protection and wellbeing of participants in this study. The research adhered to strict ethical guidelines to prevent harm, uphold participants' rights, and maintain the integrity of the research process.

Ethics Clearance This study was granted ethics clearance by the Mount Saint Vincent University Research Ethics Board (UREB) (Appendix I). The ethical approval ensured that the research adhered to the highest ethical standards in human research.

Informed Consent as part of this study, participants were provided with detailed information about the research, including its objectives, procedures, potential risks, and benefits. An approved informed consent form (Appendix A) was provided to participants, which they voluntarily signed before participation. These forms emphasized respect and concern for participants' welfare, ensuring that they were fully informed before making a decision to participate. Participants were also made aware of their right to withdraw at any time without any consequences or loss of benefits.

To protect participants' privacy and confidentiality, all data collected including interview recordings, transcripts, and findings were securely stored on a private, password-protected computer. Participants' identities were anonymized in all research outputs, ensuring that no personally identifiable information was disclosed. Throughout the research process, strict data management protocols were followed to maintain confidentiality and prevent unauthorized access.

Participation in this study was entirely voluntary. Participants were not coerced or pressured into joining the study, and they were given ample opportunity to ask questions and seek clarifications before deciding to participate. They retained the right to withdraw from the study at any point without needing to provide a reason, and without facing any negative consequences. Their decision to withdraw did not affect their access to any resources or services.

To acknowledge the time and effort participants contributed to the study, they were reimbursed for their participation. Compensation included a small honorarium as a token of appreciation. The reimbursement was not intended to serve as an incentive but rather to ensure that participation did not impose any financial burden on the participants.

4.0 Results and Discussion

4.1 Introduction

This chapter presents the findings from the data collected through two individual interviews with the Lead Participant Researchers and two Cooking as Inquiry (CAI) sessions. Each CAI session involved one Lead Participant Researcher and two other Nigerian mothers who have recently immigrated to urban Nova Scotia (Halifax Regional Municipality, HRM). In total, six Nigerian mothers participated in this study. All participants met the study's inclusion criteria: they were Nigerian-born women residing in HRM, had at least one child under six years of age, had lived in Canada for five years or less, could speak and understand English, and were willing to discuss their food-related experiences and financial situations.

Starting with an overview of the socio-demographic characteristics of participants in Section 4.2, the subsequent study findings are organized into sections that align with the research objectives and address the central research question; within each section the themes that emerged from data analysis are presented and discussed. To ensure the voices of the participants remain central to the analysis, this chapter integrates direct quotations and narratives from participants throughout. These first voice accounts are used not only to illustrate the thematic findings but also to provide insight into the complexity and depth of their experiences. This approach supports a participatory and reflexive interpretation of the data, helping readers navigate the participants lived realities while connecting them with broader academic and policy discussions. In presenting the findings, discussion is integrated within each theme to allow for immediate interpretation, support coherence, and highlight connections with relevant literature and contextual understandings.

4.2 Socio-demographics Characteristics of Study Participants

Consistent with the recruitment criteria, all participants in this study are Nigerian mothers who have resided in Canada for five years or less, live in the Halifax Regional Municipality (HRM), and have at least one child aged six years or younger, experiencing food insecurity. The participant mothers' ages ranged from 31 to 42 years; their children were between 2 and 11 years of age (Table 2). The participants' time in Canada varied from 8 months to 3 years, and their immigration pathways included work permits, study permits, and permanent residency (PR). Below is a summary of the socio-demographic characteristics of the study participants:

Table 2

Demographic Characteristics of the Study Participants

No.	Participant (Pseudonyms)	Age of Participant	Age of Children (years)	Time in Canada post-migration	Immigration Pathway
1	Adanna	31 years	5, 5month	1.3 years	Work permit
2	Adewunmi	39 years	11,5	3 years	Study permit
3	Aisha	38 years	10, 6	1.8 years	Work permit
4	Abioye	42 years	7,5	1.5 years	Study permit
5	Adaeze	39 years	11,8,5	3 years	Permanent residence
6	Aminat	38 years	6,4,2	8 months	Permanent residence

Note. Participants pseudonyms were used to protect participant confidentiality. Participant's age and children's age were self-reported. Time in Canada refers to the number of years since the participants'' arrival. Immigration status was categorised based on self-reported data during screening.

4.3 Study Findings

This section discusses the experiences of food insecurity among newcomer Nigerian mothers with young children, including the contributing factors and coping strategies they adopt. It also explores their post-migration cultural foodways experiences, examining how their traditional food practices evolve after settling in Canada. Additionally, it investigates the role of cultural foodways in shaping food (in)security for these mothers and their families, highlighting how cultural food practices influence their access to and consumption of food to provide a deeper understanding of how these mothers navigate food access, cultural identity, and social belonging in their new environment. The key themes from the study are identified in Figure 5 below.

Figure 5

Themes and Key Insights on Food insecurity, Cultural Foodways, and its Impact on Wellbeing among Newcomer Nigerian Mothers.
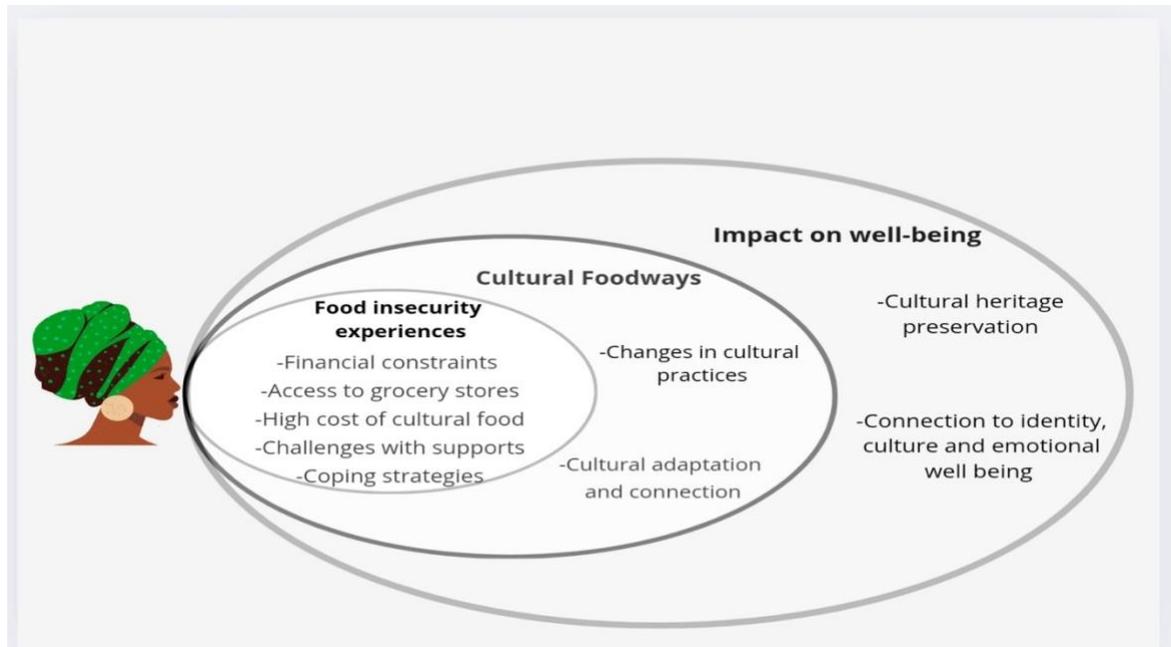
Note. This figure summarizes major themes and subthemes identified through thematic analysis, *highlighting how cultural foodways shape food access and influence emotional and physical wellbeing.*

4.3.1. Food Insecurity experiences Among Newcomer Nigerian Mothers

Newcomer Nigerian mothers in this study described household food insecurity (HFI) as a multifaceted and persistent issue shaped by complex interactions across personal, community, structural, and cultural systems. Their experiences extended beyond the absence of food to include difficulty accessing nutritious and culturally familiar meals in a new environment defined by limited

income, unfamiliar systems, and structural barriers. These findings can be understood by applying Bronfenbrenner's Ecological Systems Theory, which situates individuals within interrelated environmental systems (see section 2.7.1); the microsystem (home and family), mesosystem (community and support networks), exosystem (public policies and institutional supports), macrosystem (cultural norms and societal ideologies), and chronosystem (change over time)(Bronfenbrenner, 1977, 1994). Situating the study findings within Ecological Systems Theory reveals how the participants' experiences of HFI was shaped not just by individual circumstances but by broader systemic forces influencing their resettlement, their access to cultural food security, and their relationship to food.

A major contributor to HFI for the participants in this study was financial instability. This financial strain was shaped by limited access to stable employment, high living expenses, and the rising cost of food in urban Nova Scotia. Participants frequently spoke of difficult trade-offs, such as prioritizing rent and utility bills over purchasing nutritious and culturally familiar food. These decisions were especially challenging in the early stages of resettlement when employment opportunities were limited or inconsistent.

As Aminat described, When we first came, we were not working for like one month. My husband did not have a job. We were just eating the dried food we brought from Nigeria. We couldn't afford fruits or vegetables because everything here was expensive.

