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WE'RE ALL(IUM) IN THIS TOGETHER

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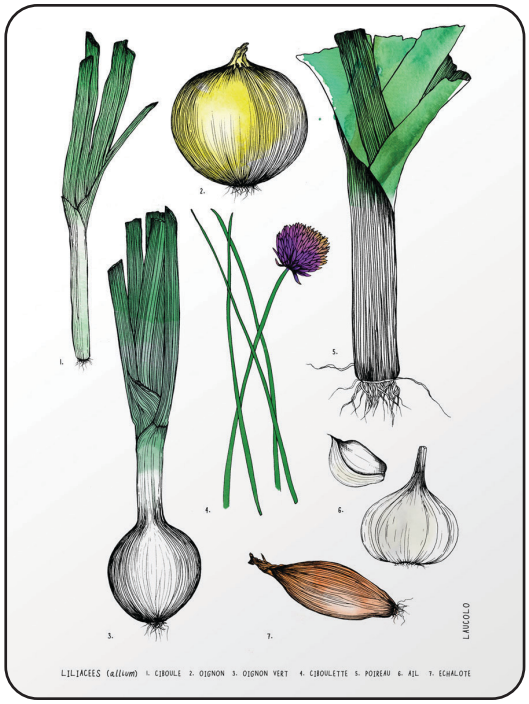
IN THIS ISSUE



The food pun that makes up the title of this issue (almost) wrote itself.

How can one write otherwise when faced with an illustrated collection of onions, chives, shallots, leeks, and garlic? They are herbaceous and share a distinctive onion-y smell. They are also taxonomically linked.

And yet, when one starts to delve through Laurence Deschamps-Léger's body of work—whether illustrations on the page or consulting services in sustainable food systems—we begin to see that such linkages are sought, that collectivity in all its forms is actively encouraged.

Deschamps-Léger has referred to this kind of stance and engagement as: "Mêlons-nous de nos onions." She is playing with the French expression, "Occupe-toi de tes onions," which, literally translated, means "take care of your own onions," or "mind your own business," rather. With a judicious adjustment in pronouns, from you to we, from the singular to the plural, Deschamps-Léger is announcing a shift in responsibility. This business of food production, procurement, preparation, consumption, and deliberation is a shared endeavour.

Figurative alliums—some of them rhizomes—abound in this issue, starting with Sara Edge's editorial. The Arrell Chair in Food, Policy & Society at the University of Guelph asks food studies scholars, practitioners, and activists to "reach across the table and aisle"—these figurative structures being our disciplinary and epistemological barriers. By reaching across them, we are better equipped to provoke and promote food system transformation.

Our authors—who know their onions—answer the call with five research articles and one review article. Here they rigorously (or as one says in French, *aux petits onions*), unpack such matters as cultural food insecurity, food loss and waste, food literacies, food retailing, and food justice.

We close the issue as usual with our Choux Questionnaire—this latest iteration with the inimitable Elaine Power. Of what food or food context is she afraid, you ask? Read on, and find out.

Bonne dégustation!

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Editorial

Extending food studies' reach across the table and aisle: Reflections from a "square peg" on contemporary silos hindering food system transformation

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I have always been a little "outside of the box", a natural and well-groomed empath that received consistent messaging from a young age that my brain was "different". I was a seeker and a drifter and made meaningful connections with people from all walks of life. As a White settler coming from a working-class family that naturally excelled in school, I had enough privilege to leverage opportunity, and buffer against the simultaneous instances of oppression that I experienced in relation to my gender, sex, and sexuality. While this fostered in me an ability to relate to people from a diverse range of lived experiences, I also found it difficult to "fit in".

My drifter nature morphed into experimenting with various inter and trans disciplinary approaches to academic inquiry. I found "fit" through weaving together insights from isolated silos that each provide partial insight into how inequities and injustices are produced, sustained, and resisted (e.g., health geography, immigration studies, political science, environmental management, etc.). Integrating silos enabled a more fulsome understanding. I also learned through ongoing collaboration with communities operating at the margins, as they are typically not concerned about adhering to straight-jacketed boundaries, mandates, or epistemologies, but rather reach and bridge across tables and aisles to facilitate collective action amongst actors of diverse walks of life in response to the pressing consequences of today's inequalities. My collaborative work has included a focus on the effects of poverty, toxic exposures, inadequate access to housing or greenspace, or how to plan and develop communities that foster healthy settlement, wellbeing, and flourishment amongst Canada's diverse populations. These seemingly distinct areas of concentration kept compelling me to pay greater

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attention to food insecurity, and how it interrelates with and compounds intersecting forms of inequality.

With encouragement from pioneering food scholar Mustafa Koç, I overcame imposter syndrome and fears of not having the track-record to "fit in" or provide a leading voice within the food scholarship community. I found myself serving as the Associate Director of the Centre for Studies in Food Security at Toronto Metropolitan University, and now currently hold the Arrell Chair in Food, Policy & Society at the Arrell Food Institute at the University of Guelph. Both experiences gave me the privilege to work alongside Canada's most influential food system thought leaders. I am now a member of Canadian Food Studies' editorial collective. In being asked to write this editorial, I have reflected upon what insights this self-proclaimed "square peg" might offer to the "food table".

Food studies is both a unifying discipline and post-discipline, in that it brings together and transforms perspectives with origins in sociology, geography, planning, dietetics, public health, environmental management, immigration studies and community development, etc. Food is a platform for bridging worldviews, lived experiences, disciplinary and sectoral silos, and scalar jurisdictional perspectives. Food is a platform for relational understanding and common ground amongst diverse interests. Nonetheless, key silos persist and provide a challenge for food scholars, practitioners, and activists to overcome. Below, I reflect on examples where we need to make ongoing efforts to reach across the table and aisle to build novel relationships and thus elicit transformative change.

1. We must continue to foster more equitable inclusion in food scholarship, governance, and policy to better reflect the increasingly diverse demographics of Canada's contemporary society. Silos remain between knowledge on agri-food innovation, community food security interventions, and the needs, experiences, or capacities of migrants settling in Canada. Canada depends on migrants to grow the economy and fill labour shortages, yet this reality exists alongside rising anti-immigrant sentiments. Changing settlement patterns from large gateway cities into outlying suburban and rural communities brings new systemic challenges as many lack adequate housing, transit, walkability, social services and access to nutritional, cultural food sources. Discrimination on multiple fronts, along with unfamiliarity with local foodscapes all undermine immigrant food access and participation in food economies. Consequently, newcomers have more than double the rate of food insecurity than households overall. A growing number of immigrant-led organizations, not historically food-focussed (e.g., settlement agencies, cultural or religious organizations, etc.), have become crucial players in strengthening food security, yet their recognition remains limited, resulting in exclusion and hegemonic policy discussions around food system change. Immigrants constitute a large consumer market, make up a large share of the agri-food labour force, and possess untapped skills in farming, processing, retail, and service that could enhance immigrant livelihoods and bolster Canada's food economies. We require collaboration across the fields of immigration, food security, food entrepreneurship, planning and development to ensure that future policies and interventions are reflective of Canada's current and changing population.

2. Overcome the tendency to pit necessary social policy reforms against innovation happening across the community-based non-profit and charitable sector. I fully agree that we must address insecure incomes as a primary driver and commend leading scholars and practitioners for tirelessly advocating for necessary social policy changes (e.g., living wage, social assistance in line

with the cost of living, affordable housing, basic income guarantee, greater employee benefits, low-income tax relief, etc.). However, I disagree that investment of precious public funds in necessary policy reforms should come at the expense of continued investment in charitable and alternative community food programs. There are limits to focussing on household income alone. Those who are unhoused or struggling with mental health or addiction may not be able to provide proof of address to receive such benefits. Such interventions would not necessarily help migrant workers, international students, those with precarious immigration or legal status, or other populations who many not qualify or fear retribution. Further, many households experiencing food insecurity are above the poverty line. Finally, many community food-based interventions are challenging status quo global-industrial food systems that are unsustainable, inequitable, and driven by corporate greed and concentration. We do not want income supplementation measures alone to subsidize business as usual. Many charitable or non-profit initiatives are in pursuit of food sovereignty or supporting those who are powerless in a system dominated by a few powerful actors. We must continue to strive for equitable access to public and private land and infrastructure to support localized and regionalized agriculture, processing, distribution and retail. We must question modes of production, zoning and regulation, who we do business with, how we distribute food, foster inclusive leadership, and uphold ecological integrity. We need a united front to strengthen food security at multiple scales beyond the household if we are to move towards more just, sustainable, alternatives.

3. We must continue to address silos between those focussed on agri-food tech innovation in food production, with those focussed on food access, distribution, justice, and equity. This requires boldly bringing corporate investors, business leaders, influential lobbyists, innovators and policymakers focussed on regenerative ag and production efficiencies, together with actors focussed on distribution, mutual aid, sovereignty, social enterprise, and community development. The idealist in me certainly recognizes that historical efforts to bridge these siloes have often not gone well (e.g. COP gatherings, UN Food Summits) with many being rightfully weary of being bulldozed or tokenized due to unequal power dynamics. Transformation requires difficult, disorienting, and uncomfortable conversations. This is essential to ensuring that tech innovations do not make inequalities worse, or to confront patterns of record food waste and profit at a time when food insecurity continues to skyrocket. Recent efforts at the Arrell Food Summit and by the Common Ground Network provide inspiring examples of navigating these tensions.

While these are but a few persistent and important silos, I am enthusiastic about building upon food studies' history of providing a place-setting for square pegs, and more recent efforts to reach across the table and aisle to bring together diverse interests, ways of knowing, and lived experience together. As this journal issue explores through various contexts, how might we all think about our own roles and perspectives differently? Who may we not be in conversation with that perhaps we should be in an attempt to do things differently? How can we continue to break down silos and barriers for transformative change?

Sara Edge is the Arrell Chair in Food, Policy & Society at the University of Guelph. Sara works with community groups and other stakeholders to strengthen equity, justice and resiliency in food systems, with particular focus on the experiences of racialized peoples, immigrants and newcomers. Sara also examines the role of novel examples of community self-determination, entrepreneurialism and collaboration in strengthening food security, sovereignty and alternative access pathways. She is interested in how related challenges and opportunities differ across rural, suburban and metropolitan geographies. This includes examining how decision-makers are planning for increasing diversity in small to large cities.

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Research Article

Leveraging community agroecological values across scales for food system transformation in Ka'a'gee Tu First Nation, Northwest Territories

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Abstract

Communities in northern Canada are adopting community gardens as a means to address food insecurity, which has been exacerbated by climate change, rising food costs, and limited access to traditional and nutritious foods. Despite these initiatives, many northern communities lack the essential resources required to sustain such projects. This study seeks to address this gap through a Participatory Action Research approach, whereby community members identify both available resources and those necessary for maintaining their community garden, as well as potential regional and extra-regional opportunities for sustaining food system projects. The Community Agroecological Values Framework (CAVF) is applied to food system planning in Kakisa, Northwest Territories (NWT). The findings indicate that while the community has successfully leveraged regional and extra-regional resources by building relationships with organizations outside the territory, barriers such as unstable relationships and conflicting perspectives regarding land use and agriculture have constrained access to critical regional supports, including gardening knowledge networks, funding, and training opportunities. This study highlights the importance of both short-term regional support and long-term local capacity building to establish foundational knowledge and foster enthusiasm for food production over time. Lessons learned from strategies aimed at building local capacities indicate that both short-term regional assistance and sustained community-level capacity development are crucial for

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establishing foundational knowledge and enthusiasm for gardening in the North. These findings contribute to the design of a community food system action plan, emphasizing the necessity for collaborative strategies to build well-being and promote the sustainable transformation of food systems in northern Indigenous communities.

Keywords: Community capitals; community planning; northern food systems; participatory action research; regionality; sustainable food systems

Résumé

Les communautés du nord du Canada créent des jardins communautaires afin de contrer l'insécurité alimentaire, qui a été exacerbée par les changements climatiques, l'augmentation du coût des aliments et l'accès limité à des aliments traditionnels et nourrissants. Cependant, plusieurs communautés nordiques n'ont pas toutes les ressources essentielles pour soutenir de tels projets. Cette étude vise à combler cette lacune par une approche de recherche-action participative dans laquelle les membres de la communauté identifient à la fois les ressources disponibles et celles qui manquent pour maintenir leur jardin communautaire, de même que les éventuelles opportunités régionales et extrarégionales pour soutenir des projets liés au système alimentaire. Une charte de valeurs agroécologiques communautaires est appliquée à la planification du système alimentaire à Kakisa, dans les Territoires du Nord-Ouest. D'après nos résultats, alors que la communauté a mis à profit avec succès les ressources régionales et extrarégionales par l'établissement de relations avec des organisations en dehors du territoire, les difficultés, telles que des relations instables et des points de vue divergents quant à l'usage de la terre et à l'agriculture, ont limité l'accès à des soutiens régionaux critiques, incluant des réseaux d'échange de connaissances en jardinage, du financement et des opportunités de formation. Cette étude met en évidence l'importance à la fois du soutien régional à court terme et du renforcement des capacités locales à long terme pour établir une base de connaissances et susciter un enthousiasme durable vis-à-vis de la production de nourriture. Parmi les leçons tirées des stratégies visant à renforcer les capacités locales, il apparaît que l'aide régionale à court terme et l'accroissement durable des capacités au niveau communautaire s'avèrent cruciaux pour établir les connaissances fondamentales ainsi que l'enthousiasme pour le jardinage dans le Grand Nord. Ces observations contribuent à la conception d'un plan d'action communautaire pour le système alimentaire ; ils mettent l'accent sur la nécessité d'adopter des stratégies collaboratives pour construire le bien-être et promouvoir une transformation durable des systèmes alimentaires dans les communautés autochtones nordiques.

Introduction

In 2012, the United Nations Special Rapporteur to Canada highlighted the health and ecological benefits of local food systems, including improved access to fresh, nutritious foods, for remote northern communities (United Nations, 2012). Over a decade later, systemic and policy barriers continue to limit these benefits (Hall, 2021; Johnston & Spring, 2021; Judge et al., 2022; Wilson et al., 2020) despite grassroots efforts supporting traditional food harvesting (Lamalice et al., 2018; Ramirez Prieto et al., 2023; Ross & Mason, 2020). Although geographically diverse, contemporary northern food systems are influenced by both settler and Indigenous economic models that have gradually become intertwined over time through remoteness, cultural shifts, and necessity (Kuokkanen, 2011; Wenzel, 2019). The settler food system is centered on the economic notion that food is a commodity to be used for commercial production, processing, and distribution for monetary gain (Lemay et al., 2021). Indigenous or traditional food systems are place-based systems that include foods available from the surrounding natural environment, referred to as the "Land" (Council of Canadian Academies [CCA], 2014). Traditional food systems are deeply rooted in Traditional Knowledge (TK), emphasizing reciprocity and collectivism (CCA, 2014; Gerlach & Loring, 2013), and connect networks of food actors through shared landscapes, histories, politics, social and economic relations, and culture (Blay-Palmer et al., 2018; Marsden, 2012, 2013). These networks of people and activities emphasize the vital roles of relationships with food and the land and waters where it is harvested as a foundation for collective identity and community wellbeing (Blay-Palmer et al., 2021; Power, 2008). In this context, the authors define 'Northern Canada' as the region north of the sixtieth parallel including the territories (Yukon, Northwest Territories, Nunavut) and northern portions of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland and Labrador (Hancock et al., 2022).

Over time, social, economic, and political pressures have influenced northern food system dynamics. Despite these changes, Indigenous communities strive to uphold their land-based harvesting practices, such as hunting, trapping, fishing, and foraging, alongside food-sharing networks, TK sharing, and land stewardship (Gutierrez et al., 2023; Hall, 2021). At the same time, colonial policies and economic and societal pressures are driving a dietary shift toward expensive, imported foods and cash-based livelihoods (Burnett & Hay, 2023; CCA, 2014). This transition has contributed to high food insecurity rates among Indigenous households and is accompanied by rising instances of chronic diseases and poor mental health outcomes (CCA, 2014; Kuhnlein, 2015).