Adaeze echoed a similar concern: I just got a small job that I'm managing right now. My husband does most of the work. Like my fellow mother [referring to another participant] said, the rent is expensive, it takes most of the money, along with other bills.

These accounts reflect the persistent stress associated with trying to provide for one's family on limited income, particularly when adjusting to a new environment. This financial pressure is situated within the exosystem, where broader economic policies, immigration regulations, and labor market barriers limit access to stable income. Within the microsystem, gender roles and caregiving responsibilities intensify the burden of securing food, especially for mothers who are the primary household food providers.

These financial pressures led families to prioritize essential bills such as rent, often at the expense of food. This finding aligns with research by Tarasuk et al. (2020), who found that low income and housing costs are major drivers of food insecurity among immigrants in Canada. Within the context of the current study, financial instability also intersected with participants' roles as caregivers and newcomers navigating unfamiliar systems, limiting their ability to consistently access nutritious and culturally meaningful food for their families. This layered vulnerability highlights the need for newcomer-focused support that is not only financial but also culturally responsive.

Beyond financial constraints, participants described challenges related to physically accessing grocery stores that sell culturally appropriate food. Despite living in an urban setting, many mothers reported that African grocery stores were limited in number and often located far from their neighborhoods. This made it difficult to consistently access the ingredients needed to prepare traditional meals, especially for those without reliable transportation or with busy caregiving schedules.

Abioye shared her experience: Homemade [cultural] food, it's not that easy to get. There are just a few African stores with the foods we need. Sometimes, I plan to buy something like

yam [a Nigerian staple], but I get to one store and it's not available. Then I have to go to another one—it becomes stressful.

These reflections show how limited availability, not just affordability, shaped the food insecurity experiences of newcomer mothers. This aligns with studies by Sanou et al. (2014) and Vahabi and Damba (2013), which highlight that even in urban areas, immigrant families often face geographic and logistical barriers to accessing culturally significant foods. In this study, the stress and time required to obtain familiar ingredients often disrupted meal routines and contributed to a deeper sense of isolation during the resettlement process. These intersecting vulnerabilities demonstrate how the mesosystem and exosystem shape access to essential services and supports.

An additional barrier to food security was the high cost of culturally appropriate foods, which further constrained participants' ability to maintain their traditional diets. Even when staple ingredients such as yam, palm oil, or dried fish were available in African grocery stores, the elevated prices of these foods often made them inaccessible for everyday use.

As Abioye shared,Even palm oil, just a small bottle, is almost ten dollars. It's hard to keep cooking the way we used to with prices like that. These price-related limitations were not only frustrating but emotionally disorienting, as mothers had to adapt meals that once held deep cultural and personal meaning.

For Adanna, the regional price disparity was also a concern: Yam is quite expensive here in Halifax, while it is very affordable in the Toronto, ON area.

For Aisha, the cost of food intersected with religious observance: I'm a Muslim, and we're supposed to eat only halal meat. But most stores don't have it, and getting halal food is crazily expensive compared to our home country.

These reflections show how economic barriers to cultural food access often led to a disruption in traditional food practices and heightened a sense of disconnection from cultural and religious identities. As noted in prior studies (Hadley et al., 2010; Slater et al., 2017), the inability to afford culturally appropriate foods reinforces dietary compromises that are not simply nutritional but emotional, social, and symbolic in nature. These challenges reflect macrosystemic neglect of cultural diversity within food systems, where the high cost and low availability of culturally significant items perpetuate exclusion.

Navigating HFI required constant decision-making and adjustment for the participants in this study. Despite limited income, unfamiliar food environments, and competing responsibilities, these mothers developed strategies to ensure their families had enough to eat, strategies shaped by a desire to uphold cultural food traditions while managing daily financial and logistical constraints.

Aisha explained, Now when I go to the store, the first thing I check is what's on sale. I even go to the customer desk to ask. You just have to rely on sales.

Adanna shared a similar approach: When we have some money, we buy bags of rice or stock up on oil. It lasts longer, so we don't have to worry as much week to week. For many, the act of planning meals became centered on what was discounted or available in bulk, rather than nutritional value or personal preference.

Despite these limitations, participants prioritized meals that could still reflect their cultural identity, even if in modified forms. These adaptive strategies reflect the chronosystem, illustrating how mothers modified their food practices over time based on evolving experiences and constraints during resettlement. Immigrant households in Canada have been found to experience food insecurity as an ongoing and evolving challenge, often shaped by length of time since arrival, economic hardship, and

limited access to culturally appropriate foods (Berggreen-Clausen et al., 2022). This underscores the need for culturally responsive and time-sensitive policy interventions that recognize the shifting realities of immigrant families during resettlement.

Beyond individual efforts, some mothers turned to collective solutions through informal community support.

> Abioye described one such initiative: *We now have a WhatsApp group where we buy meat, fish, pepper, and most African food stuff in bulk and we share it amongst ourselves.*

These peer-based strategies reflect a deep sense of solidarity and mutual aid, which helped participants navigate food access challenges more effectively. However, the reliance on such informal networks also highlights gaps in the formal food system, where culturally appropriate support was often unavailable. These communal responses exist within the mesosystem and illustrate how community ties offer practical and emotional support in the absence of responsive institutional systems. For some participants, food banks served as a temporary strategy to manage urgent food needs and redirect limited income to other essential expenses. While not the preferred option for many, food banks were used, when necessary, especially during times of financial strain.

> Adewunmi explained, I came as an international student with my two kids, and my husband had to stay back in Nigeria. I had to rely on the food banks, especially my school's food bank, to be able to save money for my school fees.

This shows how food banks functioned as one of several strategies participants employed to support their households. Rather than relying on them regularly, most used them sparingly and intentionally as a supplement to other approaches, such as shopping sales, bulk-buying, and sharing food through informal networks.

These findings align with existing research by Hutchinson and Tarasuk (2021) and Naeem et al. (2023), which show that households experiencing food insecurity frequently engage in time-intensive and emotionally demanding practices to manage their circumstances. In the context of this study, these varied coping strategies, both informal and formal illustrate the resilience of newcomer mothers but also point to the need for systemic solutions that do not rely so heavily on individual effort and community resourcefulness. This also highlights the limitations of various supports within the exosystem, such as food banks and settlement services, which often lack cultural responsiveness and place the burden of adaptation on the individual rather than addressing structural barriers.

Although food banks served as temporary support for some participants, their use was not without challenges. Mothers described the difficulty of finding culturally appropriate foods, which limited what they could prepare and serve at home.

Abioye shared, I've been to the food bank, they were polite, but most of the food wasn't what I'm used to. I could only pick tomato paste and fruits because I don't eat the other food stuff I saw there.

This lack of culturally relevant food often made the support feel incomplete and, at times, emotionally distressing. In addition to the food mismatch, several participants described the process of accessing food banks as burdensome. Long wait times, early arrivals, and detailed paperwork created stress, particularly for mothers balancing caregiving and study.

Adewunmi explained, The queue was so long. I had to be there by 6 or 7 a.m. just to get food, and they made you write down all your personal details. It felt like an invasion of privacy.

Aisha added, They made the process so tedious. It made me feel like I was begging for food.

These findings highlight that, even when food banks provided needed assistance, the experience was often accompanied by feelings of stigma, dependency, and a lack of dignity, reflecting broader critiques in the literature about the limitations of charitable food models (Tarasuk et al., 2014) Participants' accounts reflect the emotional and cultural disconnection of navigating a support system that often felt impersonal and misaligned with their needs. This aligns with findings from Munger et al. (2014) and Lambie-Mumford & Dowler (2014), who suggest that food charity models can unintentionally undermine dignity, especially for culturally diverse users. This reinforces the macrosystem's role in shaping dominant narratives around food assistance and highlights the lack of culturally grounded policies and programs. In the Canadian context, where multiculturalism is a core value outlined in the Canadian Multiculturalism Act (Government of Canada, 1988) and immigration policies actively attract newcomers to support economic growth and demographic needs (Government of Canada, 2023), the absence of inclusive food support systems raises concerns about equity and integration.

4.3.2 Post-migration Cultural Foodways Experiences of Newcomer Nigerian Mothers

Food practices shifted significantly following migration for the newcomer Nigerian mothers in this study. While cooking remained a meaningful cultural activity, the process of preparing traditional meals required ongoing adaptation. Participants described a gradual transition from familiarity to experimentation as they adjusted to new routines, unfamiliar ingredients, and evolving family preferences. These adaptations reflect not only changes within the household (microsystem) but are also influenced by exosystemic constraints such as food availability and broader market structures, and by chronosystemic processes of adjustment over time.

Adanna shared her early experience after arriving in Halifax, saying, When I first relocated to Halifax, I was not familiar with how to get my cultural swallow [a thick paste made from yam or cassava flour] here. I started using unripe banana from grocery stores to make it. Although it did not taste the same as what we have back home in Nigeria, it was something close.

Her story reflects a broader pattern among participants who modified recipes or used locally available ingredients to maintain familiar dishes. These changes were driven less by choice and more by a desire to hold onto cultural identity through food.

Many mothers reported improvising with vegetables, flours, and cooking methods to recreate the flavors of Nigerian meals.

Adanna explained further, Later, I found African stores, but not all sell yam flour, and there is no Nigerian semolina. I started using yellow corn flour from the grocery store. We also mix kale and spinach together to make vegetable soup to get a similar taste to the ones we eat back home [Nigeria].

These adaptations were not only practical but emotional, revealing efforts to preserve a sense of home and comfort within new constraints. These shifts also underscore how the exosystem through food market access and transportation affects cultural food practices. For others, dietary adaptation also created opportunities to explore new foods and improve nutrition.

Adewunmi reflected, When I was in Nigeria, there was no[t] much variety of fruits, and the special ones like cherry, strawberries are more expensive. But here in Canada, I find there are more variety of fruits and veggies which are cheaper compared to Nigeria, it [is] easier to include fruits and vegetables in our meals. It also made me more intentional about what my children eat.

Her experience, similar to other participants', illustrates how migration sometimes prompted positive shifts in food habits, particularly when healthy items became more accessible and affordable. This suggests that while some aspects of the food environment (exosystem) may pose barriers, others can offer opportunities for improved nutrition, especially when mothers gain familiarity over time (chronosystem).

Changes in food practices were often shaped by family dynamics, particularly the influence of children. Several mothers observed that their children quickly developed a taste for Canadian foods introduced at school or daycare. To accommodate their preferences, participants reported blending Nigerian and Canadian meals or introducing Western foods at home.

Aisha shared, There are some things we normally eat back home that I avoided when I first arrived. Now I have to use the Canadian milk, which I did not like before.

Her voice reflects how necessity and family needs often override personal preferences. Here, we see the microsystem and mesosystem intersecting—where school environments influence children's preferences, which in turn affect home food practices.

Beyond the technical changes in food preparation, participants also reflected on how these evolving practices affected their sense of cultural connection, particularly in relation to their children and family life. Many mothers expressed concerns about their children losing connection to Nigerian food traditions.

Abioye shared, I try to cook Nigerian food at home so that my children will grow up knowing the taste and how to make it. I do not want them to forget where we come from.

Aisha echoed this, saying, Even if they eat Canadian food outside [the home], at home I make sure they eat Nigerian meals. It is my way of keeping our culture alive.

These reflections show how the macrosystem through dominant cultural norms and the pressures of assimilation can challenge the preservation of cultural identity. Mothers respond by reinforcing cultural continuity within the microsystem of the home. For some, however, this cultural preservation felt increasingly difficult.

> Aminat noted, My first child is the only one that likes eating African food because she was six when we left. But my younger kids, four and two, were not used to that food before we left. Now, they are enjoying KFC.

This shift illustrates a generational divide in food preferences, where older children who had stronger roots in Nigeria remained connected to cultural foods, while younger ones, exposed early to Canadian food culture, gravitated toward local options. This emerging cultural transition change highlights chronosystemic influences, showing how time and life stage shape children's relationships with cultural foodways. While some mothers resisted these changes, others found a balance that worked for their families.

> As Adaeze explained, For me, it is mixed. My kids eat African food today, Nigerian food. That is good. Tomorrow, if it is Canadian, it is okay too, to some extent.

This flexibility allowed participants to maintain elements of tradition while accommodating change, reflecting an approach aligned with integration rather than complete assimilation. This process reflects the mesosystem in action where influences from school, peers, and home interact and the chronosystem as families adjust practices over time based on evolving circumstances.

> While participants expressed concerns about the influence of their children on household food preferences, these generational differences should be interpreted with caution. The age range of children in this study (2 to 11 years) suggests they are still in the formative years where parental

influence on food habits remains strong. Rather than representing a definitive generational shift, the findings suggest early signs of cultural negotiation, as children begin to blend traditional Nigerian foods with Canadian preferences. Differences in food preference were often framed by participants as developmental or situational such as school exposure or peer influence, rather than as a rejection of cultural identity.

These experiences align with Tarraf et al.'s (2017) acculturation framework, which suggests that migrants often adopt strategies that combine heritage and host country practices. For the mothers in this study, food became a space of cultural negotiation where memory, identity, and adaptation intersected. Their kitchens were spaces of resilience, where cultural preservation occurred not through strict adherence to tradition but through flexible, creative, and often emotional processes.

As Aminat shared, I use spinach here instead of ugwu [fluted pumpkin]. It's not the same, but I try to make it feel like home—my children still know it's our food.

These findings underscore how the ecological layers from individual decisions in the microsystem to broader influences in the macrosystem interact in shaping food practices that uphold cultural identity while navigating a new life in Canada.

4.3.3 The Role of Cultural Foodways on the Food (In)security of Newcomer Nigerian Mothers

Beyond the physical act of eating, participants emphasized the deeper meanings attached to food, its role in maintaining dignity, cultural identity, and emotional wellbeing. As the women navigated unfamiliar food systems in Canada, the absence or modification of traditional meals often created a sense of loss that extended beyond the plate. For many, food was not only about survival but about sustaining a way of life that anchored them in their values and familial roles.

There is no amount of Canadian or English food that I eat that will feel good or feel satisfying, Aminat explained. "No matter how good the food is, I do not feel satisfied at all. If I do not eat swallow in a week, I will fall sick.

This finding shows that food insecurity for participants was not only linked to financial constraints or availability of culturally appropriate foods, but also to the erosion of cultural practices that bring a sense of wholeness and connection. This emotional and symbolic loss is situated within the microsystem and macrosystem, where personal identity and societal values intersect, affecting participants' ability to feel culturally grounded in.

This is significant because it shifts the discourse on food security beyond mere access and affordability to include emotional and cultural dimensions. When culturally meaningful meals are absent, the feelings associated with food insecurity are intensified, not only in the stomach, but in the self. These nuances became visible through Cooking as Inquiry, which allowed mothers to express relationships to food in embodied ways that words alone may not have captured. In preparing and narrating their meals, participants showed how cultural foodways are tied to memory, resilience, and everyday resistance. These insights align with Vahabi and Damba (2013), who argue that immigrant food insecurity must be understood holistically, including the cultural unacceptability of food as a form of exclusion. These findings reflect how cultural disconnection within the macrosystem can reinforce food insecurity, particularly when institutional food systems such as food banks, school meal programs, and public health nutrition services fail to recognize or support cultural diversity in food choices. to recognize or support cultural diversity.

Participants also described how disruptions to cultural foodways affected the emotional rhythms of daily life. When they could not prepare traditional meals, mothers expressed feelings of unease, disorientation, or frustration. Aisha shared during a CAI session,

> Food is part of who we are. When I can't cook what [cultural food] we are used to, it feels like something is wrong with the day.

This reveals that cooking familiar meals was not just about taste or preference; rather, it offered structure, agency, and a way to hold onto cultural identity amid constant adaptation. Such experiences within the microsystem demonstrate how emotional wellbeing is tied to routine and meaning making, especially during and beyond periods of transition, as ongoing disruptions to cultural foodways can continue to affect daily life and identity.

This finding matters especially within the context of racialized migration. It highlights how immigrant mothers must negotiate their cultural values within systems that often marginalize non-Western foodways. Standardized food programs, whether in secondary schools, university campuses, shelters, or food banks, rarely account for cultural significance (Hamelin et al., 2002; Slater et al., 2018; Vahabi and Damba, 2013), reinforcing the sense of invisibility, powerlessness, and social exclusion that newcomers often experience. As noted by Hamelin et al. (2002), HFI is not only about lack of access but also about the emotional impact of exclusion and constrained choices. For the mothers in this study, cultural foodways were not merely about nourishment. They served as essential tools for preserving dignity, reinforcing identity, and reclaiming a sense of agency within unfamiliar environments. This aligns with Maslow's hierarchy of needs, where secure access to culturally meaningful food supports higher-level needs, such as belonging, esteem, and self-actualization (Adler, 1977). This dynamic also connects to the exosystem, where broader service frameworks and

administrative decisions often neglect cultural inclusion, further contributing to the marginalization of immigrant families.

Participants also reflected on how the dilution of traditional food practices among their children contributed to a sense of cultural loss.

My first child is the only one that likes eating African food because she was six when we left, Aminat said. But my younger kids, four and two, were not used to that food before we left. Now, they are enjoying KFC.

Mothers expressed concern about their children's shifting food preferences, not only because of nutrition, but because food is a carrier of cultural knowledge. When children rejected these meals, it was experienced as a symbolic distancing from their roots. This cultural transition aligns with the chronosystem, showing how time and age-related transitions influence the preservation of food traditions across generations. ven as some mothers integrated new food choices, they remained intentional about preserving cultural meals.

We now include more fruits and vegetables, which are easier to find here, said Adewunmi, but I still make sure my children eat Nigerian food at home.

These hybrid practices reflect not just adaptation but active cultural negotiation, balancing health, affordability, and tradition. This finding aligns with Tarraf et al.'s (2017) acculturation framework, which emphasizes integration as a strategy where migrants retain key aspects of their heritage culture while also incorporating elements from the host society. However, mothers emphasized that these shifts could not replace the deep emotional and symbolic value of their cultural foodways, suggesting that integration does not diminish the centrality of cultural identity in food practices.