Seeking solutions to these challenges, northern communities are adapting their food systems to address climate change and rising living costs by practicing gardening and small-scale food production alongside traditional harvesting and purchasing food (Chen & Natcher, 2019; Lamalice et al., 2018; Poirier & Neufeld, 2023; Ramirez Prieto et al., 2023; Ross & Mason, 2020; Thompson et al., 2018). By adopting food production approaches aligned with local ecological values, communities can reduce food insecurity and support more sustainable development pathways (Price et al., 2022).

However, these food production systems require new resources and skills (Ross & Mason, 2020; Spring et al., 2018). Scoping reviews and case studies of northern food programs highlight community-level barriers such as limited funding, volunteer retention, relevant knowledge, natural resources, infrastructure, and supportive food policies (Lamalice et al., 2018; Ramirez

Prieto et al., 2023; Ross & Mason, 2020; Spring et al., 2018). Adopting a regional strategy, particularly through collaborative partnerships and knowledge sharing, communities can expand available resources to support the success and sustainability of their food system goals (Blay-Palmer et al., 2021).

Using a case study approach, this research applies the Community Agroecological Values Framework (CAVF) (Temmer et al., 2025a), to describe the state of an emerging food production system in Kakisa, the home of the Ka'a'gee Tu First Nation (KTFN), a Dene Nation in the Dehcho region of Denendeh, (Northwest Territories [NWT]), Canada. It discusses strategies the community uses to leverage regional and extra-regional resources to achieve their food system goals. Specifically, KTFN asks what local and regional attributes and resources are available to support them to achieve their food system vision, and how can these resources be leveraged to enhance the viability of food system projects over the long term?

KTFN and the authors developed the CAVF through a collaborative and iterative process while developing the community's food action plan (Temmer et al., 2025b). The CAVF incorporates the Community Capitals Framework (CCF), which was used for a previous food system analysis (Spring et al., 2018), along with ongoing discussions with KTFN to characterize northern agroecology (Price et al., 2022; Spring et al., 2025).

The CCF is an assessment model used to support community development, climate resilience, and food system adaptation (Cafer et al., 2019; Gutierrez-Montes et al., 2009; Natarajan et al., 2022; Pigg et al., 2013; Spring et al., 2018). It includes seven assets or "capitals"—natural, social, cultural, human, political, financial, and built—which can be leveraged to transform systems, foster resilience, and support sustainable outcomes. The CCF emphasizes strategies that account for social, economic, environmental, and institutional factors to enhance sustainability and wellbeing (Emery & Flora, 2006; Pigg et al., 2013). Northern agroecology is a values-based approach to northern food systems (Price et al., 2022). It is based on agroecology, an ecological approach to stewarding the food system encompassing ecological, economic, and social dimensions (Francis et al., 2003), and aligns those themes with Dene cultural values and stewardship principles. Northern agroecology identifies five value dimensions: Stewardship, Economies, Knowledge, Social Dimensions, and Governance, emphasizing Dene values in food systems design. The CAVF expands these to seven dimensions: Skills and Capacities, Traditional Knowledge and Culture, Land and Water Stewardship, Economies, Governance, Relationships, and Supportive Infrastructure. This approach incorporates the CCF's analytical strengths while embedding Indigenous value-based perspectives, enabling a more inclusive and relational approach to food systems adaptation. Table 1 compares the CCF, Northern Agroecology and CAVF categories.

Table 1: Overview of Community Capitals, Northern Agroecology, and Community Agroecological Values Frameworks.

Community Capitals	Northern Agroecology	Community Agroecological Values
Natural Place-based assets that occur naturally, including natural resources (e.g., minerals, forests, bodies of water), amenities, and natural beauty. It can also include geographic location (e.g., urban, rural, remote).	***Stewardship*** Healthy people, healthy land; hunting, gathering, growing	***Land and Water Stewardship*** Sustainable harvesting practices such as hunting, fishing, trapping, gathering, and growing. Taking care of natural resources (e.g., forests, bodies of water), amenities, and natural beauty leads to healthy people and healthy Land.
Financial Resources that can be accessed to invest in capacity-building, economic development, and social/civic programming.	***Economies*** Food-sharing and trading; support for sustainable local livelihoods	***Economies*** Sustainable livelihoods are derived from food-sharing, trading, and selling. Financial resources that contribute to community and food system well-being efforts.
Cultural The way people "know the world." Includes traditions and language, power dynamics that influence collaboration across ethnicities and generations, individual voices, and influence, as well as how creativity, innovation, and influence emerge and are nurtured.	***Knowledge*** Traditional Knowledge; community-led research; two-eyed seeing	***Traditional Knowledge and Culture*** Traditional Knowledge, two-eyed seeing, cultural resurgence, and traditional language use. Inter-generational knowledge sharing with youth and Elders through land-based activities.
Social The networks and connections of people and organizations that can be utilized to create change.	***Social Dimensions*** Culture; language; youth and elders	***Relationships*** Balanced and harmonious relationships with self, family, community, and nature that are derived from acts of reciprocity rooted in cultural values, trust, and respect for the Land and people and nurtured through participation in social and cultural activities.
Political Connections to resources and power brokers, access to power and organizations. The ability of individuals to find and use their voices to contribute to community betterment.	***Governance*** Self-governance; solidarity networks; land and food sovereignty	***Governance*** Connections to resources and power brokers, access to power, organizations, and solidarity networks to promote social justice and self-determination through self-sufficiency. The ability of individuals to find and use their voices to contribute to community betterment.
Human People's skills and abilities to access and enhance resources and knowledge within and outside of their communities to increase		***Skills and Capacities*** Community-led research, value for multiple ways of knowing, and skills training. Local capacity to enhance resources and knowledge within and

understanding, identify promising practices, and build community		outside the community to increase understanding, identify promising practices, and build community.
Built The physical infrastructure supporting the use of other capitals to advance the process of community building.		***Supportive Infrastructure*** Physical infrastructure considers cultural and practical design and location implications to maximize community adoption and utility. Tools and technologies are easy to use, reduce labour efforts, address pertinent problems, and, where possible, have multiple uses.

Community description

Kakisa is home to the Ka'a'gee Tu First Nation (KTFN) (spelled *K'ágee* in Dene Zhatié, KTFN's ancestral language). Located in the Dehcho region of Denendeh (also called NWT), Kakisa is situated at the end of a year-round access road, thirteen kilometers from the Mackenzie Highway, 400 km south of Yellowknife, and 140 km northwest of Hay River (Figure 1). It is the smallest community in Denendeh, with approximately forty residents (Statistics Canada, 2023). KTFN is in the Taiga Plains ecozone, which features boreal forest, wetlands, and muskeg (Government of the Northwest Territories, 2009). In Dene Zhatié, *Tu* and *Tue* mean water and lake, reflecting a strong connection to the lands and waters (Dehcho First Nation [DFN], 2020).

KTFN members, referred to as K'ágee Gotii, identify as Dene, and many maintain traditional lifestyles. Community members access food through traditional means, purchase it and access it from the community garden. Residents harvest traditional foods such as fish, moose, waterfowl, berries, and medicinal plants on K'ágee Land, sharing their harvests with relations across the region through traditional food-sharing networks. As Kakisa has no store, food is purchased in Hay River or Yellowknife, requiring extensive time and money for travel and food imported from southern Canada. Since 2021, KTFN has distributed garden vegetables among households. In general, the garden is welcomed by all; however, some Elders have shared that their primary experiences with agriculture were through residential school agriculture programs. These programs separated children from their families and culture and imposed gardening and husbandry skills in place of land-based knowledge (Price, 2023).

For KTFN, the traditional food system is vital to community life, fostering deep connections between humans, nature, culture, and kin that span generations and reinforce Dene identities (Fresque-Baxter, 2015). However, climate change has hindered traditional food harvesting, affecting food quality and quantity and disrupting the transmission of TK and land stewardship values to younger generations (Spring et al., 2018). Recently, forest fires and floods have also compromised community health, safety, and access to essential services, further straining already vulnerable households (Dodd et al., 2018). Such climate events strain food access as they cause safety concerns for traditional harvesters and force residents to travel up to 800 km round trip for groceries. Limited summer harvesting activities have curtailed intergenerational knowledge transfer and reduced traditional food access.

To address these vulnerabilities, KTFN has engaged in food systems and climate change adaptation research (Bysouth, 2023; Jayaratne, 2021; Johnston & Spring, 2021; Kok, 2020; Malandra, 2023; Rodriguez Reyes et al., 2025; Snider, 2021; Spring et al., 2018, 2020). Since 2014, community members have worked with researchers and organizations to develop strategies addressing food insecurity and wellbeing challenges (Blay-Palmer et al., 2021). Over the past decade, KTFN has developed a food production system grounded in Dene values, including land stewardship, social connections, sharing economies, intergenerational knowledge, collective governance, and diverse ways of knowing (Price et al., 2022).

Methodology

This research builds on ongoing Participatory Action Research (PAR) spearheaded by KTFN. Since 2014, KTFN has experimented with gardening to enhance food sovereignty and community wellbeing goals. Building on Spring et al. (2018), this is the second iteration of the PAR cycle (McTaggart et al., 2017). PAR emphasizes shared power, decision-making, and co-learning (McTaggart et al., 2017; Méndez et al., 2017). It is particularly suited to Indigenous-settler research collaborations as it values TK systems, respects diverse ways of knowing, and focuses on community-driven initiatives to create social change that advances the interests of Indigenous communities (Castleden et al., 2012; Denscombe, 2025; Fahlberg, 2023; Leeuw et al., 2012). As a flexible approach to inquiry, PAR creates space to integrate TK and Western methodologies, empowering communities to actively shape the research agenda and guide the process and outcomes (Grimwood, 2022; Smith, 2012). The iterative nature of PAR's planning, acting, and reflecting also helps to strengthen relationships between communities and researchers over time, offering richer insights as trust is built through reciprocity and shared experiences (Grimwood, 2022).

This PAR approach involved community collaboration, relationship building (Tondu et al., 2014), and collective action to build local capacity to establish and maintain the KTFN community greenhouses and garden. The research and action project were facilitated by J.T. as part of their doctoral research, with support and supervision from A.S. and A.B.P. All three authors are white settler scholars living in Southern Ontario. J.T. has a background in rural and community planning and has lived and worked with Indigenous and subsistence farming communities in the Canadian North and Global South to help drive community wellbeing through sustainable agriculture. A.S. has collaborated with communities across the NWT to advance sustainable food systems and community wellbeing employing PAR. Both authors have strong relationships with KTFN, having lived and collaborated with the community on multiple food system projects since 2021 and 2014 respectively. A.B.P. is an internationally recognized food systems researcher who has supported PAR actions in Kakisa through A.S. and J.T. for over a decade. This article is not co-authored by a community representative due to time and capacity constraints; however, KTFN community members, including knowledge holders, leaders, and youth, generously contributed to this research, including setting the research agenda, participating in data collection and validation, sharing ideas contributing to the theoretical framework, participating and volunteering in gardening activities and trainings, and extending teachings and friendship to the authors and extended research team. This research was conducted over five field seasons from 2021 to 2025. J.T. travelled to Kakisa annually in spring and summer for up to three months. Extended stays afforded time to form relationships built on trust and reciprocity generated through shared experiences. In addition to formal data collection and reporting, J.T. managed the community garden, led gardening skills training and mentorship, started a vegetable box program, organized community feasts, and participated in cultural and social activities in Kakisa and neighbouring communities. These activities contributed to the depth and quality of knowledge shared, the success of the garden, and an enriched experience for everyone. Notably, nearly every community member, including Elders and youth (thirty-five of thirty-eight people), contributed to this

research through one or more avenues: interviews, workshops, storytelling sessions, participating in training, and volunteering in the garden.

In 2021, through this action research, Kakisa's community garden evolved from a pilot project to an established program. To address community concerns about maintaining the garden, in 2023, KTFN and the J.T. and A.S. hosted a workshop, volunteer day, and community feast. Fifteen community members (about half of all Kakisa adults) attended the workshop. Participants were informed of the research objectives and consent process and provided written or oral consent, including connecting names with quotes. Workshop sessions included food system goal visioning (Lachapelle et al., 2010), community asset mapping to identify leverageable local and regional assets (Kramer et al., 2012), and a world café (Recchia et al., 2022) focusing on food action projects, strategies to address resource gaps, and connections to Dene values. J.T. organized the data based on attributes community members identified as contributing (+) or degrading (-) KTFN's food system vision and sorted and analysed the data across CCF and Northern agroecology dimensions. Simultaneously, KTFN leaders and the authors contributed to the development of the CAVF dimensions through conversations about how food projects contribute to community wellbeing. J.T. organized responses into a draft action plan using the CAVF dimensions, and community members then offered feedback through one-on-one follow up conversations. Community feedback helped to validate the CAVF categories and contributed new activities to be carried out across the food action projects. J.T. integrated comments and revisions. A finalized action plan was presented to KTFN leadership in December 2024 and was shared with community members at a regional gathering on community gardens hosted by KTFN in July 2025.

Results

KTFN's food system adaptation work with academic partners began in 2014 with the development of a climate change adaptation strategy (Spring et al., 2018) encompassing four initiatives: a community garden, a fuel break farm and food forest, a fish and garden waste composting initiative, and a food hub. These initiatives align with KTFN's goals of land stewardship, social connection, sustainable livelihoods, cultural revitalization, and food sovereignty. Through this research, the community assessed their existing strengths and identified areas requiring external supports for project implementation. Members noted that land and water stewardship, supportive infrastructure, and social dimensions contribute to project successes. However, they emphasized the need for more skills and capacities including training, knowledge sharing, and community participation in garden activities. In response, KTFN is addressing these deficits by partnering with the research team to secure summer student support and organize training for community members.

KTFN's food production system

Land and water stewardship

KTFN's food system thrives on its careful management of land and water. The community values its natural

resources and strong connection to the Land. During the community asset mapping exercise, members highlighted the importance of healthy landscapes using phrases such as "healthy lake and land," "clean air," and "natural soil." They also identified new natural infrastructure supporting food production projects, including "plants/gardens," "compost," and "fuel break." However, KTFN's Land and Water Stewardship attributes face challenges. Boreal soils, while abundant, are not ideal for vegetable production; they are nutrient-deficient, acidic, and low in organic matter (Bysouth et al., 2021). Moreover, climate change is impacting Kakisa, particularly in terms of its natural resources for food production. Shifts in hydrological cycles drive drought and forest fires and impact water availability and safe conditions for growing vegetables. In 2023 and 2024, high temperatures and low precipitation reduced water levels in Kakisa River and Lake, limiting irrigation capacity and the ability to harvest fish.

KTFN is addressing these limitations by incorporating agroecological practices such as composting, mulching, intercropping, and low flow irrigation. These activities help build soil, improve water retention, increase biodiversity, and enhance agroecosystem health, leading to higher yields and healthier plants. The community also acknowledges the potential negative impacts of food production on the Land's health and is committed to using practices that uphold stewardship principles of conservation and care. KTFN's conversations with academics and neighbouring First Nations about how to grow and distribute food in accordance with Dene values have led the community to consider agroecology as a suitable framework to be adapted to a northern context (Price et al., 2022; Spring et al., 2025). These conversations stem from a field visit to Brazil, where KTFN Chief Lloyd Chicot learned about agroecological food forests (Johnston & Spring, 2021). For KTFN, Northern agroecology offers a whole food systems approach that is centred on the community's conceptions of food sovereignty, environmental stewardship, diverse economies, and collective governance that are rooted in a culture of care for people and the Land (Price et al., 2022; Spring et al., 2025).

Skills and capacities

During the asset mapping workshop, community members highlighted skills contributing to food access, particularly those arising from the traditional food system such as hunting, dry fish making, fish filleting, catering, and meal preparation. Reflecting community voices from previous engagements (Malandra, 2023; Snider, 2021; Spring et al., 2018), they expressed a need for more skills and knowledge in gardening, food preservation, and household waste reduction. A community member emphasized that training remained a priority, especially when employing community members to work on the food projects: "if people work, they need to be trained." While some residents have transferable skills, such as knowledge of pumps and water systems, carpentry, food safety, and money management, gardening and food preservation skills are also needed for sustainable production and processing. There was a suggestion to leverage existing skills by "allowing community members to choose where they'd like to work and focus on their skills," as well as a recommendation that "strong programs" be implemented to support further skills development.