Ultimately, the inability to maintain cultural food practices consistently contributed to a deeper sense of food insecurity. This finding is critical because it shows that dignity, identity, and belonging are core aspects of what it means to be "food secure." Yet, these dimensions are often absent from how food insecurity is measured or addressed in Canada. As Sanou et al. (2014) argue, culturally inappropriate food systems can reinforce marginalization rather than alleviate it. For the mothers in this study, true food security meant the ability to prepare and share food that nourished not just the body, but also the spirit, memory, community, and their sense of autonomy and agency. This perspective reinforces the importance of policy and program responses that reflect the full ecological context of newcomers' lives, particularly the need for systemic change at the exosystem and macrosystem levels to promote true equity and inclusion.

A significant contribution of this study lies in its articulation of cultural food security as a distinct yet interconnected dimension of HFI. Participants consistently emphasized that food insecurity was not only about quantity or nutrition, but also about cultural continuity and emotional connection. The absence of familiar ingredients and meals was experienced as a form of cultural loss and marginalization. These findings affirm that cultural food security deserves independent consideration in both measurement and policy. Measuring food insecurity solely through financial or caloric access risks obscuring deeper issues of exclusion. A cultural lens is essential to fully understand how food practices sustain identity, belonging, and resilience. This study reinforces the need to broaden the concept of food insecurity to include cultural access, and to develop tools and policies that reflect the lived realities of immigrant families.

4.4 Reflections on the Cooking as Inquiry Approach

The Cooking as Inquiry (CAI) approach provided a rich, embodied dimension to the research that deepened both participant expression and researcher understanding. Unlike interviews alone, CAI allowed participants to engage with their cultural identity through action—cooking, tasting, and sharing food. These sessions brought forward stories that were deeply emotional, often emerging spontaneously through the rhythm of food preparation.

As the researcher, I witnessed moments of laughter, sadness, and reflection that would have been difficult to capture in a more formal interview setting. Participants reported that cooking together made them feel less alone in their struggles. The process enabled them to articulate that their experiences were not rooted in personal failure, but in structural barriers. One participant noted;

> I used to think it was just me, like I wasn't managing well. But hearing others and talking while cooking, I realize the problem is bigger and not about me.

CAI offered emotional release, community bonding, and insight into the importance of food as a language of resilience. For the participants, it was not only a research method but also a shared cultural space of recognition and healing. The CAI approach affirmed that food is not only a source of nourishment but a vehicle for storytelling, solidarity, and de-stigmatization. During the sessions, participants prepared traditional Nigerian dishes such as jollof rice, egusi soup with pounded yam, and pepper soup. These meals held strong symbolic meaning for the mothers. For them, preparing and eating these dishes together recreated a sense of home and belonging. One mother said, "Making egusi with others reminded me of when we used to cook together as a big family back in Nigeria. I haven't felt this connected in a long time." Another reflected on how seeing her child enjoy the food

gave her a sense of pride and continuity, an assurance that her culture was still alive despite being far from home.

However, sourcing culturally relevant ingredients for the CAI sessions presented several challenges. Items such as dried stockfish, authentic seasoning cubes, egusi (melon seeds), and locust beans (iru) were either unavailable in local stores, very expensive, or not as fresh as needed. To address this, I had to be proactive. Once the participants selected the meals, about a month before the CAI sessions. I began sourcing ingredients early. While I purchased some items from local African stores, I arranged for others to be shipped directly from Nigeria to ensure freshness, authenticity, and affordability. Shipping ingredients such as gusi and locust beans from Nigeria was not only more cost-effective but also allowed us to use products that closely resembled what participants would have used back home. This process, however, highlighted a key issue echoed by many mothers in the study: the difficulty of accessing fresh, affordable, and culturally familiar foods in Canada. These sourcing challenges mirrored the broader systemic barriers that impact the food choices and cultural food security of newcomer families.

4.5 Summary of Key Findings

This study explored the experiences of food insecurity and cultural foodways among newcomer Nigerian mothers with young children living in Halifax Regional Municipality, Nova Scotia. The research examined how post-migration changes in cultural foodways influence food security.

The findings revealed that the food insecurity experienced by the participants was shaped by an interplay of financial constraints, structural barriers such as limited access to affordable housing

and transportation, and the lack of availability of culturally appropriate foods. Limited employment opportunities, the high cost of living, and inflation further restricted their access to nutritious and culturally significant foods. The scarcity of African grocery stores and the high cost of cultural ingredients intensified these challenges. In addition, Muslim participants faced difficulties in accessing affordable halal food, contributing to their sense of exclusion and dietary limitation.

The participants' experiences, as illustrated by this multi-case study approach, demonstrated how these intersecting barriers significantly impacted their ability to maintain their cultural foodways. This disruption went beyond changes in food consumption. It affected their daily routines, relationships to food within the household, emotional well-being, and ability to pass cultural practices on to their children.

Participants adopted various coping mechanisms to manage food insecurity, including adjusting shopping habits, modifying traditional recipes based on available ingredients, and using food banks. However, food banks were often unable to provide culturally appropriate or familiar food items. This limitation forced participants to adapt not only their diets but also their food patterns and relationships to food within their households. For many, this meant compromising on meals that once held deep emotional and cultural meaning.

Despite these challenges, maintaining cultural foodways remained essential. It fostered a sense of identity, emotional resilience, and cultural continuity. For the mothers, cooking and sharing culturally meaningful meals created stability, comfort, and belonging in unfamiliar surroundings.

The study also highlighted the psychological and social impact of food insecurity. Mothers expressed feelings of stress, cultural disconnection, and guilt when they were unable to prepare traditional meals for their families. This guilt often stemmed from feeling they were failing in their

maternal roles, which for many included the responsibility to provide nourishing and culturally familiar meals, maintain food-related traditions, and nurture their children's connection to cultural identity through food.

Some participants also described feelings of shame, particularly when accessing food banks or being unable to meet social expectations around food preparation and hospitality. These emotional responses deepened the sense of exclusion and loss experienced by participants.

Nevertheless, participants drew strength from informal social networks, shared cultural knowledge, and community-based programs. These supports helped them navigate food insecurity, maintain aspects of their cultural foodways, and regain a sense of control and agency in their everyday lives.

The figure below visually synthesizes the key themes that emerged from participants' experiences, highlighting the layered impact of cultural foodways, emotional wellbeing, and systemic barriers on food security.

Figure 6

Factors influencing food security among newcomer Nigerian mothers in Halifax Regional Municipality.
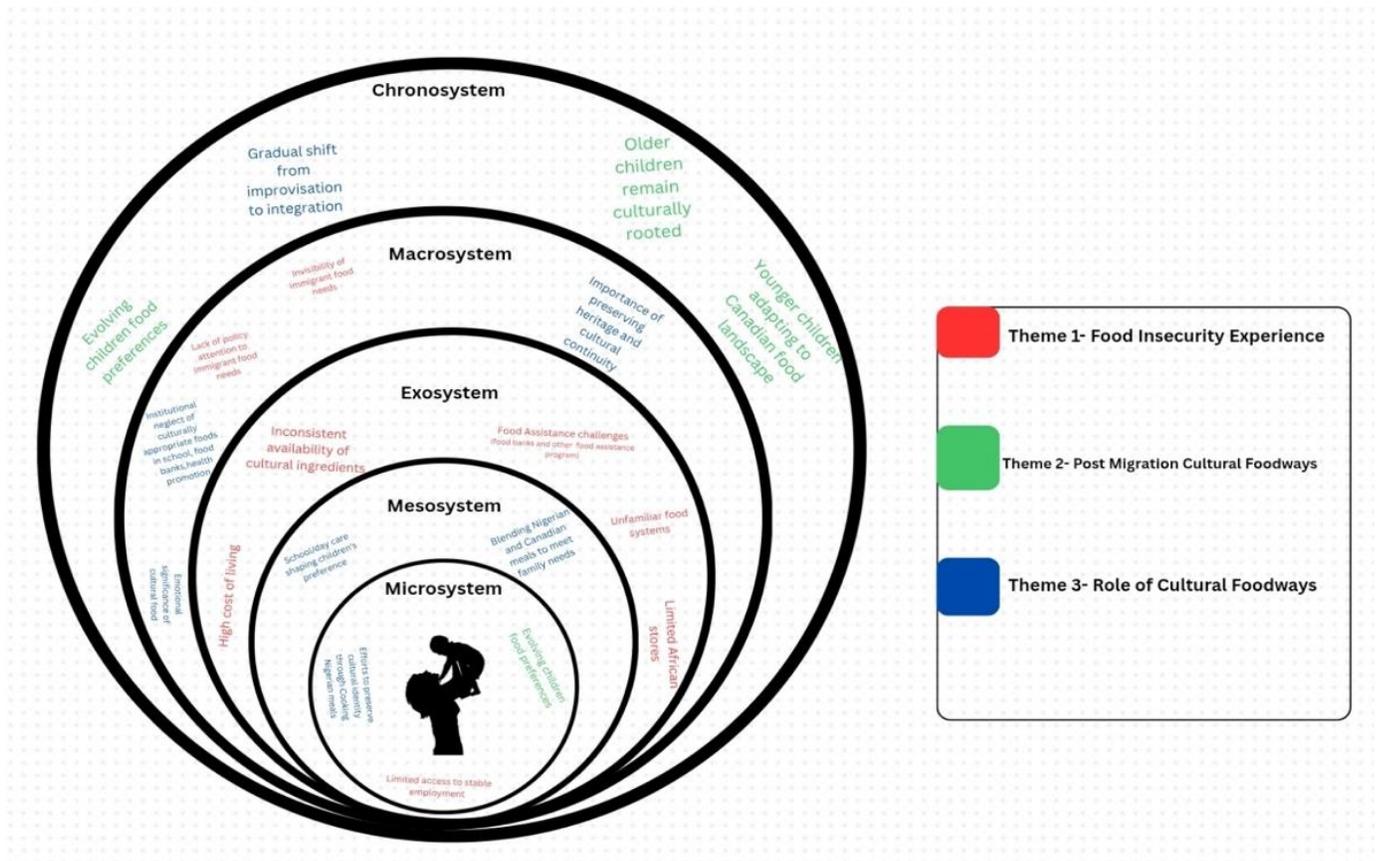
Note. **This figure summarizes the major factors that influence food security among newcomer Nigerian mothers. The color coding represents each theme and highlights their interrelationships.**

4.6 Limitation of Study

Several limitations influenced the scope and interpretation of this study. First, while the multi-case study design aimed to provide rich, in-depth insight into the experiences of newcomer Nigerian

mothers, the findings are based on a small number of participants living in urban Nova Scotia. As such, the study does not aim to be statistically representative of all newcomer populations or Nigerian immigrants. Rather, it offers a contextualized and nuanced understanding of how food insecurity and changes in cultural foodways are experienced within a particular group. Readers should consider the specificity of the context when thinking about the transferability of these findings to other settings or populations.

Second, this study employs broader conceptual definitions of "immigrant" and "newcomer" that extend beyond the legal classifications used in Canadian policy frameworks. While IRCC defines immigrants as individuals granted permanent resident status and newcomers as those who have lived in Canada for five years or less, this study also includes individuals with temporary permits (e.g., work or study visas) who identify with the challenges of migration and resettlement. This inclusive framing allows for a more comprehensive understanding of lived experiences but may limit direct comparability with studies or services that rely on strictly legal definitions.

Third, the reliance on self-reported data may have introduced recall bias or social desirability bias. Participants may have selectively shared experiences or withheld information they perceived as sensitive or stigmatized, particularly around food insecurity and the use of food banks. However, the use of Cooking as Inquiry and rapport-building during interviews helped foster openness and trust, allowing for deeper engagement with participants lived realities.

Finally, my position as a Nigerian immigrant and researcher brings both strengths and limitations to the study. While this shared background likely supported trust and openness during data collection, it may have also introduced unconscious biases in the interpretation of data. To address this, I maintained a reflexive stance throughout the research process, using field notes,

journaling, and regular consultation with my supervisor to critically reflect on my positionality and its influence on research decisions.

Despite these limitations, the study contributes valuable insights into the intersections of cultural foodways, food insecurity, and post-migration adaptation, particularly among racialized mothers navigating unfamiliar food systems in a new country.

5.0 Conclusions and Recommendations

5.1 Introduction

This chapter describes the overarching conclusions of the study pertaining to the key findings organized by the study objectives. The implications of each conclusion will be put into the context of other research, and recommendations pertaining to practice, policy, and future research will be given. The chapter concludes by highlighting the significance and contribution of this research, consideration of its limitations, and finally, a concluding statement that reflects on the overall meaning and impact of the study.

5.2 Research Objective (1)

To explore the experiences of food insecurity, including contributing factors and coping strategies among newcomer Nigerian mothers with young children.

5.2.1 Conclusion

Participants experienced food insecurity due to a combination of precarious employment, rising living costs, and limited access to affordable housing and culturally appropriate food. Their coping strategies included bulk buying, food substitutions, occasional use of food banks, and support from social networks.

These findings illustrate that food insecurity among newcomer mothers is shaped by more than financial constraints. The inability to access familiar foods added another layer of hardship, emphasizing that economic and cultural barriers are deeply connected. Mothers encountered

institutional and structural challenges that limited their ability to secure both adequate and culturally relevant food. These barriers operated at multiple levels of the ecological system, reducing access to meaningful supports for their families' food needs and wellbeing.

5.3 Research Objective (2)

To explore the post-migration cultural foodways experiences of newcomer Nigerian mothers with young children.

5.3.1 Conclusion

Participants shared stories of adapting food practices as they settled into a new environment. They often had to modify traditional meals based on ingredient availability, high prices, and children's evolving preferences. Despite these changes, they made deliberate efforts to preserve aspects of their food culture.

Cultural foodways remained a powerful source of identity and continuity. Mothers expressed that cooking familiar meals provided emotional comfort and helped maintain a sense of home. These reflections reinforce the idea that food is not only nutritional but also central to emotional wellbeing, family connection, and cultural survival in a new country.

5.4 Research Objective (3)

To explore the role of cultural foodways on the food (in)security of newcomer Nigerian mothers with young children, and their families.

5.4.1 Conclusion

Cultural foodways were described as essential to feeling food secure. Participants associated the inability to provide traditional meals with emotional stress, a sense of failure, and loss of cultural connection. These feelings reveal that cultural food insecurity is not separate from HFI but an integral part of it.

The findings suggest that current food security assessments overlook the cultural dimensions of food access. Without culturally appropriate food, newcomer families face overlapping vulnerabilities. The relationship between HFI and cultural food insecurity is circular, with each reinforcing the other and deepening the overall impact on families.

5.5 Implications for Future Research

It is anticipated that future research should explore how food security and cultural food practices evolve among newcomer Nigerian mothers to provide deeper insights into long-term adaptation and resilience. Relative studies examining food insecurity across different immigrant communities help identify shared and unique challenges, offering a broader understanding of how cultural and structural factors shape food access.

In the current context of Nova Scotia and Canada more broadly, where the racialized population is growing and newcomer families continue to settle in urban and rural areas, there is a pressing need to understand how food policies and programs address diverse cultural foodways. Literature suggests that food insecurity is disproportionately high among racialized and immigrant populations, particularly among newcomer women with children (Tarasuk et al., 2022). Therefore, further research should assess the effectiveness of food assistance programs, community-based

interventions, and government policies in addressing food insecurity, ensuring that these initiatives meet the specific needs of newcomers.

The psychological effects of food insecurity and the role of cultural food in promoting mental wellbeing can also be further investigated in future studies, as food is deeply linked to identity, belonging, and emotional health. This aligns with evidence highlighting that culturally meaningful food practices contribute positively to mental health and resilience among immigrant populations (Vahabi & Damba, 2013).

Community-driven solutions such as urban farming, cultural food programs, and possibly cooperative food purchasing initiatives should be explored to understand their potential to foster food security and cultural sustainability. In Nova Scotia, initiatives like community gardens and the increased support for culturally relevant food in food banks offer a promising avenue for exploring these interventions in practice. Future research in this area can contribute to policies that are both inclusive and responsive to the lived realities of diverse populations, especially in the context of ongoing efforts to advance health equity and dismantle systemic barriers in food systems.

5.6 Recommendations

This study highlights the pressing need for policy, practice, and research initiatives that acknowledge and address the food security challenges faced by newcomer Nigerian mothers in Halifax. Ensuring access to culturally appropriate food, strengthening financial and community supports, and fostering inclusive policymaking are essential to mitigating food insecurity and preserving cultural foodways.

5.6.1 Recommendations for Policy

Findings from this study suggest that food security policies must integrate cultural food access as a key component, recognizing its significance for dietary continuity and overall wellbeing. For policymakers at municipal, provincial levels including those involved in immigration and food policy, expanding food assistance programs to include culturally relevant food options and supporting urban agriculture initiatives can improve food access for immigrant families. Additionally, income-related barriers remain a major concern, underscoring the need for enhanced financial supports such as targeted subsidies and increased social assistance tailored to newcomers.

Beyond economic measures, this study also highlights the importance of engaging immigrant communities in food policy development. Ensuring their representation in decision-making processes can lead to more effective, community-informed solutions. Policymakers and settlement service providers such as the Immigrant Services Association of Nova Scotia (ISANS) should also consider enhancing settlement services with culturally relevant nutrition education and food literacy programs to further equip newcomer families to navigate the Canadian food landscape while maintaining their traditional diets.

5.6.2 Recommendations for Practice

The study underscores the need for community organizations and service providers including settlement agencies like ISANS, faith-based groups, public health units, and food service providers to adopt inclusive food security initiatives that reflect the dietary preferences of newcomer populations. Expanding partnerships with African grocery stores can improve access to staple

ingredients, while culturally competent training for food security advocates, nutritionists, and social workers can enhance service delivery.

Community-driven programs such as cooking workshops and peer-led food initiatives offer valuable spaces for knowledge exchange and social support. Faith-based organizations and community centers which serve as key gathering points for Nigerian mothers can play a more active role in facilitating culturally relevant food security programs. Strengthening collaborations between these organizations and local food assistance programs can ensure more sustainable and dignified food support.

5.6.3 Recommendations *for* Further Research

This study suggests that future research led by academic researchers, graduate students, and research institutions should explore how food security challenges evolve over time for newcomer families, particularly as they adapt to changing economic and social conditions. Longitudinal studies would provide deeper insights into shifting food practices and coping strategies.