The band office, the economic development corporation (Noda), and the school support community-level skills and capacity building. Under the guidance of the Chief and Council, the band manager and financial controller administer KTFN services including social, cultural, physical, emergency

preparedness, and food system portfolios. Noda supports local economic development initiatives such as the food hub, a space that facilitates the distribution of locally grown and harvested foods to Kakisa households and regionally, in addition to offering a space to learn food skills and to socialize (Rodriguez Reyes et al., 2025). The food hub is currently in the planning phase and will begin operations in 2027. Kakisa's kindergarten to grade nine school, despite rapid teacher turnover, plays an active role in supporting the community garden, coordinating student involvement in workshops and caring for seedlings.

Regionally, institutions and non-profits offer opportunities for training in gardening and other food systems skills. Ecology North, a territorial environmental organization, runs youth gardening training and food preservation programs in collaboration with local schools in the region. Student researchers have also organized community and regional garden training workshops. However, floods and forest fires have hindered access to training, as event coordination and travel have become more complex and unpredictable.

Relationships

KTFN has a strong sense of community, with close social bonds rooted in a "social fabric" that includes "Elders, knowledge, family, and relationships." However, challenges like limited social spaces, COVID-19 stresses, and the need to leave for employment and education opportunities have strained social bonds (Rodriguez Reyes, 2024). The community garden and food hub are considered crucial for enhancing healthy relationships by offering spaces to learn, share, and foster connections. The proposed food hub will serve as a space to gather, hold training sessions, share food, and nurture relationships with self, community, and nature (Rodriguez Reyes et al., 2025).

KTFN has developed healthy relationships both at home and with neighbouring communities. These relationships are supported through kinship connections, shared cultural values and experiences, and participation in political organizing such as through DFN Regional assemblies and ongoing Dehcho land claim negotiations, as well as in social and cultural activities such as traditional food-sharing networks, sporting events, dances, church, and cultural camps. These practices strengthen social ties, reinforcing relationships among communities. In Kakisa, community members extend traditional food-sharing practices to garden produce. One community member suggested the community have a "bigger garden to share produce with other communities."

While their relationships with other First Nations and local communities are strong, KTFN faces challenges in relationships with groups outside their network. Efforts to establish healthy bridging relationships with regional organizations have had limited success. The Northern Farm Training Institute (NFTI) was disbanded in 2022, leaving the region without an extension and training centre. Ecology North's territorial mandate and budget restrict its capacity to offer regular technical assistance beyond youth gardening. Further afield, the community's relationships with university research networks have helped establish relationships connecting KTFN with organizations and training across NWT, providing avenues for addressing communication gaps and accessing needed funding, skills, and capacities.

Traditional Knowledge and culture

From the asset-mapping workshop, community members identified opportunities for food initiatives to

rebuild cultural capital, including "building strong cultural programs" that teach families self-sufficiency and reduce reliance on retail foods. They stressed that food programs should facilitate "connecting youth and Elders" to transmit language, TK, and values across generations. Cultural activities and values were seen as essential for supporting individual and collective healing. However, time and financial constraints limit participation in traditional harvesting and gardening activities. To reduce these barriers, KTFN Chief and Council organize cultural and food harvesting activities such as the fall hunt, Indigenous Peoples' Day celebrations, and community suppers, but individual households cover personal harvesting costs.
The transmission of local knowledge and values has been hampered as some youths prefer not to engage in traditional and gardening activities, and Elders and youth face communication barriers.

Historically, gardening was part of the northern traditional food system, and, for those who attended residential schools, gardening can be associated with the trauma attached to those experiences (Price, 2023; Price et al., 2022). However, KTFN is leveraging local and regional TK and Culture as they collaborate with other Dehcho Dene communities like Sambaa K'e First Nation (SKFN) to design a food production system that aligns with Dene values and principles. Northern agroecology, as conceptualized by KTFN and SKFN, illustrates that diverse forms of food provisioning such as growing food can align with Dene worldviews (Price et al., 2022). For example, in Kakisa, food is considered a common good to be shared by all:

> "It's always been like that, the people always shared stuff with people and that, a long time ago. We always shared food back and forth" (community member).

Extending Dene principles and values to the emerging food production system ensures that the community is reflected culturally in the food projects and a holistic sense of wellbeing is achieved. Integrating Dene TK into food production projects has the potential to address past trauma associated with agriculture and colonial institutions and create space for community empowerment. Evidence of knowledge transfer among communities to support food production system activities is already apparent. One community member shared a solution for vegetable storage, taken from a trip to SKFN:

> I had this idea from Trout Lake [SKFN] where they had this cellar. They built it into the ground like you keep things cool. You put your seeds, your potatoes, but it has to be at a certain temperature like during the winter. (George Simba)

Economies

Kakisa households take part in a mixed economy common to northern communities that includes land-based subsistence and income generating activities connected to food provisioning (Stephens et al., 2019). Like other Indigenous groups across the North, in Kakisa, sharing traditional food among households continues to be an important part of the subsistence economy and is directly connected to Dene values including food as a common good, sharing and reciprocity, sustainable livelihoods, and stewardship through responsible harvesting and consumption. These values are reflected in the food action plan, through statements such as, "bigger garden to share produce with other communities," and "take only what you need and use everything." Meanwhile, KTFN also sustainably manages a commercial fishery dating as far back as the 1950s, and some community members fish on commercial and subsistence bases (Spring et al.,

2025). In keeping with this mixed economies approach, community members prefer that garden foods are shared among Kakisa households, while they are open to sharing, trading, and selling surplus vegetables to neighbouring communities.

When envisioning their new food action plan, community members expressed a desire for more employment and livelihood options within the community. They included visioning words such as "employment," "tourism," and a "farmers market." KTFN's community food production projects offer valuable seasonal employment opportunities while contributing to sustainable livelihoods to support this new vision. Food growing initiatives offer employment for adults and youth, allowing them to gain essential life and employment skills, work in a social setting, and contribute to projects that benefit the entire community. Community members also discussed that the need for cash employment reduces time for land-based activities:

> "There's not much work around here sometimes, so you go to try to figure ways [to] make money because that's what this world's modern days now, it's all about money" (community member).

The flexibility of employment in the community garden enables community members to participate in diverse livelihood strategies. The garden offers paid, seasonal employment and a flexible work schedule with supports from visiting university students and community volunteers. This way, community members can earn money to purchase hunting supplies and take the time off work to participate in traditional harvesting activities, which in turn contribute to individual and community-wide food security, cultural resurgence, and community wellness goals. Participation in these activities contributes to the maintenance and development of the community's Economies, TK and Culture, and Social Dimensions by creating opportunities for diversified livelihoods and participation in both traditional and cash elements of the mixed economy.

Despite providing seasonal and flexible employment and access to healthy foods, the projects are not currently financially self-sustaining and require ongoing support to operate. One community member wrote on their asset map that "more funding for projects" was needed. Reliance on external funding sources, such as territorial and federal government grants, present a challenge to project sustainability, and differences in funder and community mandates have been an area of contention for KTFN. Government priorities emphasize economic development and employment opportunities through food production, whereas KTFN aims to establish a community-based food production program that promotes self-sufficiency and food-sharing. Chief Lloyd Chicot explained that "we always share what we have with everybody so that's the model that I think would suit the community." This sentiment was reiterated by community members as they indicated that "family sharing food" was an asset.

To contribute to the garden's success and the broader goal of self-sufficiency, and as an act of reciprocity for receiving garden foods, many community members contribute to garden operations by volunteering, lending tools and equipment, contributing ideas to solve problems, and by sharing garden food regionally across their food sharing networks. KTFN is also seeking to overcome funding challenges by establishing a food hub that will share food locally while trading and selling it regionally. As discussed previously, Dene Laws emphasize sharing, especially for traditional food which is important for maintaining reciprocal relationships, passing on cultural values, and ensuring relations and the Land are cared for (Newell et al., 2020; Price et al., 2022; Ready, 2018).

At the same time, community members are keen to explore the potential for selling and trading garden foods locally to community programs such as the supper club and regionally to other food hubs and neighbouring communities to generate funds to offset operating costs.

Governance

Kakisa has a local government that advocates for community members and actively strives to fulfill its mandates of self-determination and food sovereignty. This includes establishing sustainable food programming to ensure all households have access to healthy foods grown in the community. At the same time, there are opportunities to increase community members' participation to further democratize this process. To date, the absence of a community-led governance structure or oversight committee has hampered greater participation in food projects. To compensate for this, decision-making about the project activities comes via the community-research partnership. Community voices are integrated into decision-making, facilitated through research, in place of regular engagement in collective discussion and decision-making about food projects. Furthermore, community members have shared that they occasionally feel research burnout as engagement on multiple projects occurs at specific times of the year.

Regionally, KTFN faces uncertainties regarding access to and jurisdiction over their territory (Johnston & Spring, 2021). Negotiations for unresolved regional land claims have been ongoing for over twenty years (DFN, 2015, 2023). For KTFN, this has included important climate adaptation projects such as the fuel break infrastructure and corresponding berry project. In 2023, KTFN commenced construction of their fuel break of their own accord in anticipation of a severe wildfire season. This proved advantageous as wildfires came within fourteen km of the community boundary. In 2024, the community established a test plot of transplanted wild berries at the edge of the fuel break to provide easy access to traditional foods and to sustainably maintain the fuel break infrastructure. The community also plans to expand the garden area into the fuel break as the converted land is suitable for food production purposes.

Supportive infrastructure

KTFN began gardening in 2014 and has since expanded its infrastructure significantly. In 2021, two greenhouses and composting infrastructure were added. In 2022, raised beds were relocated, new beds built, and a field established. The following year, field expansion and soil improvement continued. In spring 2022, heavy snow caused a greenhouse collapse, limiting growing capacity. In 2024, a sturdier replacement greenhouse was installed, increasing food production for community distribution through the food hub.

Beyond the garden, community members indicated that "band office," "community hall," "school," and "research house" were built assets that support food objectives. The band office facilitates economies, social dimensions, TK and culture, and skills and capacities activities, as community members manage projects, write and administer grants, run cultural programming, and facilitate on-the-land and garden activities. It also supports healthy relationships through a central space to connect with others. The band office generates jobs for the community that provide income while enabling people to pursue a traditional lifestyle. However, community members have noted that it no longer meets storage and office needs. The community hall serves as a venue for processing and distributing garden produce and hosting workshops and social and cultural

events. The school offers life skills and cultural programming, bridging connections between youth and Elders. Lastly, the research house is a bridge between local and regional/beyond-regional attributes, accommodating students and regional partners supporting food system projects.

KTFN has also improved critical infrastructure, including paved road access which facilitates service, food, and resource transportation. Recent internet upgrades have enhanced communication and regional knowledge-sharing. However, the community still lacks permanent electricity, water, and sanitation infrastructure. Addressing these gaps would expand food production options, support year-round growing, and improve overall quality of life.

Table 2: Summary of Community Agroecological Value Attributes in KTFN's food system at the community, regional, and beyond-regional levels, showing elements that contribute (+) or degrade (-) community value attributes

Cultural Value	Community Attribute	Regional Attribute	Extra-Regional Attribute
Land and Water Stewardship	(+) Abundant sources of traditional food (+) Abundant access to clean water (-) Concerns about the impacts of food production on the health of the Land	(-) Regional causes of climate change impacts occurring at a local scale (e.g., mining, forestry, agriculture)	(-) Global causes of climate change impacts occurring at a local scale (e.g., industrial pollutants, transportation emissions)
Skills and Capacities	(+) Engaged community (active in training opportunities) (-) Small population (-) Time and effort are needed to travel to other communities for store-bought goods (+) Some skills are transferable for agri-food projects (-) Limited knowledge of how to grow food within the community (+) Knowledge about the Land in and around Kakisa	(+) Programs and opportunities are in place to train community members on gardening skills, food preservation, etc. (-) Climate change impacts affect the ability of communities to convene and share knowledge and experiences (+) Regional knowledge of how to sustainably grow food in northern climates	(+) The community-research partnership brings students into Kakisa to support summer food projects.
Social Dimensions	(+) Strong social economy (food-sharing within the community) (+) Small, close-knit community (bonding social capital) (-) Some issues with degradation of bonding social capital in the community (-) People leave the community for education and jobs	(+) Strong social economy (food-sharing across multiple communities) (+) Social connections outside the community (bridging social capital) (+) Experience with socially-oriented organizations and networks outside of the community (bridging social capital)	(+) Experience with research networks outside of the community (bridging social capital) that enable gardens for the last many years

		(-) Limited communication from food-related programs offering training/knowledge sharing	
Traditional Knowledge and Culture	(+) Most community members maintain traditional practices and activities and a strong connection to the Land that can be used to maintain traditional values when establishing agri-food projects (-) Limited time available to take part in traditional and gardening activities (for some) (-) Language is a barrier to transferring Traditional Knowledge (-) Some youths are not as engaged in learning sustainable gardening practices based on Dene values	(-) Limited cultural relevance or Traditional Knowledge associated with food production among DFN communities (+) Communities collaborate to envision a food production system that holds cultural relevance (+) Cultural camps bring in youth from other communities to learn and share enthusiasm for traditional culture	(+) Potential for the community to collaborate with researchers and scientists to incorporate two-eyed seeing into gardening trainings
Economies	(+) Food production projects generate seasonal employment and job skills for adults and youth while enabling them to participate in diverse livelihood options (+) Garden foods offset costs of retail foods	(+) Access to community funding and government grants (-) Reliance on external funding presents sustainability issues for food production projects	(+) Grant writing support provided through a research partnership
Governance	(+) Active local government (-) No community-led governance structure for food production programs (-) Limited decision-making ability in terms of control of lands	(-) A small number of constituents means less access to funding and resources (-) Dehcho Land Claims unresolved for the region	
Supportive Infrastructure	(+) All-weather road access (+) Local school (+) Community hall and cultural camp (+) Community garden infrastructure (-) Limited infrastructure (health, water, hydroelectricity) (-) No store	(+) Road access connects the community to the rest of the region and to services (+) Communications systems (phone, internet) connect the community beyond its boundaries	

(Snider, 2021; Spring et al., 2018; community workshop, 6 June 2023; interviews 2023)

Discussion

Through community workshops and conversations, an understanding of how KTFN leverages regional and extra-regional assets to support community-level food system innovations has emerged. These attributes include social and cultural connections with neighbouring First Nations, academic supports, and participation in regional training initiatives. Using Emery and Flora's (2006) concept of "spiraling up"—where investments in social capital increase other capitals—food system development can be facilitated across scales. CCF assumes that capital stocks can grow by investing in existing assets and that each community has a unique asset profile they can access (Lamm et al., 2021). Communities assess capital stocks across scales to determine where to invest locally and generate upward momentum toward their local goals. This approach enables communities with limited local capacity to expand and diversify the capitals available to them.

The CAVF reframes social capital through a Dene lens, defining it as relationships with self, family, community, and nature that arise from acts of reciprocity rooted in cultural values, trust, and respect for the Land and people. These relationships are nurtured through participation in social and cultural activities such as sharing food (see Table 1). Drawing on Emery and Flora's (2006) concept of spiraling up, the CAVF suggests that fostering reciprocal relationships with people and groups with established connections such as kin (bonding relationships), or with public or private entities with limited or no prior connections (bridging relationships), facilitates the exchange of knowledge, skills, cultural values, and natural and economic resources, enabling shared responsibilities and mutual goals.

Framing food systems as relational networks situated in place (Marsden, 2013; Nguyen, 2018), Kakisa's food system can be described as connections between TK and culture and land and water stewardship that rely heavily on the maintenance of social relationships across space and over time (Spring et al., 2018). In moving to expand food security and climate change initiatives, KTFN has identified knowledge and skills, funding, and infrastructure as resources they require to advance their food system vision. Our results highlight that KTFN has a considerable collection of community resources and values to support its evolving food system projects. However, expanding the food system model to incorporate food growing activities poses challenges as they require new forms of skills and capacities, economies, and supportive infrastructure to carry out their work. These findings are consistent with other community garden program assessments within northern Indigenous communities (Lamalice et al., 2018; Ramirez Prieto et al., 2023; Ross & Mason, 2020).

To address these local gaps in CAVF attributes, communities can leverage their healthy relationships by connecting regionally with diverse actors to enhance other attributes such as knowledge and skills, creating a spiraling-up effect. In this regard, KTFN faces a key challenge: regionally, the community has healthy bonding relationships with actors who participate in traditional food system, including friends and relations in neighbouring Dene communities. However, they lack the necessary healthy bridging relationships with groups such as farmers, gardeners, and agri-food organizations who hold the skills, funding, and social connections needed to support their goals for the regional food production system. Accessing needed attributes from these groups is further complicated

because, as Lemay et al. (2021) note, tensions exist regarding the perceived vision for the regional food system as well as differing values among the settler and Indigenous food actors. Reconciling these tensions will require further dialogue and gradual relationship building rooted in trust and reciprocity.

Spring and colleagues (2018) highlight the importance of cooperation across scales to leverage attributes that strengthen local skills and capacities for achieving community-level food system goals. In Kakisa, KTFN has fostered healthy bridging relationships outside the region to overcome barriers to food production. For over a decade, KTFN has collaborated with a southern university to build a foundation for its food projects. This partnership has facilitated access to resources, filling "buckets" across CAVF categories and contributing to an upward spiral. Through these extra-regional relationships, KTFN has also accessed regional resources otherwise unavailable to them. KTFN's partnerships with academics have connected them with regional food actors outside the traditional food system, addressing funding, knowledge, and infrastructure needs (Blay-Palmer et al., 2021). However, there are limits to supporting participation in the regional food system due to competing priorities, differing perspectives on food production, and deep-seated mistrust in colonial governance structures. The Dehcho Region land claim negotiations, which includes KTFN territories, is an example of these compounding challenges. Since 1999, the Dehcho Process has been underway between the federal government and Dehcho First Nation (DFN), the regional Indigenous governing body representing First Nations with lands in the Dehcho land claim Region (Dehcho First Nation, 2015, 2023). Differing visions regarding resource management, including land use for agriculture, continue to stall this process. Similarly, the GNWT's Protected Areas Strategy process, which would offer KTFN more protection and control over their lands, has also stalled since 2012 (Johnston & Spring, 2021). Without a land claim or protected area status, KTFN is limited in its ability to implement actions to steward the food system and adapt to climate change. Such challenges highlight the complexities of building viable, multi-scalar food systems in Indigenous communities in the region.

Questions also remain about the lasting impact of community-researcher efforts on building long-term community capacities. To address skills and capacities gaps, KTFN employs two strategies at the regional and extra-regional levels, each influencing community-level CAVF attributes differently. The first strategy involves bringing external knowledge and labour into the community. This approach addresses short-term needs but may lead to long-term sustainability issues due to reliance on outside support, generating project viability concern. The second strategy fosters local skills by engaging community members in capacity-building opportunities, such as regional garden training workshops organized through the community-research partnership. This approach transfers skills from regional and extra-regional sources to the community, strengthening long-term self-sufficiency and project viability. These strategies provide insights for policymakers and practitioners on the complexities of leveraging CAVF attributes across scales for sustainable development. They also suggest, as others have, that Emery and Flora's (2006) concept of spiraling up is more complex and unpredictable than originally assumed (Pigg et al., 2013).

While the first strategy focuses on importing external resources, including economies, relationships, and supportive infrastructure, the second endeavors to foster local skills and capacities, revealing contrasting approaches to community empowerment. The first strategy accelerates short-term garden goals by

substituting regional and extra-regional skills and capacities, however its eventual absence may pose long-term project viability challenges due to insufficient local knowledge. Meanwhile, the second strategy builds internal capacity slowly over time but fails to address more immediate challenges such as infrastructure, funding, and enthusiasm gained through short-term project successes.

Considering Kakisa's small population, this case study does not speak to some of the limitations that may be present in communities with larger populations and more complex social and political contexts. Nevertheless, Kakisa serves as a clear example of how local values influence a community's ability to generate healthy bridging relationships with diverse regional actors. This case also illustrates how incorporating scale into the analysis of strengths-based frameworks expands the number of potential strategies that communities can employ to leverage existing healthy regional relationships and good governance, drawing on and accessing other regional-level CAVF attributes to support community-level development priorities.

Further analysis of the complexity and dynamics of food production within the NWT regional food system was beyond the scope of this study. Moving forward, further research that identifies points of connection between multiple food actors is important to negotiate a unified agenda for northern food production that supports the diverse needs and interests of Indigenous and settler food actors while providing local, fair-priced, nutritious, and culturally relevant food for everyone in the region.

Conclusion

Across the North, communities are looking to food production to address barriers to accessing healthy foods and as an adaptation measure to address climate change impacts on traditional food systems. However, integrating new ways to grow, harvest, and consume food requires a range of resources presently unavailable at the community scale. Using a participatory action research approach, this research examines the potential pathways available to KTFN to strengthen CAVF dimensions by identifying attributes across scales. This research contributes to ongoing discussions around complex relationships within food systems and emphasizes that these relationships are contingent upon specific community contexts which in turn influence the outcomes of their interactions. For example, Kakisa's small population poses advantages and challenges for managing food systems. While a small population offers advantages such as close kin bonds that support increased participation and sharing, there is simultaneously limited capacity to take on growing numbers of projects. Additionally, this research analyzes how communities with limited community-level attributes can develop strategies to access and leverage CAVF attributes at regional and higher levels to acquire and maintain the attributes and resources they require over the long term to achieve their community goals.

To support the long-term viability of local food system projects in the North, more space is needed for communities to share culturally relevant knowledge and skills that can be utilized and passed on to future generations. To accomplish this, KTFN has taken a two-pronged approach to achieve long-term viability. The community has established garden infrastructure, programming, and financial support for growing food within a short timeframe to generate local interest and

demonstrate the immediate impacts that garden foods can have on community health and wellbeing. They are also providing opportunities for community members to build needed skills through local training sessions and workshops. Such skills building is part of a longer-term strategy to grow capacity within the community so that food projects can be managed locally. This strategy takes a multi-scalar approach, drawing on available resources from the surrounding region and beyond to focus on rapidly building critical infrastructure and project support while also nurturing long-term community capacities, which can contribute to long-lasting project viability, along with positive community wellbeing and self-sufficiency outcomes.

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Research Article

Rethinking jurisdiction: Mapping federal, provincial, territorial and local government actions related to food loss and waste in Canada

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Abstract

This manuscript utilizes data from policy stakeholder interviews and a systematic search of government websites to identify how the federal, provincial, territorial, and local governments in Canada address food loss and waste (FLW) and how stakeholders interpret jurisdiction over this issue. The findings show that government policies related to this issue represent a patchwork of disparate and overlapping actions that have been enacted by governments at different levels and across a variety of departments and agencies (e.g., environmental, agricultural, economic). Of these policies, only a few were identified as having the explicit objective to reduce the generation of this waste and/or divert it from landfill. Most policies, in fact, had non-FLW related objectives (e.g., to improve the profitability of the agricultural sector), but still had a potential or actual impact on the generation and/or management of this type of waste. Despite it being unclear who has jurisdiction over FLW in the country, an examination of interview transcripts reveals that policy stakeholders have limited views of which government entities have the authority to address FLW. This manuscript argues that the lack of jurisdictional clarity presents a barrier to a more comprehensive governance of FLW. While it may be possible to clarify who has jurisdiction over this issue, this manuscript contends that policy stakeholders need to rethink their understanding of jurisdiction itself. This manuscript operationalizes Valverde's "work of jurisdiction" to present an alternative way to interpret jurisdiction that opens new possibilities for the governance of FLW.

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Résumé

Cet article utilise des données issues d'entretiens avec des acteurs politiques et d'une recherche systématique sur les sites Web gouvernementaux afin de déterminer comment les gouvernements fédéral, provinciaux, territoriaux et locaux du Canada traitent les pertes et le gaspillage alimentaires et comment les parties prenantes interprètent la délimitation des compétences en la matière. Les résultats montrent que les politiques gouvernementales concernant cet enjeu constituent un patchwork de mesures disparates et redondantes adoptées par les gouvernements de différents paliers et par divers ministères et organisations (ex. : environnement, agriculture, économie). Seules quelques-unes de ces politiques ont été identifiées comme ayant l'objectif explicite de réduire ce gaspillage ou de détourner les pertes des décharges. En fait, la plupart des politiques n'avaient pas d'objectifs liés aux pertes et au gaspillage alimentaires (ex. : améliorer la rentabilité du secteur agricole), mais avaient tout de même un effet réel ou potentiel sur la création ou la gestion de ce type de gaspillage. L'attribution du pouvoir en matière de pertes et de gaspillage alimentaires au Canada reste floue, certes, mais l'examen des transcriptions des entretiens révèle que les acteurs politiques concernés ont une vision limitée lorsqu'il s'agit de savoir quelles entités gouvernementales sont responsables d'un tel dossier. Nous soutenons que le manque de clarté dans la répartition des compétences empêche une gouvernance plus complète en matière de pertes et de gaspillage alimentaires. S'il est possible de clarifier qui a la responsabilité de cet enjeu, les acteurs politiques doivent aussi repenser leur compréhension même des compétences. Nous mobilisons le concept de « travail des compétences » de Valverde pour présenter une autre façon d'interpréter cette notion qui ouvre de nouvelles possibilités pour la gouvernance en matière de pertes et de gaspillage alimentaires.

Introduction

Food loss and waste (FLW) is a significant issue. In Canada, almost sixty percent of food meant for human consumption is lost or wasted annually (Gooch et al., 2019, p.23). This uneaten food causes substantial environmental and economic harm. It squanders valuable resources (Gustavsson et al., 2011), generates 56.5 million tonnes of methane gas when disposed of in landfills, and costs the economy $49.5 billion each year (Gooch et al., 2019, pp.5-6).

Despite this harm, it is not currently clear which societal groups in Canada (e.g., government, nonprofit organizations, businesses) are involved in the governance of this harmful issue nor what they are doing to tackle it. The roles and actions of government are particularly unclear. Some FLW scholars have analyzed specific policy actions at the federal (Soma, 2018), provincial (DeLorenzo et al., 2018; Kinach et al., 2020), and local levels (Millar et al., 2020), but there has not yet been a systematic mapping of how this issue has been addressed across government departments and agencies at different

levels.[1] This mapping could contribute important insights into efforts to reduce and/or divert FLW from the landfill, Canada's progress relative to other countries, and gaps remaining to be addressed. While provincial governments traditionally oversee waste issues (Bendickson, 2020), mapping out actions throughout the country may allow for policy stakeholders to broaden their assumptions about who else can and should take FLW policy action and expand available options.

This manuscript utilizes data from a systematic search of government websites and policy stakeholder interviews to answer the following questions: how do federal, provincial, territorial, and local governments in Canada address FLW? What does this reveal about jurisdiction over this waste? This manuscript argues that the lack of jurisdictional clarity presents a barrier to more comprehensive FLW governance. While clarifying jurisdiction is possible, policy stakeholders need to rethink their understandings of jurisdiction itself. This manuscript operationalizes Valverde's (2008, 2009, 2014, 2021) "work of jurisdiction" to present an alternative understanding of this concept that opens new possibilities for FLW governance.

The multi-scalar governance of FLW

Within the past two decades, FLW has received significant global attention (Smith, 2020). This has prompted an increase in both government policy action to address this issue (Reynolds, 2023) and academic studies to examine these actions. Busetti and Pace (2023) refer to the contemporary period as the "era of food loss and waste policy" (p.3).

FLW is a complex governance issue that lacks a uniform definition (Roodhuyzen et al., 2017) or a harmonized measurement system (Xue et al., 2017). This has complicated policy stakeholders' ability to understand what FLW is, to quantify and track its distribution throughout the agri-food system, and to prioritize their attention. These challenges are also compounded by the fact that FLW lacks a clear problem definition (e.g., has several causes, occurs in multiple locations, and involves a lot of actors) (Närvänen et al., 2019). They are also exacerbated by FLW crossing several policy areas (e.g., waste management, climate change, food insecurity) and the fact that its impacts are not limited to national or sub-national borders (Righettini & Lizzi, 2019). The interjurisdictional nature of this issue requires multiple solutions, operating at a variety of scales, and implemented by various actors (Soma et al., 2020). This complexity has made it challenging to determine appropriate actors and strategies for FLW governance.

The types of policy stakeholders involved in FLW governance and the roles they have taken vary across countries (Castells-Somoza, 2023). For example, Szulecka et al. (2019) point out that, while Sweden's national government has led the charge on addressing FLW, Norway has relied on the business sector, and Denmark on citizen action. Governments sometimes build off the momentum of other societal groups, as in the case of China where the national government revamped a citizen-led campaign (Feng et al., 2022; Shen et al., 2023). Governments also sometimes decline to implement FLW legislation and regulations if a nonprofit organization has made strides in addressing the issue, like in the UK (Blakeney, 2019). Occasionally, government policy action at one level influences actions at other levels, as in the case of the European Union whose lack of FLW legislation and regulations

[1] From a geographical perspective, the preferred term here would be "scale" to problematize the top-down, hierarchical understanding of federal, provincial, territorial, and local governance and to acknowledge the political nature of how space is divided in the country (Rodgers et al., 2013). This manuscript utilizes the term "level" as this is a common policy term.

complicated governance efforts in specific European countries (Arroyo Aparico, 2015; Porter, 2020). This can also be seen in the case of Catalonia, Spain, whose implementation of FLW legislation has motivated its national government to follow suit (Castells-Somoza, 2023).

Governments throughout the world vary significantly in terms of the policy actions they have implemented to address FLW. Some have introduced national FLW reduction strategies (Ananno et al., 2021; Bird et al., 2022). Other governments at various levels have implemented legislation and/or regulations that ban organic waste from landfills (Millar et al., 2020; Ryen & Babbit, 2022), protect businesses from liability for donating surplus food (Broad Leib & Ardura, 2022), prohibit public officials from wasting food (Shen et al., 2023), require specific sectors to recycle their waste (Okayama & Watanabe, 2024), or mandate that retailers donate their surplus food (Mourad, 2022; Sokołowski, 2019). Others have also encouraged FLW reduction and diversion through non-regulatory means, such as tax incentives for food donation (Kinach et al., 2020; Ryen & Babbit, 2022), funding for nonprofit organizations (Bird et al., 2022; Blakeney, 2019), educational awareness campaigns (Shen et al., 2020), and collaboration with non-governmental policy stakeholders (Biggi et al., 2024; Porter, 2020). Governments also address FLW indirectly via policy action related to solid waste management (Sahakian et al., 2020), renewable energy, compost production, and animal feed (Richa & Ryen, 2018; Shurson et al., 2023; Tsai, 2020), and sustainable agrifood systems (Olejniczek & Lyubashenko, 2024; Soma, 2018).

While scholars have critiqued governments for not doing enough to address FLW, little research investigates jurisdictional questions such as which government entities have (or do not have) the authority to address this issue and the reasons for this. Similarly, differences in FLW governance and its impacts between government entities have also been under-researched. This manuscript builds on the existing FLW policy literature by adding empirical evidence of what governments are doing in Canada to address FLW and by asking these deeper jurisdictional questions. The next section provides contextual information on how jurisdiction works in Canada.