Further investigation into the intersection of food insecurity with immigration status, employment, and family structure could enhance understanding of the structural factors shaping newcomers' food experiences. Researchers and funding agencies should also prioritize evaluating the long-term impact of community-based interventions such as culturally specific food banks and peer-support programs to inform the development of more effective and scalable solutions.

Comparative studies examining food insecurity among different immigrant groups could reveal common challenges and best practices applicable across diverse communities. Exploring how

children in newcomer families navigate food identity and cultural retention would also offer valuable insights into cultural transitions in foodways.

By addressing these research gaps, future studies can contribute to more sustainable and culturally responsive approaches to food security among immigrant populations.

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Appendix A

Screening Questionnaire: Exploring the Experiences of Food Security Among Newcomer Women from Nigeria

1. **Screening Questions**

If a participant does not meet the selection criteria, they will be informed of this in person, over the phone, or in writing immediately after inquiring about the study or expressing interest in participating in the study.

Eligibility Screening Questions:

Are you a Nigerian Citizen?

Yes _____ No _____

Did you migrate to Halifax, NS, Canada within the past 5 years?

Yes _____ No _____

Do you have one or more children, six years old or younger?

Yes _____ No _____

How many? Ages _____

Are you the main person who buys the food in your home?

Yes _____ No _____

Are you the main person who cooks in your home?

Yes _____ No _____

Do you have any dietary preferences or restrictions?

Yes _____ No _____

If yes, please specify: _____

Questions on Cultural Food Security:

2. **Descriptive Questions (For Population Description):**

Are there any adults living with you?

Yes _____ No _____

How many? _____

What is your main source of income?

Salary from employment _____

Wages from employment _____

Business _____

Income assistance _____

Other (please describe): _____

What is your monthly household income _____

Are you the main household income earner?

Yes _____ No _____

What is your immigration stream?

Student _____

Economic _____

Family _____

Refugee _____

Other (please specify): _____

3. The Household Food Security Survey Module (HFSSM) [1]

The following questions are about the food situation for your household in the past 12 months.

Q1. Which of the following statements best describes the food eaten in your household in the past 12 months, that is since [current month] of last year?

    1.   You and other household members always had enough of the kinds of foods you wanted to eat.

    2.   You and other household members had enough to eat, but not always the kinds of food you wanted.

    3.   Sometimes you and other household members did not have enough to eat.

    4. Often you and other household members didn't have enough to eat.

Don't know / refuse to answer (Go to end of module)

The HFSSM begins here:

Now I'm going to read you several statements that may be used to describe the food situation for a household. Please tell me if the statement was often true, sometimes true, or never true for you and other household members in the past 12 months.

Q2. The first statement is: you and other household members worried that food would run out before you got money to buy more. Was that often true, sometimes true, or never true in the past 12 months?

    1.   Often true

    2.   Sometimes true

    3. Never true

Don't know / refuse to answer

Q3. The food that you and other household members bought just didn't last, and there wasn't any money to get more. Was that often true, sometimes true, or never true in the past 12 months?

1. Often true

2. Sometimes true

3. Never true

Don't know / refuse to answer

Q4. You and other household members couldn't afford to eat balanced meals. In the past 12 months was that often true, sometimes true, or never true?

1. Often true

2. Sometimes true

3. Never true

Don't know / refuse to answer

IF CHILDREN UNDER 18 IN HOUSEHOLD, ASK Q5 AND Q6; OTHERWISE, SKIP TO FIRST LEVEL SCREEN

Now I'm going to read a few statements that may describe the food situation for households with children.

Q5. You or other adults in your household relied on only a few kinds of low-cost food to feed the child(ren) because you were running out of money to buy food. Was that often true, sometimes true, or never true in the past 12 months?

1. Often true

2. Sometimes true

3. Never true

Don't know / refuse to answer

Q6. You or other adults in your household couldn't feed the child(ren) a balanced meal, because you couldn't afford it. Was that often true, sometimes true, or never true in the past 12 months?

1.   Often true

2.   Sometimes true

3. Never true

Don't know / refuse to answer

FIRST LEVEL SCREEN (screener for Stage 2): If AFFIRMATIVE RESPONSE to ANY ONE of Q2-Q6 (i.e., "often true" or "sometimes true") OR response [3] or [4] to Q1, then continue to STAGE 2; otherwise, skip to end.

STAGE 2: Questions 7-11 - ask households passing the First Level Screen

IF CHILDREN UNDER 18 IN HOUSEHOLD, ASK Q7; OTHERWISE, SKIP TO Q8

Q7. The child(ren) were not eating enough because you and other adult members of the household just couldn't afford enough food. Was that often, sometimes or never true in the past 12 months?

1.   Often true

2.   Sometimes true

3. Never true

Don't know / refuse to answer.

The following few questions are about the food situation in the past 12 months for you or any other adults in your household.

Q8. In the past 12 months, since last [current month] did you or other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food?

1.	Yes

2.	No (Go to Q9)

Don't know / refuse to answer.

Q8b. How often did this happen?

1.	Almost every month

2.	Some months but not every month

3.	Only 1 or 2 months

Don't know / refuse to answer.

Q9. In the past 12 months, did you (personally) ever eat less than you felt you should because there wasn't enough money to buy food?

1.	Yes

2.	No

Don't know / refuse to answer

Q10. In the past 12 months, were you (personally) ever hungry but didn't eat because you couldn't afford enough food?

1.	Yes

2.	No

Don't know / refuse to answer

Q11. In the past 12 months, did you (personally) lose weight because you didn't have enough money for food?

1.	Yes

2.	No

Don't know / refuse to answer

SECOND LEVEL SCREEN (screener for Stage 3): If AFFIRMATIVE RESPONSE to ANY ONE of Q7-Q11, then continue to STAGE 3; otherwise, skip to end.

STAGE 3: Questions 12-16 - ask households passing the Second Level Screen

Q12. In the past 12 months, did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food?

1. Yes

2. No (IF CHILDREN UNDER 18 IN HOUSEHOLD, ASK Q13; OTHERWISE, SKIP TO END)

Don't know / refuse to answer

Q12b. How often did this happen?

1.   Almost every month

2.   Some months but not every month

3. Only 1 or 2 months

Don't know / refuse to answer

IF CHILDREN UNDER 18 IN HOUSEHOLD, ASK Q13-16; OTHERWISE, SKIP TO END

Now, a few questions on the food experiences for children in your household.

Q13. In the past 12 months, did you or other adults in your household ever cut the size of any of the children's meals because there wasn't enough money for food?

1.   Yes

2. No

Don't know / refuse to answer

Q14. In the past 12 months, did any of the children ever skip meals because there wasn't enough money for food?

1. Yes

2. No

Don't know / refuse to answer

Q14b. How often did this happen?

1.   Almost every month

2.   Some months but not every month

3.   Only 1 or 2 months

Don't know / refuse to answer

Q15. In the past 12 months, were any of the children ever hungry but you just couldn't afford more food?

1.   Yes

2. No

Don't know / refuse to answer

4. **Questions on Cultural Food Security:**

How often do you find it difficult to obtain foods that are part of your cultural diet?

Never _____ Sometimes _____ Often _____

What are some challenges you face in accessing culturally appropriate foods?

(Open-ended response)

How does the lack of culturally appropriate foods impact your family?

(Open-ended response)

5. **Cultural Food Access:**

Do you have to travel far to obtain culturally appropriate foods?

Yes _____ No _____ - If yes, how far do you travel? _____

Are there specific cultural foods you cannot find in local stores?

Yes _____ No _____

If yes, please specify: _____

 How does your food get to you?

(Open-ended response)

How do you get to your food?

Appendix B

Semi-Structured Interview Guide for Pre-Test and Lead Participant Researcher

Food Insecurity

Are you able to get the food that your family wants & needs?

How has this changed since moving to Canada?

1. **Accessing Food:**

Can you describe what your typical day looks like for yourself and your family with respect to getting

your food?

What specific challenges have you experienced when trying to obtain food?

2. **Impact on Well-being:**

How does not accessing food that you want & need affect you & your family?

How does this affect you and your family's health?

Cultural Food

1. **Importance of Cultural Food:**

How important is it for you to maintain your cultural food practices?

What role does cultural food play in your life and the lives of your family members?

2. **Accessing Cultural Food:**

Can they describe cultural dietary intake changes since arrival to date? how it was immediately after moving, how it is now?

Can you describe your experiences with accessing cultural food since arriving in Halifax, Nova Scotia?

How do you manage to incorporate Nigerian food into your family's diet here?

Have you encountered any difficulties in finding cultural foods?

3. **Adaptation and Changes:**

How have you adapted your cooking practices due to the availability of ingredients?

Are there any cultural foods that you particularly miss and cannot find here?

What challenges do you face in maintaining your cultural food practices?

Social Exclusion

1. **Experiences of Social Exclusion:**

Can you share any experiences where you felt socially excluded due to food insecurity?

How does your experience with food insecurity influence your social interactions?

2. **Community Support:**

Have you received any support from the community in dealing with food insecurity?

What role does your community play in helping you access food?