Jurisdiction in Canada

Canadian jurisdiction is complex. Canada is the second largest country in the world by area (Statistics Canada, 2011, p.208). It is divided into ten provinces and three territories, which are further subdivided into over 3500 municipalities (Muniscope, n.d.). Some provinces also have an additional tier of regional governments (i.e., collections of municipal governments). Sections ninety-one to ninety-five of *The Constitution Acts of Canada, 1867 to 1982* are the main reference points for determining what authority each level of government possesses to govern different aspects of society (Bendickson, 2020). This legislation gives the federal government legislative authority (i.e., the power to implement laws) over trade and commerce, navigation and shipping, interprovincial and international matters, fisheries, criminal law, and Indigenous peoples and lands, among other things (Brideau et al., 2019). Provincial governments[2] can implement laws related to the development of natural resources, property and civil matters, local matters, and municipalities (Brideau et al., 2019). Municipal governments are "creatures of the province" in the sense that they are not assigned power

[2] Territorial governments do not have authority under the *Constitution* but have been given some of these powers and responsibilities from the federal government (Brideau et al., 2019).

under this act but can be given responsibilities by the provinces (Bendickson, 2020).

While the division of powers may appear distinct and definite on paper, it is not so in practice. Case law shows a long history of court cases in which jurisdiction has been contested (Environmental Law Centre of Alberta, 2003). Jurisdictional conflict occurs partly because the *Constitution* allocates legislative powers based on broad societal areas rather than specific issues, leading to overlap across levels of government (Bendickson, 2020). For example, the federal government typically governs toxic substances, hazardous waste, and waste on federal and Indigenous lands (Becklumb, 2019). Provinces, on the other hand, govern waste management within their geographic spaces (Yunis & Aliakbari, 2021) and can give municipalities the power to implement bylaws related to waste management (Environmental Law Centre of Alberta, 2003). Potential overlapping powers at different levels complicate governance, especially for FLW which spans multiple policy areas beyond waste management (Righettini & Lizzi, 2019).

The work of jurisdiction

Valverde's (2008, 2009, 2014, 2021) research on the "work of jurisdiction" challenges traditional understandings of jurisdiction. Jurisdiction is typically understood in terms of who governs (e.g., level of government, department, and/or agency), what is governed (e.g., people, things), and where this governance occurs (e.g., geographic space, area of society). It is also seen as something that can be assigned or possessed. While jurisdiction does not equate to sovereignty, the lines between jurisdictions are seen by policy stakeholders as relatively clear with minimal conflict. Valverde (2009) argues that these assumptions are "the work of jurisdiction." This "work" obscures how jurisdiction operates by making choices about governance appear technical, rather than political. Valverde (2008) points out that, when one aspect of jurisdiction is determined (e.g., who has authority), all other aspects (e.g., what/where/when/how they govern) automatically fall into place. The problem with this is that each government entity has unique rationalities, logistics, and access to resources and policy mechanisms that shape the specifics of how they govern. The uniqueness of each government entity's approach results in fundamentally divergent impacts on the people, spaces, and things that are being governed. Valverde (2008) prompts readers to think about "what would happen to the public infrastructure deficits of North American cities, if garbage disposal, homelessness and public transit were regarded as questions of national biopolitical security" (pp.6-7). The purpose of this question is to make the reader think about how something like public infrastructure would change if its governance was shifted to a different level.

The "work of jurisdiction" obscures that jurisdiction is something that is unsettled and that must be enacted continuously. Valverde (2021) discusses how, even though the *Constitution* divides legal authority among levels of government, in practice a government can claim jurisdiction over an issue by implementing a policy action related to it. A federal government can, for example, claim jurisdiction over a local space by providing funding for a local program. Jurisdiction can also be refused by not implementing policy actions, like in the case of a government who wants to avoid backlash from stakeholders (Valverde, 2021). The "work of jurisdiction" also conceals that jurisdiction is inter-legal. This means that multiple government entities can govern the same issue, simultaneously, in ways that overlap and conflict.

This alternative understanding of jurisdiction is a valuable analytical tool that has been used to examine the governance of a wide range of issues. Pasternak (2014,

2017), for example, has used it in the context of settler colonialism to challenge the Canadian government's claims of sovereignty and denial of Indigenous jurisdiction. Lepawsky (2012) has explored the inter-legal nature of e-waste governance in and beyond Canada and showed the role that jurisdiction plays in characterizing which electronic devices count as e-waste and can therefore be recycled. This manuscript uses Valverde's concept of jurisdiction to question the unwritten rules for who can govern FLW and how governance and its impacts differ among government entities.

Methods

Data collection

The author conducted a systematic search of federal, provincial, and territorial government websites and interviews with policy stakeholders to identify government policy actions related to FLW. FLW was defined here in the broadest sense to include any edible and inedible parts of food items that have been lost or wasted anywhere throughout the agrifood system. This process involved an advanced Google search of each government's general website with search terms from the academic literature. These search terms included: "food waste," "food loss," "surplus food," "organic waste," "circular economy" + "food," "circular economy" + "organic," "solid waste" + "food," "solid waste" + "organic," "compost,*" "waste diversion" + "food," "waste diversion" + "organic," and "source separated organics." This process was repeated for department-specific websites if said department was found through the original search. All results for these searches were recorded in an Excel sheet with descriptive information. This search took place from mid-May until October 2021 and yielded over one thousand webpages and documents. The author then invited relevant stakeholders (e.g., government policy advisors at all levels, high-level employees of non-governmental organizations, consultants, and academics) to participate in online, semi-structured interviews. These interviewees were selected using a hand-picked sampling strategy (O'Leary, 2004) with the criteria that they either worked for a government who has implemented policy actions related to FLW or an organization that has engaged a government on this topic. These interviews took place from May until December 2022 and yielded sixty-five interviews. The author also included nine interviews from a 2021 project on FLW measurement that met this criterion. Some interviewees chose to provide written responses.

Data analysis

The author conducted a qualitative content analysis of the website results and interview transcripts. This involved two steps. The first was to identify FLW policy actions. Policy action was defined broadly to capture a wide breadth and depth of activities. It included any measure (e.g., legislation, regulation, strategy, educational effort, funding program) a government has taken that related to FLW or the broader categories of organic waste and solid waste (under which FLW falls), regardless of the actors or sectors targeted. It also included policy-relevant actions, such as research and report-based efforts, as these are part of the policy process and serve as indicators of government interest in the issue. Policy and policy-relevant actions were included if they either had the primary objective to prevent, reduce, and divert FLW

or had non-FLW objectives (e.g., regional economic growth) with a potential or actual impact on the generation and/or management of FLW. The second step used deductive coding to capture descriptive and evaluative information about each of these actions (e.g., who implemented them, which actors they targeted, what type of policy mechanism they used). This information was compiled in an Excel sheet. During the coding process, any new and relevant webpages and documents that came up were collected and coded as FLW is a fast-growing policy area in Canada. This coding process took place from May until the end of August 2023. The author also conducted a qualitative content analysis of stakeholder interviews using NVIVO to inductively code for statements regarding who has or does not have jurisdiction over FLW.

Limitations

This manuscript did not capture all FLW government policy actions in Canada. The website search, for example, failed to find some government actions that the author knew existed beforehand (i.e., food donation liability legislation in a few provinces). The website search may have missed some policy actions because of the search terms used, or due to a government either not posting them on their website or posting about them on a separate website that was not identified through the author's search. In terms of interviews, approximately sixty government entities found via the website search declined an offer to participate in an interview as most of them believed that FLW was not part of their jurisdiction. For government representatives who did participate in the interviews, it is possible that they were unable to or forgot to share some of their actions. Policy actions in Quebec were under-represented since most webpages and documents were only available in French and, therefore, did not show up via the English-based search of the Quebec government's website. Most of the data mentioned in the findings section for this province came from interviews. Local government actions were also underrepresented. The author did not conduct a systematic search of regional or municipal government websites and only interviewed a few policy advisors from the local level because formal jurisdiction over waste resides at the other levels of government.

Findings and discussion

Federal government policy actions

Table 1 shows that there are approximately twenty federal government departments and/or agencies who have implemented policy actions related to FLW. This table lists each government entity, their overarching mandate, the FLW-related policy actions, and whether these actions had the explicit objective to reduce and/or divert FLW.

Environment and Climate Change Canada (ECCC) has implemented the most FLW-related policy actions at the federal level. This department approaches FLW as a potential harm to the natural environment and has focused exclusively on FLW's impact on climate change. This framing sees the diversion of this waste from landfill as an avenue to reduce the country's greenhouse gas emissions. Besides committing in 2015 to the *United Nation's 2030 Sustainable Development* target 12.3 to reduce the country's FLW (Environment

and Climate Change Canada, 2019, p.1), the department's actions that explicitly aim to reduce and/or divert FLW have mostly involved information gathering to assess how the issue can be addressed. This has included working with the Commission for Environmental Cooperation (CEC), a North American governmental organization, starting in 2017 to produce reports on the issue (Commission for Environmental Cooperation, 2017a-e) as well as educational toolkits for schools (CEC, 2019, 2024a) and measurement guides for businesses (CEC, 2021, 2024b).

Table 1: Federal Government Policy Actions Related to Food Loss and Waste

Department/Agency	General Mandate	Policy Actions	Was the objective to address FLW?
Environment & Climate Change Canada	To protect the environment	Signed an international agreement on sustainable development	Yes
		Supported a governmental organization's work on FLW	Yes
		Produced reports measuring FLW and organic waste	Yes
		Developed a tool for organic waste management	Yes
		Addressed climate change via international agreements, legislation, regulations, strategies, reports, guides, and funding programs	No
		Implemented legislation and regulations, funded programs and released guides and reports related to environmental protection	No
Agriculture & Agri-Food Canada	To support agricultural sector growth	Established a national food strategy	Yes
		Launched funding programs to tackle FLW and food insecurity	Yes
		Hosted a podcast about agricultural issues	Yes
		Donated surplus food from research centers	Yes
		Implemented a funding program with provinces/territories to improve their agricultural sectors	No
Global Affairs Canada	To maintain international relations	Released a video on FLW	Yes
		Participated in international discussions on agricultural, social, and environmental issues	No
Statistics Canada	To produce national statistics	Produced national statistics on waste management and agriculture	Yes
Fisheries & Oceans Canada	To oversee oceans and fisheries	Signed an agreement, released a report and a guide that touch on waste in oceans and fisheries	No
		Financed clean energy technology projects	No
Health Canada	To protect residents' health	Released information on healthy eating	No
Canadian Food Inspection Agency	To ensure food safety	Implemented legislation and regulations, provided information on food safety	No
		Issued standards related to food quality	No
		Enacted legislation and regulations, provided information on biosecurity	No

Infrastructure Canada	To develop public infrastructure	Launched a funding program with the provinces/territories for public infrastructure	No
		Issued an economic strategy for rural communities	No
Natural Resources Canada	To develop natural resources	Released reports on waste resources	No
		Published reports and guides on energy efficiency	No
		Financed clean energy projects	No
Parks Canada	To oversee national parks and lands	Implemented legislation and regulations, issued guides on waste management in national parks	No
Regional development agencies (multiple)[3]	To advance regional economic development	Offered funding to support regional businesses	No
Indigenous Services Canada	To support Indigenous peoples and lands	Provided funding for infrastructure, clean energy, and food security projects on Indigenous lands	No
Canadian Revenue Agency	To manage taxes	Offered a tax incentive for the use of scientific information and technology by businesses	No
Treasury Board of Canada	To offer advice on how to spend tax dollars	Developed a guide on property management for federally owned properties	No
Public Service & Procurement Canada	To assist the federal government in its purchases	Created a pest management guide for federally owned properties	No
Employment & Social Development Canada	To enhance residents' standard of living	Handed out awards for the volunteer sector	No
National Defense Canada	To support the Armed Forces	Hosted a challenge to improve the sustainability of portable camps	No
Immigration, Refugees & Citizenship Canada	To manage the immigration process	Released a video series on immigrant success stories	No
Library & Archives Canada	To preserve national documents	Renovated their building to be net zero	No

Within the last few years, ECCC has also created a few Canada-specific reports quantifying FLW and organic waste (AET Group Inc., 2021; ECCC, 2020a), evaluated the feasibility of a municipal organic waste measurement database (Interview #46), and developed a tool to help users assess the emission outputs of different organic waste management options (ECCC, 2022a-c). The rest of this department's policy actions have indirectly related to FLW. For example, this can be seen through the department's actions related to climate change. ECCC's (2020b) national climate change plan, *A Healthy Environment and a Healthy Economy,* its legislation and regulations like the *Greenhouse Gas Pollution Pricing Act* (2024), *Clean Fuel Regulations* (2024), and *Canadian Net-Zero Emissions Accountability Act* (2021), and its funding programs, like the 2017 Low Carbon Economy Fund, have set the stage for organic waste diversion (ECCC, 2021, 2024).

Agriculture and Agrifood Canada (AAFC) has the second highest number of policy actions on FLW at the

[3] Relevant agencies include Atlantic Canada Opportunities Agency, Canadian Economic Development for Quebec Regions, Federal Economic Agency for Southern Ontario, Pacific Economic Development Canada, and Prairies Economic Development Canada.

federal level. This department has primarily treated FLW as an outcome of an inefficient food system and an opportunity to improve sustainability and food security. AAFC's FLW-specific actions have included the development of the country's first national food strategy in 2019, which prioritized FLW reduction (Agriculture and Agri-Food Canada, 2019, 2023, November). This department has also implemented funding programs to reduce FLW and improve food security. The federally funded Food Waste Reduction Challenge, for example, was launched in 2020 and has provided financial incentives for businesses and nonprofit organizations to develop innovative "solutions" to FLW (AAFC, 2020, November). The Surplus Food Rescue Program was a temporary COVID-19 pandemic funding program to finance, package, transport, and redistribute surplus food from farms and factories to communities experiencing food insecurity (AAFC, 2020, August). This department has also raised awareness about FLW on its agricultural podcast (AAFC, 2021, January 6) and has donated surplus food grown at its research centers to those in need over the last few years (AAFC, 2022). While not explicitly focused on FLW, the department's Canadian Sustainable Agricultural Partnership,[4] an ongoing funding program launched in 2018 with provincial and territorial governments to improve the competitiveness of their agri-food systems (AAFC, 2023, June), has had some impact on FLW management. For example, it has funded projects like an on-farm biogas study (Hallbar Consulting, 2020) and the production of insect-based animal feed products made from FLW (AAFC, 2021, January 18).

While Statistics Canada worked with stakeholders to improve agricultural statistics for more accurate FLW estimates (Interview #29) and Global Affairs Canada has produced an FLW awareness video (Interview #48), the rest of the government entities at this level have addressed the issue indirectly. The Canadian Food Inspection Agency, for example, has unintentionally contributed to the generation of FLW through legislation and regulations such as the *Food and Drugs Act* (2024), *Safe Food for Canadians Act* (2023), and *Safe Food for Canadians Regulations* (2024). These actions have set standards for the quality, appearance, packaging, and labelling of food items, and, in turn, led to discarding edible food. This agency has also amended other pieces of legislation in ways that have limited FLW management options through their efforts to prevent global biosecurity-related outbreaks. For example, the *Health of Animals Act* (2019) banned food waste containing meat as a source of pig feed and the *Fertilizers Act* (2020) prevented the use of specified risk materials from ruminants like cows as fertilizer on food crops. Other departments, like Health Canada through its healthy eating guide (Health Canada, 2019) and Employment and Social Development Canada (2017) via a volunteer award to La Tablée des Chefs, a food redistribution organization, have indirectly encouraged FLW reduction and diversion.

This subsection shows that the federal government has not taken the lead on addressing FLW. Despite a failed attempt to pass FLW legislation (i.e., *An Act to Establish National Food Waste Awareness Day*, 2020), Canada currently lacks a national strategy to tackle FLW and legislation or regulations to encourage its reduction, monitoring, and measurement. There has similarly been no guidance from the federal government on how policy stakeholders can tackle this issue. Most explicit FLW management policy actions were only introduced in the past five years. While some FLW and food security funding programs have targeted specific

[4] This was previously called the Canadian Agricultural Partnership but goes by this new name as of 2023.

actors (e.g., businesses, food security, food producers and processors), many actions lacked specific targets, calling for all actors to play a role. Policy action at this level has relied on largely persuasive (i.e., provided information) and market-based policy mechanisms (i.e., offered economic incentives or disincentives) rather than stronger regulatory measures to encourage others to reduce and divert their FLW (Giordano et al., 2021). These actions have also aimed to reuse surplus food and divert waste from landfills, rather than to prevent its generation. According to Mourad (2016), this would constitute weak sustainability as these actions reinforce, rather than challenge, the systemic causes of FLW.

Provincial & territorial policy actions

Table 2 breaks down government policy actions at the provincial or territorial level by department type (e.g., environmental, agricultural). Each provincial or territorial government differs in how they name their departments and agencies as well as how they distribute responsibilities among these entities. This is partly due to the unique geographic, demographic, political, social, and economic characteristics that shape their governance structures. Despite these differences, government departments and agencies can be grouped into department types based on the similarity of their general mandates. These department groupings include environment; agriculture, aquaculture, and fisheries; natural resources and energy; infrastructure and municipal affairs; community and social services; health; economic development; education; and other. Table 2 lists the department types, their mandates, FLW-related policy actions, governments who have implemented these actions, and whether said actions had the explicit objective to reduce and/or divert FLW.

Environmental departments have implemented the most policy actions on FLW at this level. These actions have primarily focused on FLW's environmental harms (e.g., soil and water contamination, climate change, human-animal conflict). Actions have also varied significantly, with only a few provinces addressing FLW management directly. Nova Scotia and Prince Edward Island, for example, banned organic waste in landfills in 1997 and 2002 via *Solid Waste-Resource Management Regulations* (2023) and amendments to the *Resource Management Regulations* (2019). Ontario and Quebec introduced strategies to reduce FLW and organic waste in 2018 and 2020 (Ministry of Environment, Conservation & Parks, 2018a, b; Interview #34; see Ministère de l'Environnement et de la Lutte contre les changements climatiques, 2020). Quebec also released a province-wide FLW measurement report (Recyc-Québec, 2022). Manitoba, on the other hand, implemented the Compost Support Payment program in 2014 to finance compost facilities based on tonnage of organic waste that they divert (Government of Manitoba, 2024). British Columbia has also created a substantial collection of resources to encourage various sectors to measure, reduce, and/or divert their food waste, which are accessible on their website (Government of British Columbia, 2022). These actions also include recent funding for organic waste diversion infrastructure (Government of BC, 2023, 2024 August), toolkits for food waste prevention (Ministry of Environment and Climate Change Strategy, n.d., a, b; Tetra Tech, 2015), and case studies on organic waste (Government of BC, n.d.). Besides this, environmental departments at this level have addressed FLW indirectly through their policy actions on waste management, climate change, and general environmental protection.

FLW has not been addressed consistently among agricultural, fisheries, and aquaculture departments at this level. PEI plans to develop a FLW reduction strategy (Interview #15, see Honourable A. Perry, 2021,

p.16) and Quebec introduced a biofood strategy in 2021 that contains measures to prevent FLW upstream (Interview #34; see Government of Quebec, 2021). Besides this, most of these departments address FLW indirectly through their efforts to improve the profitability of these sectors. Some provincial governments, like Alberta (Government of Alberta, 2024) and Nova Scotia (Interview #28), have offered consultation services and conducted organic waste inventory reports (Alberta Agriculture & Forestry, 2015). These departments also financed businesses to encourage the use of surplus food and organic waste for value-add products, such as flax shives turned into fire logs (Interview #51) and non-filet pieces of salmon made into jerky (Interview #50). They have additionally addressed agricultural waste through regulations on managing dead animals (Department of Municipal Affairs & Environment, 2017; *Ontario Regulation 105/09: Disposal of Deadstock*, 2009) and information on crop loss prevention (Ministry of Agriculture, Food & Fisheries, 2021; Ministry of Fisheries, Food & Agriculture, n.d.). Efforts by these departments have also recently included the promotion of surplus food donation and purchase (Interview #39, 50, 63) and the use of organic waste as a compost product (Government of Yukon, 2016) to bolster self sufficiency in local food systems.

Table 2: Provincial and Territorial Government Policy Actions Related to Food Loss and Waste

Department/ Agency Type	Mandate	Policy Actions	Province/Territory[5]	Was the objective to address FLW?
Environment	To protect the environment	Implemented an FLW and/or organic waste reduction strategy	ON, QC	Yes
		Enacted regulations that ban organic waste from landfills	NS, PEI	Yes
		Funded programs to reduce and/or divert FLW and/or organic waste	BC, MN, NL*, ON, QC*	Yes
		Conducted research on FLW and/or organic waste	BC, MN, NL, NT, ON, PEI*, QC*, SK	Yes
		Provided information on improving FLW and/or organic waste management	BC, NB, NL, NS, PEI*, QC, SK	Yes
		Managed solid waste via legislation, regulations, guidelines, reports, and/or funding programs	All	No
		Addressed climate change via international agreements, legislation, regulations, strategies, reports, guides, and funding programs	All except NU	No
		Protected the environment broadly via legislation, regulations, guides, reports, and funding programs	All	No

[5] An Asterix (*) is used to indicate that a policy action was taken by an agency (e.g., waste, food, economic), rather than a department. Province/Territory abbreviations: Alberta (AB), British Columbia (BC), Manitoba (MN), New Brunswick (NB), Newfoundland and Labrador (NL), Northwest Territories (NT), Nova Scotia (NS), Nunavut (NU), Ontario (ON), Prince Edward Island (PEI), Québec (QC), Saskatchewan (SK), Yukon (YK).

Agriculture, aquaculture, and fisheries	To support sector	Offered services for and/or conducted studies on transforming FLW and organic waste into value-add products	AB, MN, NB, NS*, ON, PEI	No
		Provided information on agriculture waste management	All	No
		Established funding programs with the federal government to support the growth of these sectors	All	No
		Developed strategies and/or provided information to increase the profitability of these sectors	All	No
		Provided services and/or created funding programs to address food insecurity	PEI	No
Energy and natural resources	To develop natural resources	Implemented a renewable energy strategy and/or featured it within their broader energy policy	AB, BC, NB, QC, NL, NT, NS, ON, PEI, QC	No
		Provided financial incentive system to develop renewable energy projects	BC, NS, ON, QC	No
Infrastructure and municipal affairs	To manage government infrastructure and support municipalities	Developed funding programs with the federal government to build municipal infrastructure	All	No
		Created environmental guides for government-owned infrastructure	AB, BC, NB	No
		Provided funding, awards, guides, and reports to help municipalities reduce their greenhouse gas emissions	BC	No
Social and community services	To support residents' wellbeing	Offered funding for projects that improve resident well being	AB, BC, MN, NL	No
		Developed a poverty reduction plan and/or held workshops on it	BC, NB*, NU, ON, QC, SK	No
Health	To protect residents' health	Issued FW reduction tips for residents	AB	Yes
		Provided information on food safety related to food donation	BC, NB	Yes
		Implemented food safety regulations and developed guides	All	No
		Created nutrition guides	MB, NB, NL, NS	No
Economic development	To strengthen the economy	Provided funding to support businesses and/or rural areas	BC, NB*, NU	No
Education	To support children's education	Developed nutrition and/or sustainability support for schools	AB, BC, MN, NS, SK, YK	No
		Provided guidance for curricula	NB, NS, NL, ON, PEI, SK	No
Other	N/A	Offered tax incentives for farmers to donate their surplus food	ON, NS, QC	No
		Enacted legislation to protect food donors from liability	BC, ON, NB, NS, NT, NU, MN, PEI, QC, YK	No
		Provided information and/or financial support for recovering from a natural disaster	BC, NB, NL	No
		Introduced a contest related to the sharing economy	ON	Yes

Most other government entities at this level have addressed FLW indirectly. Select health departments have provided guidance on safe surplus food donation in British Columbia (British Columbia Centre for Disease Control, 2019a, b) and household food waste reduction tips in Alberta (Alberta Health Services, 2019). Besides this, energy and natural resource departments addressed FLW indirectly by treating it as potential feedstock for renewable energy. This can be seen via regulations like Prince Edward Island's *Renewable Energy Act* (2023) and Ontario's feed-in tariff programs for anaerobic digestion facilities (Interview #33; see Ministry of Energy & Electrification, 2022). Infrastructure and municipal affairs departments utilized money from the federal Investing in Canadian Infrastructure Fund program, which is an ongoing program started decades ago to co-fund organic waste diversion infrastructure (Housing, Infrastructure & Communities Canada, 2016). These departments also developed sustainability guides for public infrastructure (Alberta Infrastructure, 2018). Community and social service departments, on the other hand, supported surplus food redistribution to improve citizen wellbeing by financing organizations like the Leftovers Foundation (Government of Alberta, 2022). All governments at this level additionally implemented civil legislation to protect businesses from liability if they donate surplus food (e.g., Nunavut's *Donation of Food Act,* 2013; Saskatchewan's *Donation of Food Act*, 1995). These laws were variably introduced between 1988 and 2013 depending on the province or territory. Some governments, like Ontario in 2013, have introduced tax incentives to encourage farmers to donate surplus crops (Ministry of Finance, 2023).

Table 2 shows that most provinces and territories have not led efforts to address FLW. Many governments lack explicit strategies, regulations, or other policies to encourage FLW reduction and diversion. FLW-specific policy actions at this level have mostly utilized persuasive and market-based mechanisms that rely on food wasters to be aware that food waste is a problem and to act out of goodwill or economic incentive (Giordano et al., 2020). These actions have largely targeted waste management facility operators and local governments, prioritizing the diversion and use of FLW over its prevention (Giordano et al., 2020). For the most part, these policy actions reflect weak sustainability (Mourad, 2016). Quebec's biofood strategy to transform their agri-food system is an exception as it is an example of strong sustainability.

Local government policy actions

Local governments differ significantly in size, population, resources, and the power and responsibility delegated by their provinces and territories. This can influence their roles in waste management. For example, waste management at the local level can involve provincial and territorial governments, municipalities, regional governments, service boards, private companies, or a mix therein. Because of this diversity and the lack of systematic data collection conducted at this level for this manuscript, this section provides some examples of the ways that regional and municipal governments have addressed FLW.

Some regional and municipal governments have introduced food waste reduction strategies or included them in solid waste strategies, like Toronto (City of Toronto, n.d.). Many large cities now offer source-separated organics collection and processing services. Some have gone a step further in the last few years to implement bylaws that ban organic waste from landfills (Interview #53; see The Council of the Town of Banff, 2022). Quite a few regional and municipal governments also have ongoing educational campaigns and

information on their websites for residents related to FLW reduction and diversion. This includes media campaigns like Love Food Hate Waste (see Food Mesh, n.d.) and programs, like York Region's Good Food Program which set weekly FLW tasks for residents to complete and Let's Cook which taught cooking skills (Interview # 47; see The Regional Municipality of York, 2024a, b). Other municipalities have conducted research, such as pilot projects to test source-separated organics collection led by Ecology North in Whitehorse in 2009 (Interview #53) and Circular Innovation Council in Guelph-Wellington County in 2021 (Interview #10; see Alexander et al., 2023; Circular Innovation Council, n.d.). Some local governments have also tested solutions like at-home composter machines (Interview #17; see Federal Economic Development Agency for Southern Ontario, 2019), collaborating with academics on an examination of food redistribution practices in Saskatoon (Interview #58), and measuring food and other wastes via waste characterization audits and food diaries (ECCC, 2020a, pp.27-29; see Tetra Tech, 2023).

Regional and municipal governments have also indirectly impacted FLW management through initiatives like Guelph Wellington's 2021 Circular Opportunity Innovation Launchpad (2024) and Creston-Valley Kootenay Lake's 2016 Fields Forward (Government of British Columbia, 2024 December). These programs have financed the development of value-added products from surplus food. York Region also included the purchase of surplus local food in its recent local food strategy (Interview #47; see York Region Agriculture & Agri-Food, n.d.). Lastly, some governments at this level have engaged in ongoing, cross-departmental collaboration to tackle FLW. This involves waste and public health employees jointly educating the public about FLW reduction and healthy eating (Interviews #11, 17, 47; see Ontario Food Collaborative, n.d.).

While these represent some of the approaches to FLW that local governments have taken, they are not the norm. Many governments at this level have not prioritized FLW due to factors such as lack of awareness, competing priorities, small workforces, limited financial resources, insufficient authority as the "creatures of the province," or inadequate access to diversion infrastructure. Variability between local governments at this level in the types of policy mechanisms used and who they target in their FLW initiatives makes it difficult to evaluate policy actions at this level using Giordano et al. (2020) and Mourad's (2016) frameworks.

Stakeholder perceptions of FLW jurisdiction

An examination of interview transcripts revealed that policy stakeholders have limited views in terms of which government entities have the authority (and responsibility) to address FLW. Most interviewees were adamant that FLW fell under provincial and territorial, rather than federal, jurisdiction. An executive director for a waste non-governmental organization remarked that, "I don't know if the federal government [has] anything to do with food waste. I don't even know if it is their mandate." An executive director for a different non-government organization echoed these sentiments saying:

> Unfortunately, the federal government does not have a role. They should, but under our political system, they have no role, and they can try to bring together the provincial jurisdictions to do more. That's...one thing they can absolutely do. But...they do not have jurisdictional authority to really do anything.

This perception was not absolute, as some interviewees believed that the federal government did, in fact, have the power to regulate FLW-related matters.

Most stakeholders also identified environmental and, to a lesser degree, agricultural departments as having jurisdiction over FLW. This was evident through the refusal rate for government interviews. Sixty federal, provincial, and territorial government entities declined interview invites, with many of them expressing that FLW was not part of their jurisdiction and directing the interviewer to environmental and agricultural departments. Even some policy advisors from other departments who did accept interview invites said things like, "well food waste, as I said, isn't really part of my ministry" (a provincial policy analyst) and:

> I don't know if you've spoken to the food policy people at [Agriculture and Agri-Food Canada] yet, but they clearly have a scope of work that is...food loss and waste. We do not have that type of guidance, so it is not a priority. (a federal policy analyst)

There are likely many reasons why these stakeholders view FLW as the purview of environmental departments as opposed to that of other departments. One reason is that the federal government has done a lot of work framing FLW as a climate issue (i.e., as a way to substantially reduce greenhouse gas emissions) (see ECCC, 2019). This framing allows the federal government to tackle this issue, to some extent, under its Constitutional powers over international and interprovincial matters (Bendickson, 2020). As a climate change issue, this then falls within the authority of environmental (as opposed to other) departments.

Stakeholder perceptions of FLW jurisdiction were based on traditional understandings of jurisdiction as something to be possessed and siloed (Valverde, 2008). Despite the *Constitution* dividing jurisdiction into broad areas of society rather than specific issues like FLW, most stakeholders had the perception that FLW governance "belonged" to the provincial and territorial governments. Similarly, even though FLW crosses several policy areas (Righettini & Lizzi, 2019), stakeholders conceptualized FLW as a "waste" and/or "food" issue and identified environmental and agricultural departments as having the best fit in terms of mandate to address it.

Rethinking jurisdiction

This manuscript argues that the lack of jurisdictional clarity hinders more comprehensive FLW governance in Canada. The findings show that FLW governance in Canada is in its infancy. There is no legislation, regulations, or a harmonized strategy to reduce FLW in the country. Instead, a patchwork of unharmonized policy actions has been enacted by governments at various levels and across a wide range of departments and agencies. This patchwork consists of sometimes disparate, sometimes interconnected elements, with many aspects of the issue remaining inadequately addressed and/or unaddressed. The purpose of most policy actions was not to reduce or divert FLW, but they instead had indirect impacts through non-FLW policy objectives like economic growth. The few actions that explicitly sought to improve FLW management have only been implemented within the last five years and have mostly involved non-regulatory efforts to encourage rather than mandate action. All levels of government have largely addressed FLW by reducing surplus food and diverting waste away from landfills. This echoes Giordano et al.'s (2020) research, which has shown that governments typically neglect the prevention stage of the waste management hierarchy. Government policy actions at all levels have also

constituted weak sustainability according to Mourad (2016), as these actions focus on the symptoms rather than the root causes of the problem. Fragmented governance in Canada has partly been the result of an unclear jurisdictional division of legislative authority under the *Constitution* and the fact that FLW fits within multiple policy areas (Righettini & Lizzi, 2019).