3. **Social Treatment:**

Do you ever feel treated differently because of your experience with food insecurity?

Can you provide examples of how food insecurity has influenced your social relationships?

Coping Mechanisms and Solutions

1. **Coping Strategies:**

What strategies do you use to cope with (cultural) food insecurity?

Have you found any effective ways to manage these challenges?

2. **Suggestions for Improvement:**

What improvements do you think could be made to help people facing food insecurity?

How can community organizations or policymakers better support newcomer families in accessing food and maintaining cultural foodways?

Appendix C

Cooking as Inquiry Workshop Facilitated Discussion Guide

1. **Food, Culture, and Identity:**

What role does food play in your cultural identity and family traditions?

How have your food choices or cooking practices changed since moving to Canada?

2. **Food Insecurity and Access:**

Can you describe a time when you faced challenges accessing culturally important ingredients in Canada?

How does financial stability or insecurity impact your food choices and cooking habits?

3. **Family Dynamics and Food:**

How do you navigate differences in food preferences between family members, especially children?

In what ways do you involve your children in cooking or sharing meals that reflect your cultural heritage?

4. **Community and Support:**

What community resources or networks have helped you maintain your cultural food practices in Canada?

How important is sharing meals with others in your community to you?

5. **Reflections on Health and Wellbeing:**

How does cooking or eating traditional foods contribute to your sense of wellbeing and connection to your roots?

Have your perceptions of health or nutrition changed since moving to Canada? If so, how?

6. **Future Aspirations and Challenges:**

What are your hopes for passing down your cultural food traditions to the next generation?

Appendix D

Informed Consent Form for Interview

Letter of Information

Experiences of food insecurity and cultural foodways: A case study with Newcomer Mothers from Nigeria living in urban Nova Scotia.

Invitation:

You are invited to take part in a research study being conducted by Adeola Oyagbohun at Mount Saint Vincent University (MSVU). Taking part in this study is voluntary and you may withdraw from the study at any time, without consequence. Participating in this study will not benefit you directly, but we might gain insight from you that may help others in the future. The study is described below. You may discuss any questions you have about this study with Adeola Oyagbohun or Dr. Williams (contact information is below).

What is the study about?

The primary goal of this research is to engage with newcomer mothers with current or past experience of food insecurity (last 12 months) to better understand their experience and coping strategies. Specifically, we will be inviting small groups of women to participate in cooking sessions where they will have the opportunity to share their stories and discuss their experiences related to food insecurity and changes in cultural food ways post migration. The purpose of the research is to gain an understanding of how the changes affect the women and their families. The findings will help guide the process of translating and applying this knowledge to support policies and programs that improve the lives of newcomers who experience food insecurity.

Who can take part in this study?

Eligibility for this study requires that Mothers who have migrated to Canada from Nigeria, with current or past experience (last 12 months) of household food insecurity, who are age 19 or older, who have at least one child 6 years or younger who relies on them as their primary caregiver (the children will not be involved in the research); and who have lived in Canada for five years or less.

How is the study done?

We are inviting you to participate in an interview and story-sharing activity to be held in a community shared space. Your participation will involve taking part in an interview with the researcher and working with them to prepare to share your story as part of later group discussions regarding your own thoughts about and experiences with food insecurity. We are interested in hearing about your experiences of food insecurity and changes in cultural foodway post migration, how these experiences have made you feel, and your perceptions of others who experience food insecurity. It is expected that the interview and preparing your story will take approximately 1.5 hours in total.

With your consent, the session will be audio recorded and subsequently transcribed. Only members of the research team will have access to any identifying information. Once transcribed, the audio files and the transcripts will be kept in a password-protected file and no identifying information will be marked on the material. Audio files will be destroyed once transcripts are completed. You will not be identified in any reports, publications or presentations using these data. All data will be destroyed five years after publication of the study findings.

Risks and benefits

No physical risks or discomforts are expected during this study. There is a risk that you may become upset when discussing your experiences with food insecurity and cultural food way changes after

migration. If this happens, the researcher can give you a break period. A list of counseling services and other resources will be provided, if you would like.

Although no benefits can be guaranteed, the information you provide will be used to help us understand the experiences of this population. It may allow us to identify parts of policy and programs that could be changed to address the problem of newcomer food insecurity in Nova Scotia. Your participation might also lead to increased community attention and research on this important issue.

Voluntarity

You are free to choose not to answer any questions that you are not comfortable with or feel you are unable to answer, and you are free to withdraw from the research session at any time without consequence.

Compensation / Reimbursement

To thank you for your time, you will be given a $30 cash honorarium. If you arrive at the interview location and agree to take part in the interview, you will receive the honorarium. If you choose to withdraw from the research study after you have started the interview process, you will still receive the cash honorarium.

Confidentiality and Anonymity:

You will not be named or identified directly in any way in any reports, publications or presentations resulting from this research. Any identifying information will be removed or changed (in other words, a pseudonym will be used) in any knowledge sharing resulting from this project, to further protect your confidentiality. The researcher will make every effort to protect your personal information.

All written material, such as the informed consent forms, transcripts, and notes, will be kept in MSVU SharePoint site. When the material is either scanned or transcribed into electronic format on a secure

server at MSVU, all hard copies will be destroyed. Access to original data will be limited to members of the research team. Following the transcription of the audio recording, the researchers will destroy the audio files. All other data will be destroyed five years after publication of study findings.

Other Considerations:

Any information you provide as part of this study may be used in future publications.

Questions

If you have any question about this study, please contact.

Researcher:

Adeola Oyagbohun

Msc student, Department of Applied Human Nurtition

166 Bedford Highway, Halifax, NS, B3M 2J6

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If you have questions about how this study is being conducted and wish to speak with someone not involved in the study, you may contact the Research Ethics Coordinator of the University Research Ethics Board (UREB) c/o MSVU Research Office, at (902) 457-6350 or via e-mail at ethics@msvu.ca.

Informed Consent Form

I, _____ (please print name), have read the explanation about this study and understand that I am being asked to participate in a research study Experiences of food insecurity and cultural foodways: A case study with Newcomer Mothers from Nigeria living in urban Nova Scotia. I understand that my participation involves taking part in a cooking session and participating in a discussion about food insecurity. I have been given the opportunity to ask questions, and my questions have been answered to my satisfaction. I hereby consent to take part in this study. However, I realize that my participation is voluntary and that I am free to withdraw from the study at any time or to refrain from answering any questions that I am not comfortable answering, without consequence. I will be told this date at the time of my participation. I also understand that any data I provide in a group setting cannot be removed, but that this data will be anonymized and not connected to me in any way.

I understand that information shared during the discussion and interview will be audio recorded, and I freely give my permission for this information to be used in research reports and related materials that are written as part of knowledge sharing without being attributed to me.

YES/NO

I understand that by consenting to participate, I retain my right to pursue legal recourse in the event of research-related harm.

YES/NO

　　By checking this box, I confirm that I am 19 years of age or older.

I, _____ (please print name), agree to maintain the confidentiality of session participants and anything discussed within the session.

Participant Signature _____

Date _____

Researcher Signature _____

Date _____

Do you wish to receive a copy of the final report? (Report will be sent to your contact email address provided below)

YES   NO

Contact number: _____

Contact email: _

Would you be willing to be contacted again for a follow up interview?

YES   NO

Researcher Acknowledgment

I have presented this information package to the potential participant and have ensured, to the best of my ability, that the participant understood the information presented. I confirm that the participant was given the opportunity to ask questions about the study, and all questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Printed name of researcher: _____

Signature of researcher taking the consent: _____

Date: _____

Appendix E

Informed Consent for Cooking as Inquiry Session

Letter of Information

Study Title: Experiences of food insecurity and cultural foodways: A case study with Newcomer Mothers from Nigeria living in urban Nova Scotia.

Invitation:

You are invited to take part in a research study being conducted by Adeola Oyagbohun at Mount Saint Vincent University (MSVU). Taking part in this study is voluntary and you may withdraw from the study at any time, without consequence. Participating in this study will not benefit you directly, but we might gain insight from you that may help others in the future. The study is described below. You may discuss any questions you have about this study with Adeola Oyagbohun or Dr. Williams (contact information is below).

What is the study about?

The primary goal of this research is to engage with newcomer mothers with current or past experience (last 12 months) of food insecurity to better understand their experience and coping strategies. Specifically, we will be inviting small groups of women to participate in cooking sessions where they will have the opportunity to share their stories and discuss their experiences related to food insecurity and changes in cultural food ways post migration. The purpose of the research is to gain an understanding of how the changes affect the women and their families. The findings will help guide the process of translating and applying this knowledge to support policies and programs that improve the lives of newcomers who experience food insecurity.

Who can take part in this study?

Eligibility for this study requires that Mothers who have migrated to Canada from Nigeria, with

current or past experience (last 12 months) of household food insecurity, who are age 19

or older, who have at least one child 6 years or younger who relies on them as their primary caregiver

(the children will not be involved in the research); and who have lived in Canada for five years or

less.

How is the study done?

We are inviting you to participate in a 5-hours 'cooking as inquiry' session in a shared community

space. Your participation will involve cooking in small groups, sharing stories, and taking part in

group discussions regarding your own thoughts about and experiences with food insecurity. The

researcher is interested in hearing about women's experiences with cultural foodways post-migration

and how these experiences impact their household food situation. It is expected that the session will

take approximately 5 hours in total.