While it may be possible to clarify FLW jurisdiction, this manuscript contends that it is also necessary for policy stakeholders to rethink how they understand jurisdiction itself. Most stakeholders assumed that FLW jurisdiction was located at the provincial and territorial levels in environmental and agricultural departments. These assumptions were underscored by a traditional understanding of jurisdiction as something to be assigned and as something that is siloed (Valverde, 2008). These points have important implications for who stakeholders expect to address this issue and who they hold accountable for the lack of progress to address FLW in Canada.

Valverde's (2008) alternative concept of jurisdiction allows for a more nuanced story about authority over and responsibility for FLW. This story casts all government entities identified in this research as players who have a stake in FLW jurisdiction and who could be held accountable for their actions (or lack thereof). The perception of some policy stakeholders that the federal government does not have jurisdiction over this issue also holds less weight. The federal government's efforts to sign the *2030 Agenda for Sustainable Development* (ECCC, 2019, p.1), to produce reports on FLW, and to encourage organic waste diversion under their climate change legislation could be seen as attempts to claim jurisdiction over FLW. It also recasts the lack of action by select provincial and territorial agricultural departments as a refusal to claim jurisdiction, and, therefore, as a political rather than a technical decision. Additionally, this reconceptualization highlights the inter-legal nature of FLW governance to show overlaps and/or conflicts in jurisdiction. For example, multiple levels of government and department types (i.e., agricultural, environmental, community, and social services) overlap in their funding of civil society organizations to divert surplus foods. Similarly, government entities within a single level of government differ in how they manage FLW, with environmental and infrastructure departments prioritizing the diversion and landfilling of FLW, agricultural departments focusing on the reuse of surplus food and waste, and energy departments finding ways to turn it into energy. These differing approaches have the potential to conflict like in the case of the United Kingdom where Bradshaw's (2018) work has shown how subsidies for renewable energy contradicted and took momentum away from food redistribution efforts.

Valverde's (2008) alternative understanding of jurisdiction also highlights how different government entities diverge in their governance of FLW and subsequent impacts on the people, spaces, and things connected to FLW. Across levels of government, for example, it was evident that different levels of government varied in the types of policy mechanisms that they used. The federal government utilized persuasive and market-based policy mechanisms rather than regulatory ones to try to reduce and/or divert. Provincial, territorial, and local governments, on the other hand, relied on a combination of several policy mechanisms, including regulations. At a department level, different types of government entities can be seen to conceptualize and engage the FLW problem in different ways. Environmental departments, who have a mandate of protecting the environment and its inhabitants, conceptualized food waste as a real or potential environmental contaminant. They mostly focused on food after the point where it has become "wasted" instead of before this point. They also targeted

waste management facility operators and local governments through regulations to control this contamination. Bradshaw (2018) points out that this focus on the end of the pipe is a systematic issue with waste law in general. Economic departments and agencies, on the other hand, have a mandate of improving the economic growth of a given region or province/territory. Through their policy actions, like funding businesses who create value-add products, they conceptualized food waste as an economic opportunity. Their attention focused on food processors, compost facility operators, and energy companies rather than on the commercial, institutional, and residential sectors.

Zooming out to look at all departments together, this reconceptualization of jurisdiction is important for understanding overall how Canada is approaching FLW governance and what gaps remain. For example, on-farm food loss is one area that seems relatively untouched. This reconceptualization can enable policy makers to find the departments best suited to address different aspects of FLW and to coordinate policy actions among jurisdictions to minimize conflicts. Most importantly, it can activate the jurisdiction of several departments to address this issue intentionally, contributing within the context of their mandates and, when possible, prioritizing reduction-based actions. This is not to say there should only be one level or department type that should lead the charge on this issue in Canada, but rather that every department can collaborate towards the same goal. This reconceptualization also allows citizens and other actors to hold a wider variety of government entities accountable for the nascent state of FLW governance, as it casts a wider net for which entities have the authority and responsibility to address FLW.

Conclusion

This manuscript analyzes data from a systematic website search and policy stakeholder interviews to examine the role of government in FLW governance in Canada. The findings show that FLW governance is a patchwork of direct and indirect policy actions by all levels of government and dozens of departments. The findings also show that policy stakeholders had a limited idea of who had jurisdiction over FLW, backed by traditional understandings of jurisdiction. This manuscript argues that the lack of jurisdictional clarity over FLW presents a barrier to more comprehensive governance of FLW and that stakeholders need to rethink jurisdiction itself. This manuscript uses Valverde's (2008) work to provide an alternative understanding of FLW jurisdiction and its governance.

This manuscript makes several contributions. It provides empirical evidence of what government entities are doing to tackle FLW in Canada. Canada is an understudied country in the FLW policy literature, and the analysis is of value to policy stakeholders to inform future governance. The second contribution is a methodological one. While a lot of FLW policy literature centers on a handful of selected policy actions, this manuscript utilizes a systematic website search to identify all government actions that relate to FLW. This approach identified a wider range of government entities that partake in FLW governance and the policy actions that impact FLW. This deepens the understanding of FLW governance and offers another way to analyze government actions beyond Canada. The use of Valverde's (2014) "work of jurisdiction" also

provides an important analytical tool for researchers to question how FLW jurisdiction works (and with what effects). Lastly, this manuscript makes a theoretical contribution. While Valverde (2008) points out that jurisdiction is often discussed in terms of "who" and "what," this manuscript raises the question of what happens when an issue is not established enough for the "who" and "what" to appear obvious to policy stakeholders. While other scholars have operationalized Valverde's (2008) work to point to the negative effects of the "work of jurisdiction" (see Lepawsky, 2012; Pasternak, 2014, 2017), this manuscript provides information that can be used to help create new governance possibilities to address issues like FLW in meaningful and impactful ways.

This manuscript recommends that policy stakeholders in Canada work collaboratively to intentionally think through which government entities are best positioned to address the various aspects of the FLW issue based on how they govern and the potential impacts they could have on FLW generation and management. Future research in this vein could focus on the role of other societal groups (e.g., civil society, business sector) in Canada and provide a deeper examination of government entities who do not consider themselves to have jurisdiction over this issue. This manuscript also recommends that scholars examine the "how" of jurisdiction in other countries to denaturalize assumptions about who does what with respect to FLW.

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Research Article

"Food brings people together": The sociocultural factors that shape food literacies

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Abstract

Food literacy, a multifaceted concept, is traditionally recognized across health, nutrition, and education disciplines as a critical strategy for combating dietary-related diseases and enhancing population health outcomes. Often viewed through a narrow lens focusing on food-related knowledge and skills, food literacy is now understood to encompass broader sociocultural influences. This study explored these influences on food literacy practices, using a qualitative approach that includes narrative writing activities and semi-structured interviews with community members in the Elmridge neighbourhood, a socioeconomically disadvantaged area in Niagara Falls, Ontario. The findings reveal that food literacy is shaped by a complex interplay of sociocultural factors such as social relations, health perceptions, gendered roles, economic status, and emotional connections to food. This expanded understanding suggests that food literacy education should integrate these contextual factors to more effectively address food insecurity and promote equitable food systems. The study's implications highlight the need for policy and educational frameworks that recognize the sociocultural dimensions of food literacy, advocating for more inclusive and comprehensive approaches to food literacy education.

Keywords: Case study; food literacy; food literacy education; narrative writing; sociocultural factors

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Résumé

La littératie alimentaire – un concept aux multiples facettes – est traditionnellement reconnue, dans les disciplines de la santé, de la nutrition et de l'éducation, comme objet d'une stratégie cruciale pour combattre les maladies liées à l'alimentation et pour améliorer la santé de la population. Souvent envisagée à travers l'étroite lentille des savoirs et compétences culinaires, elle est maintenant considérée comme englobant, bien plus largement, les influences socioculturelles. Cette étude a exploré ces influences sur les pratiques de littératie alimentaire en utilisant une approche qualitative qui incluait des activités d'écriture narrative et des entretiens semi-structurés avec des membres de la communauté d'Elmridge, un quartier socioéconomiquement défavorisé de Niagara Falls, en Ontario. D'après nos constats, la littératie alimentaire est façonnée par un jeu complexe de facteurs socioculturels, dont les relations sociales, les perceptions sur la santé, les rôles de genre, le statut économique et les liens émotionnels avec la nourriture. Cela suggère que l'éducation à la littératie alimentaire devrait intégrer ces facteurs contextuels pour mieux contrer l'insécurité alimentaire et promouvoir des systèmes alimentaires équitables. Les résultats de l'étude font ressortir le besoin de politiques et de cadres éducationnels qui reconnaîtraient les dimensions socioculturelles de la littératie alimentaire, et qui préconiseraient des approches de l'éducation à la littératie alimentaire plus inclusives et plus complètes.

Introduction

The growing literature on food literacy defines the term as more than food skills or nutrition knowledge. There is a consensus among three scoping studies (Azevedo et al., 2017; Cullen et al., 2015; Truman et al., 2017) that context affects understandings of food literacy with an increasing recognition of the food system, food environments, and sociocultural factors. Emerging concepts of food literacy include "extrinsic characteristics" (Azevedo Perry et al., 2017, p. 2412), such as food environments and the changing food system. They also include contextual influences (Colatruglio & Slater, 2016; Vidgen, 2014) like sociocultural (i.e., ways of living, values, and customs) and socio-economic factors.

The scoping study by Truman et al. (2017) finds that the term food literacy incorporates six domains: "skills and behaviours, food/health choices, culture, knowledge, emotions and food systems" (p. 365), as well as elements of "critical and functional knowledge" (p. 365). Truman et al. noted a shift away from a "health literacy lens focused on the individual, and towards a critical food studies lens that includes broader critical contexts" (p. 307). Within the definition offered by Truman et al. (2017), food literacy can be explored across multiple levels (individual, community, national and global) and across health, environmental, political, economical, educational, and ethical fields. It is indeed a very broad topic that encompasses and is affected by many facets of people's lives.

Problem statement and research question

The term food literacy continues to be used more frequently in academic literature, though it is defined and applied in a variety of ways (Thompson et al., 2021). The expanding definition of food literacy reveals a growing gap between how food literacy is conceptualized and how it is promoted and implemented in practice. Food literacy education has been used as a strategy to promote population health in today's context of rising rates of obesity and health-related impacts, as well as address the apparent widespread "deskilling" of youth and adults alike (Jaffe & Gertler, 2006; Markow et al., 2012). Studies claim that being food literate also equips individuals with the skills and knowledge needed to navigate today's complex food environment (Caroll et al., 2021). For the past decade, improving food literacy has been linked to healthier dietary behaviours (Begley et al., 2019a), increased nutrition (Howard & Brichta, 2013), healthier food consumption (Poelman et al., 2018), improved health outcomes (Howard & Brichta, 2019), and the creation of socially just food systems (Cullen et al., 2015). Further, food literacy has been identified as a tool to combat poverty (Sandor, 2016) and a strategy by policy makers to reduce food insecurity (Begley et al., 2019a). However, it is important to note that food literacy does not directly address the root causes of household food insecurity, which is rooted in a lack of income and is a "marker of pervasive material deprivation" (PROOF, 2022, p. 3). As Gallegos (2016) argues, food literacy programs may improve coping or resilience, but these interventions alone are not a solution to systemic poverty. Similarly, food literacy programs aimed at increasing healthier food consumption and better health outcomes often neglect contextual factors that prevent individuals from accessing healthy foods, such as a lack of sufficient income or access to an affordable grocery store.

This disconnect between food literacy development and the lived realities of participants points to a critical gap in current comprehension and applications of food literacy: a lack of understanding of how broader sociocultural and economic contexts influence individuals' food literacies. While increasingly recognized as a domain and attribute of food literacy, there is little research that illuminates what these sociocultural factors are and how they influence food literacies. To address this gap, this study asked: What are the sociocultural factors that influence participants' food literacies?

Sociocultural impacts on food literacy

While there is great debate among scholars about the definition of food literacy, and various applications of its meaning and impact, it is evident that the move to a broader definition is gaining ground. Keeping in mind that the majority of papers related to food literacy continue to be from health-related disciplines (Thompson et al., 2021), sociocultural factors are increasingly recognized to influence food literacy (Araque-Padilla & Montero-Simo, 2025; Azevedo et al., 2017; Cullen et al., 2015; McManus et al., 2022; Truman et al., 2017).

Azevedo et al. (2017) specifically mention sociocultural factors and eating influences as attributes of food literacy. Identified as one aspect of the ecologic category (extrinsic) of food literacy, the authors state that "socio-cultural influences and eating practices encompass values and norms as well as understanding the impact of food on personal well-being" (p. 2411). In addition, the authors list the self-efficacy and

confidence category, which is defined as "the ability to produce a desired or intended result" (p. 2409) in the context of health behaviours. According to Azevedo et al., "these abilities are not inherent but rather are acquired through supportive environments" (p. 2409), suggesting a strong sociocultural connection across the five attributes of this category (nutrition literacy, nutrition self-efficacy, food self-efficacy, cooking self-efficacy, and food attitude).

Culture, as one of the domains of food literacy identified by Truman et al.'s (2017) scoping study, is placed in the social level category along with food systems and emotion, while Cullen et al. (2015) list culture under individual food skills. Whereas the three scoping studies agree that sociocultural factors influence food literacy, the authors have presented a range of planes where these are situated (from micro to macro).

Food literacy versus food literacies

I am using the term *food literacies* in its plural form as opposed to singular to reflect the multi-modal (i.e., visual, tactile, oral, spatial) and multi-contextual (i.e., community setting, social role, identity) forms of literacies present in contemporary society (Cope & Kalantzis, 2009). This conceptualization of literacy was coined "multiliteracies" by the New London Group (1996), and it represented a new approach to literacy pedagogy with a focus on "modes of representation much broader than language alone" (The New London Group, 1996, p. 64). In this view, literacy "entails a range of communicative resources" (Barton & Hamilton, 1998, p. 9) and looks different depending on the social and cultural context (Barton & Hamilton, 1998). Food literacies in its plural form also aims to promote the broader connotation of food literacy beyond the common interpretation of food skills and knowledge to include concepts related to social, cultural, and historical elements, as well as contextual factors, such as the food system, food sovereignty, and food security. As such, I will refer to food literacy *events* and *practices* in this paper to signify this understanding of literacy. Adapted from a theory of literacy as a social practice (Barton & Hamilton, 1998), events are observable acts related to food (i.e., reading a recipe, making a cake, ordering food, growing a garden, etc.). In contrast, practices are inferred from events and include purpose, values, beliefs, histories, and power relationships that shape and contextualize the event (Perry, 2022). For example, a child eating a cookie is a food literacy event, which turns into a practice when we consider that the child is eating a cookie in a church basement after Sunday mass, a cultural tradition that the child's family engages in every week.