With your consent, the session will be audio recorded and subsequently transcribed. Only members

of the research team will have access to any identifying information. Once transcribed, the audio files

and the transcripts will be kept in a Share point folder and no identifying information will be marked

on the material. Audio files will be destroyed once transcripts are completed. You will not be

identified in any reports, publications or presentations using these data. All data will be destroyed

five years after publication of the study findings.

Risks and benefits

No physical risks or discomforts are expected during this study. There is a risk that you may become

upset when discussing your experiences with food insecurity and cultural food way changes after

migration. If this happens, the researcher can give you a break period. A list of counseling services and other resources will be provided, if you would like. Although no benefits can be guaranteed, the information you provide will be used to help us understand the experiences of this population. It may allow us to identify parts of policy and programs that could be changed to address the problem of newcomer food insecurity in Nova Scotia. Your participation might also lead to increased community attention and research on this important issue.

Voluntarity

You are free to choose not to answer any questions that you are not comfortable with or feel you are unable to answer, and you are free to withdraw from the research session at any time without consequence.

Compensation / Reimbursement

To thank you for your time, you will be given a $60 cash honorarium. If you arrive at the session location and agree to take part in the session, you will receive the honorarium. If you choose to withdraw from the research study after you have started the interview process, you will still receive the cash honorarium.

Confidentiality and Anonymity:

You will not be named or identified directly in any way in any reports, publications or presentations resulting from this research. Any identifying information will be removed or changed (in other words, a pseudonym will be used) in any knowledge sharing resulting from this project, to further protect your confidentiality. The researcher will make every effort to protect your personal information. Other participants at the session will know your identity, therefore, if there is anything you are uncomfortable sharing with the larger group, you may write it on the form provided for reflection and

feedback. We will supply forms/ note pads to provide written reflections or feedback in case that is preferable to participating in a group discussion.

All written material, such as the informed consent forms, transcripts, and notes, will be kept in MSVU SharePoint site. When the material is either scanned or transcribed into electronic format on a secure server at MSVU, all hard copies will be destroyed. Access to original data will be limited to members of the research team. Following the transcription of the audio recording, the researchers will destroy the audio files. All other data will be destroyed five years after publication of study findings.

Other Considerations:

Any information you provide as part of this study may be used in future publications.

Questions

If you have any question about this study, please contact

Researcher:

Adeola Oyagbohun

Msc student, Department of Applied Human Nurtition

166 Bedford Highway, Halifax, NS, B3M 2J6

(XXX) XXX-XXXX

Adeola.oyagbohun@msvu.ca

Supervisors:

Patty Williams, PhD

Professor, Department of Applied Human Nutrition

Mount Saint Vincent University

Director, Food Action Research Centre (FoodARC)

47 College Dr., Mount Saint Vincent University

166 Bedford Highway, Halifax, NS, B3M 2J6

(902) 457-6394

Patty.williams@msvu.ca

Irene Ogada, PhD

Assistant Professor, Department of Applied Human Nutrition

Mount Saint Vincent University

166 Bedford Highway, Halifax, NS, B3M 2J6

(902) 457-6273

Irene.Ogada1@msvu.ca

If you have questions about how this study is being conducted and wish to speak with someone not involved in the study, you may contact the Research Ethics Coordinator of the University Research Ethics Board (UREB) c/o MSVU Research Office, at (902) 457-6350 or via e-mail at ethics@msvu.ca.

Informed Consent Form

I, _____ (please print name), have read the explanation about this study and understand that I am being asked to participate in a research study Experiences of food insecurity and cultural foodways: A case study with Newcomer Mothers from Nigeria living in urban Nova Scotia. I understand that my participation involves taking part in a cooking session and participating in a discussion about food insecurity. I have been given the opportunity to ask questions, and my questions have been answered to my satisfaction. I hereby consent to take part in this study. However, I realize that my participation is voluntary and that I am free to withdraw from the study at any time or to

refrain from answering any questions that I am not comfortable answering, without consequence. I also understand that any data I provide in a group setting cannot be removed, but that this data will be anonymized and not connected to me in any way.

I understand that information shared during the discussion and interview will be audio recorded, and I freely give my permission for this information to be used in research reports and related materials that are written as part of knowledge sharing without being attributed to me.

YES/NO

I understand that by consenting to participate, I retain my right to pursue legal recourse in the event of research-related harm.

YES/NO

By checking this box, I confirm that I am 19 years of age or older.

I, _____ (please print name), agree to maintain the confidentiality of session participants and anything discussed within the session.

Participant Signature _____

Date _____

Researcher Signature _____

Date _____

Do you wish to receive a copy of the final report? (Report will be sent to your contact email address

provided below)

YES   NO

Contact number: _____

Contact email: --

Would you be willing to be contacted again for a follow up interview?

YES   NO

Researcher Acknowledgment

I have presented this information package to the potential participant and have ensured, to the best of my ability, that the participant understood the information presented. I confirm that the participant was given the opportunity to ask questions about the study, and all questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Printed name of researcher: _____

Signature of researcher taking the consent: _____

Date: _____

Appendix F

Cooking as Inquiry Session Confidentiality Agreement

I, _____ [name], agree that I will keep all information shared

with me by other participants and by the researcher confidential by not discussing or sharing the

information with anyone outside of this focus group. I agree that I will not reveal the identities of

any of the other members of the focus group to anyone.

_____   _____

Signature of the participant   Date

_____   _____

Signature of the researcher   Date

Appendix G

List of Community Resources

Resources and Supports

The following is a list of resources and supports available for you to contact if you feel you need help or want to talk with someone.

Immigrant Services Association of Nova Scotia (ISANS)

Language training, employment services, settlement support, housing assistance, legal advice.

Phone: +1 902-423-3607

Email: info@isans.ca

YMCA Center for Immigrant Program

The YMCA provides newcomer children, youth, and their families with a variety of programs and outreach services.

Phone: 902-457-9622

Email: **yis@halifax.ymca.ca**

Nova Scotia Mental Health Mobile Crisis

Phone: 1-888-429-8167

Crisis Services Canada

Suicide prevention & support

www.crisisservicescanada.ca

24/7 National Toll-Free: 1 833-456-4566

24/7 Quebec Toll-Free: 1866-APPELLE (1-866-277-3553)

Province & Territory Mental Health Crisis Lines

Nova Scotia Crisis Line – All Ages: 1-888-429-8167

Appendix H

Recruitment Poster

Appendix I

Certificate of Ethics Clearance

University Research Ethics Board (UREB)

MOUNT SAINT VINCENT UNIVERSITY

CERTIFICATE OF RESEARCH ETHICS CLEARANCE

☒	☐	☐	☐	☐
Clearance	Secondary Data Clearance	Renewal	Modification	Change to Study Personnel

REB Protocol #:	2024-063		
Effective Date	September 20, 2024	Expiry Date	September 19, 2025
Title of project:	Experiences of food insecurity and cultural foodways: A case study with Newcomer Mothers from Nigeria living in urban Nova Scotia.		
Researcher(s):	Adeola Oyagbohun		
Supervisor (if applicable):	Patty Williams; Irene Ogada		
Co-Investigators:	n/a		
Version :	1		

The University Research Ethics Board (UREB) has reviewed the above-named research proposal and confirms that it respects the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* and Mount Saint Vincent University's policies, procedures and guidelines regarding the ethics of research involving human participants. This certificate of research ethics clearance is valid for a period of **one year** from the date of issue.

Researchers are reminded of the following requirements:	
Modification to Protocol	Any changes to the approved protocol must be reviewed <u>and</u> approved by the UREB **prior** to their implementation. Form: REB.FORM.002 Info: REB.SOP.404 Policy: REB.POL.003
Changes to Research Personnel	Any changes to approved persons with access to research data must be reported to the UREB immediately. Form: REB.FORM.002 Info: REB.SOP.404 Policy: REB.POL.003
Annual Renewal	Annual renewals are contingent upon an annual report submitted to the UREB **prior** to the expiry date as listed above. You may renew up to four times, at which point the file must be closed and a new application submitted for review. Form: REB.FORM.003 Info: REB.SOP.405 Policy: REB.POL.003
Final Report	A final report is due on or before the expiry date. Form: REB.FORM.004 Info: REB.SOP.406 Policy: REB.POL.003
Privacy Breach	Researchers must inform the UREB immediately and submit the Privacy Breach form. The breach will be investigated by the REB and the FOIPOP Officer. Form: REB.FORM.015
Unanticipated Research Event	Researchers must inform the UREB immediately and submit a report to the UREB within seven (7) working days of the event. Form: REB.FORM.008 Info: REB.SOP.404 Policy: REB.POL.003
Adverse Research Event	Researchers must inform the UREB immediately and submit a report to the UREB within two (2) working days of the event. Form: REB.FORM.007 Info: REB.SOP.404 Policy: REB.POL.003

*For more information: http://www.msvu.ca/ethics

166 Bedford Hwy, Halifax, Nova Scotia, Canada, B3M 2J6
T: 902-457-6350 | ethics@msvu.ca