Conceptual framework

The conceptual framework of this study drew on three topics to understand the sociocultural impacts on participants' food literacies: sociocultural learning theory, literacy as a social practice, and the food system. This study was framed by sociocultural theories of learning and literacy to position food literacy as a socially situated and context-dependent practice embedded within the broader food system. Sociocultural learning theory recognizes the social and cultural impacts on learning and development. A

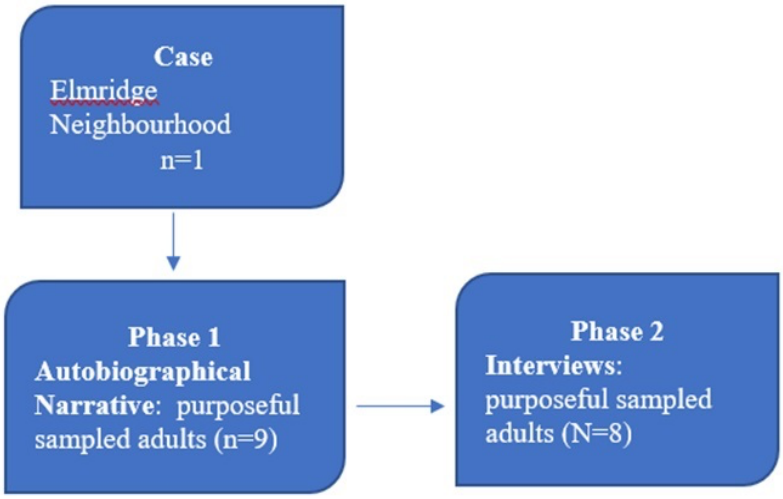
sociocultural approach to learning is "based on the concept that human activities take place in cultural contexts, are mediated by language and other symbol systems, and can be best understood when investigated in their historical development" (John-Steiner & Mahn, 1996, p. 191). This understanding directly links to the concept of literacy as a social practice, which is considered one of the major sociocultural theories of literacy (Perry, 2012). Because literacy as a social practice views literacy as "something people do; it is an activity, located in the space between thought and text" (Barton & Hamilton, 1998, p. 3), it recognizes that literacy is "historically situated" and that literacy practices are "purposeful and embedded in broader social goals and cultural practices" (p. 7). An important aspect of this theory of literacy is that it is conceived as a set of practices in specific contexts (Perry, 2015), and as a resource to "make sense of events" (Barton & Hamilton, 1998, p. 231). The food system presents the context for food literacies, as it entails every facet around food: growing, harvesting, preparing, marketing, packaging, consuming, and disposing. It links the biological, economic, political, social, and cultural aspects of life (Tansey & Worsley, 1995), which includes an individual's food literacy practices. The food system and food literacies are interdependent – the food system impacts a person's food literacies, and a person's food literacy practices (for example, food choice) impact the broader food system (Ontario Dietitians in Public Health, 2018).

Methodology

This qualitative study aimed to explore with a sample of adult community members in the Elmridge neighbourhood (name changed) in Niagara Falls, Ontario, the sociocultural factors that influence and inform their food literacies. This neighbourhood presented a unique case, as it is considered a low-socioeconomic neighbourhood that would traditionally be targeted for food skills and knowledge development. It is also the neighbourhood where the author founded and established Canada's first community food literacy centre, a registered charity aimed at promoting critical food literacy and increasing food access in food deserts. Thus, the following research question guided this study: What are the sociocultural factors that influence participants' food literacies?

To answer this research question, this study employed a qualitative case study methodology, using an autobiographical narrative, interviews, and a researcher's reflexive journal as methods to gather data. Participants were asked to write about their food experiences, both positive and negative, drawing on sociocultural aspects of their lives. Study participants' writings were analyzed using a hybrid deductive and inductive thematic analysis framed within the food literacies conception identified earlier. Purposeful sampling allowed me to target a specific group, which is often used for case study research where generalization is not the goal (Cohen et al., 2011). I purposefully sampled the case and study participants (Merriam, 2009) with the sampling procedure displayed in Figure 1.

Figure 1: Sampling procedure



Note. Sampling procedure with methods and net sample sizes

The research sample for this study was selected as follows:

For Phase 1:	autobiographical food literacy narrative
Population:	members of the Elmridge Community
Sampling Frame:	adults living in the Elmridge Community (> 18 years old)
Gross Sample:	members who will participate (provide consent)
Net Sample:	members who provide data
For Phase 2:	interview
Gross Sample:	members who participated in phase 1
Net Sample:	members who provided consent to be interviewed and participated in the interview

The case - The Elmridge neighbourhood

The case is a neighbourhood in Niagara Falls, Ontario (Elmridge), selected for its location in a low-socioeconomic area that has experienced social and economic difficulties over the last two decades. The name Elmridge is a pseudonym that protects the anonymity of the study participants. This location was purposefully chosen because it presents a unique and underrepresented context for exploring food literacy practices, particularly among residents who may face systemic barriers to food access and affordability. Food literacy programs are often implemented in marginalized communities, yet little is known about how residents in such areas make sense of and engage with food literacies, and how their experiences and histories influence their food literacy practices.

The Elmridge neighbourhood comprises approximately 12,000 residents and has the highest percentage (20.9%) of residents with a household income of under $20,000 (Niagara Region, 2019). Although a short drive from the main tourist

attractions in Niagara Falls, including the Clifton Hill entertainment district and the famous waterfalls, the Elmridge neighbourhood does not enjoy many amenities or the prosperity one would think of when picturing one of the biggest tourist cities in Canada. While efforts have been made to revitalize the area for several years, it is still plagued by signs of a disadvantaged community, such as boarded-up stores, derelict buildings, homelessness, and a lack of an affordable fresh-produce store. The aftermath of the pandemic has also increased home prices significantly, driven by the housing demand from Greater Toronto Area residents. Thus, the Elmridge neighbourhood has experienced accelerated gentrification, leaving many low-income renters unable to remain in the neighbourhood and the city. Located within the Greenbelt of Ontario, prized for its fertile farmland and numerous fruit growers, the Niagara Region offers diverse recreational activities and protected forests and wetlands nestled against the beautiful Niagara Escarpment. The region is home to a public research university, a world-famous college, and the town of Niagara-on-the-Lake with its famous Shaw Festival Theatre, first-class restaurants, and an abundance of wineries. The dichotomy between the haves and the have-nots is blatant but also presents as a unique opportunity to explore the food literacy events and practices of participants within this time and space.

Research participants

A total of nine participants were recruited for phase 1 of the study. Although the Elmridge neighbourhood is a low-income neighbourhood in Niagara Falls, participants' socioeconomic status was not a selection criterion for participation in the study.

The sample size for this study was informed by qualitative research design principles that prioritize depth and richness of data over breadth or representativeness (Miles et al., 2020). Recruitment concluded when participants' writing and interviews began to yield recurring patterns and themes.

To participate, candidates needed to be over the age of 18 and reside in the Elmridge neighbourhood. Lengths of residency ranged from two months to 30 years. The youngest participant was Claire (33), and the eldest was Barb (67). Out of the nine participants, three identified as male and six as female, from various ethnic backgrounds. Eight participants identified as White, and one participant identified as Black. Table 3 shows an overview of participant demographics with their assigned pseudonyms.

Table 1: Participant demographics

Pseudonym	Age	Gender	Race	Ethnicity	# Years in the Elmridge Neighbourhood	First Language
Claire	33	Female	White	French Canadian	7	English
Barb	67	Female	White	Irish	1.5	English
Frank	36	Male	White	American	1	German
Gillian	60	Female	White	French Canadian	30	French
Wanda	55	Female	White	Scottish / Indian	25	English
Sandy	63	Female	White	Scottish	12	English
Jack	54	Male	White	Irish	5	English
Walter	65	Male	White	Scottish/Austrian	0.16	English
Evelyn	52	Female	Black	Haitian	6	French

Methods

I used three methods to capture the many nuances present in a single case (Cohen et al., 2011): an autobiographical food literacy narrative activity (referred to as the autobiographical narrative), semi-structured interviews, and a researcher's reflexive journal.

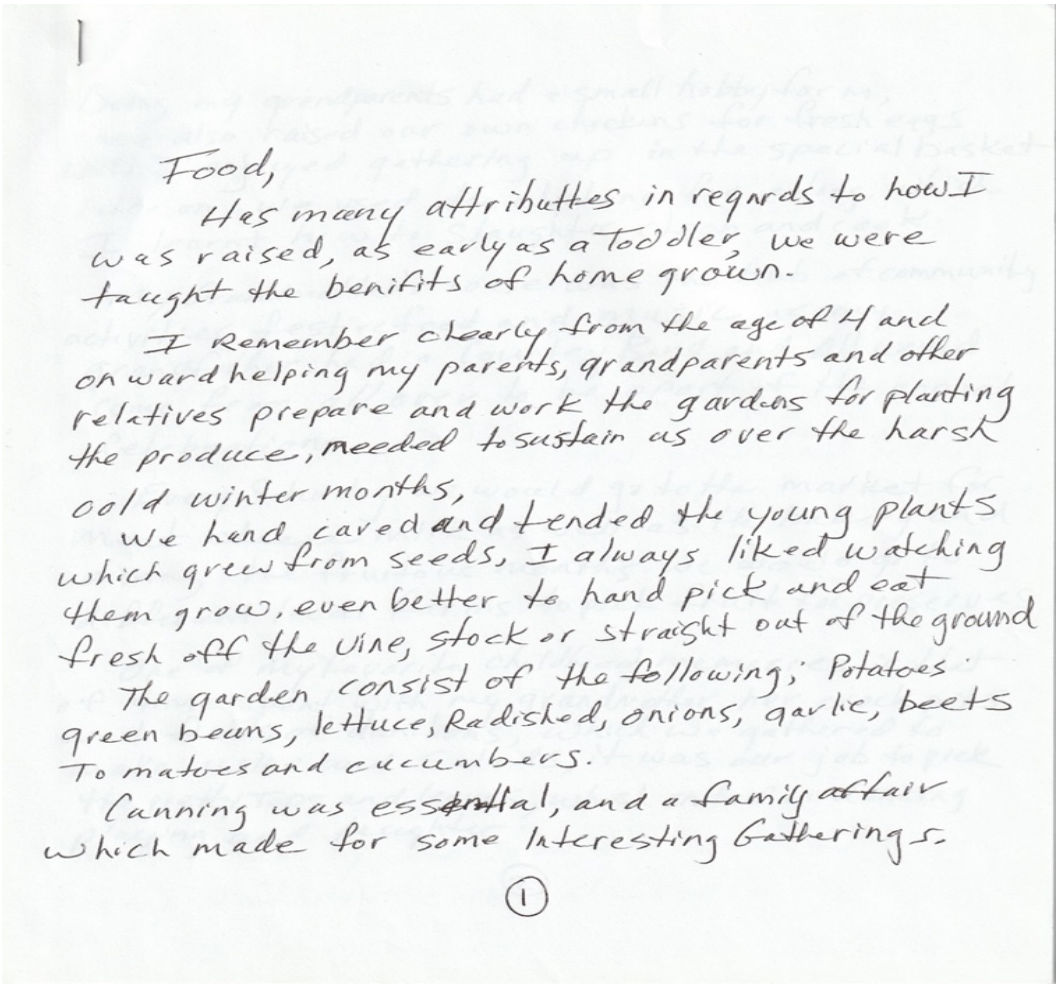
Autobiographical narrative

Autobiographical narratives are drawn from people's autobiographical memories. As McAdams writes, "Autobiographical memory helps to locate and ground the self within an ongoing life story featuring extended lifetime periods or chapters, knowledge about typical or characteristic life events, and specific and sometimes vivid details of particularly well-remembered scenes" (2001, p. 117). Using autobiographical narratives as a data collection tool allowed me to view participants in the ways in which they view the world and offered rich evidence of participants' food literacy practices in a sociocultural context. Although it can convincingly be argued that people make errors and omissions in narrating autobiographical memory or life stories, Thorne (2000) has found "stability in basic story lines" (p. 46).

In this study, I introduced the autobiographical narrative as the first phase of data collection during the initial recruitment and consent process. I provided each participant with a short overview of the purpose of the activity, a clear set of written instructions, and a list of optional prompts and starter sentences to guide their reflection. Participants were asked to write about their food experiences across the six domains of food literacy: skills and behaviours, food/health choices, culture, knowledge, emotions, and food systems, as well as elements of critical and functional knowledge (Truman et al., 2017). This activity was independently completed, and participants were asked to reflect on both positive and negative experiences around food and draw on sociocultural aspects of their lives.

Participants had complete flexibility in how they completed the task. Some chose to handwrite their reflections on lined paper, others typed responses into Word documents or emails, and a few submitted scanned copies of their written work. No word count or time limit was imposed, allowing participants to express themselves freely.

Nine study participants completed the narrative activity. The length varied greatly and ranged from 45 words to 1,620 words, with an average of 777 words. I read each narrative in full before proceeding to interviews and began initial coding during this phase to identify follow-up areas of interest. Unlike the interviews, the autobiographical narrative activity was participant-led and offered a less structured entry point into their experiences. Because participants were not answering questions in real time, they had the opportunity to reflect deeply and respond in ways that felt most comfortable to them. In contrast to the interview, the autobiographical narrative allowed a liberated and less structured approach to data collection, which resulted in very intimate reflections that may not have surfaced by interviewing alone (see Figure 1).



Food,
Has many attributes in regards to how I was raised, as early as a toddler, we were taught the benifits of home grown.
I Remember clearly from the age of 4 and on ward helping my parents, grandparents and other relatives prepare and work the gardens for planting the produce, needed to sustain us over the harsh cold winter months,
We hand cared and tended the young plants which grew from seeds, I always liked watching them grow, even better to hand pick and eat fresh off the vine, stock or straight out of the ground
The garden consist of the following; Potatoes green beans, lettuce, Radished, onions, garlic, beets To matoes and cucumbers.
Canning was essential, and a family affair which made for some Interesting Gatherings.
(1)

As the second data collection method, I used semi-structured interviews to elicit "rich, thick descriptions" (Bloomberg & Volpe, 2015, p. 154). Interviews were conducted with participants who had completed Phase 1 of the study and had provided consent to be interviewed. All but one participant agreed to be interviewed. When I received an autobiographical narrative from a participant, I followed up with a phone call to schedule an interview. I immediately reviewed their writing and started to code the data, using annotations and highlighting areas where I had questions or required more information or clarifications. I used semi-structured interviews to clarify statements, pose follow-up questions based on the autobiographical narrative, and engage participants in member checking, ensuring the correct interpretation of the study participants' provided data (Bloomberg & Volpe, 2015). The interview explored participants' food literacy events and practices, which captured data related to the six domains of food literacy: skills, behaviours, food/health choices, culture, knowledge, emotions, and food systems (Truman et al., 2017) as well as elements of critical and functional knowledge. Questions were open-ended to elicit descriptive data (Merriam, 2009).

The interview guide was informed by my conceptual framework, drawing specifically on sociocultural understandings of food literacies. The interviews conducted in this study followed a semi-structured interview protocol and included the following eight core questions:

1. Who or what has influenced your food literacy experiences the most?
2. Where did you learn about food?
3. What does food mean to you?
4. How does where you come from affect your food literacy?
5. What impact does your family have on your food literacy?
6. What impact do your friends have on your food literacy?
7. What impact does your neighbourhood have on your food literacy?
8. Describe your ideal meal.

Interviews were conducted over Zoom (n=3), by phone (n=4), and in person (n=1). Interview length ranged from 18 minutes to 60 minutes. I strived to put participants at ease and to structure the interview so it would feel more like a conversation to allow space to speak freely and openly. This structure provided flexibility and allowed participants to share their experiences in how they interpreted the question. For example, question 4, "How does where you come from affect your food literacy?" was interpreted by participants in multiple ways, including physical space (country, city, or neighbourhood), ethnic background, and socioeconomic status.

Interviews were recorded using Zoom's recording function or the researcher's password-protected phone for those that took place over the phone or in person. The recorded files were immediately transferred to the researcher's computer (also password-protected) and then deleted from the phone. I personally transcribed the interviews to immerse myself in the data and hear and feel the stories of my research participants. This allowed me to pay special attention to pauses and emotions, which were noted in the transcripts.

Researcher's reflexive journal

A reflexive journal is a method used to create transparency in the research process while also providing a research trail (Ortlipp, 2008). It further promotes critical self-evaluation by allowing me to consider how my positionality influences my research (Orange, 2016). Throughout the process of data collection and analysis, I engaged in critical reflection

on the research process and reflected on my own food literacy practices as prompted by those of my participants.

As an *insider* in this study, I recognize that I am an intrinsic part of this research. I am "the main instrument of the data gathering" (Simons, 2009, p. 81). The work of researcher-as- instrument requires specific skills and knowledge to contribute to the trustworthiness of qualitative research (Miles et al., 2020). Miles et al. (2020) highlight a list of competencies I believe I possess as the researcher in this study. These include having a "strong familiarity with the phenomenon and the setting," "good investigative skills," and "being comfortable, resilient, and nonjudgmental with participants in the setting," as well as having a "heightened sense of empathetic engagement, balanced with a heightened sense of objective awareness" (p. 35).

According to Lincoln et al. (2018), reflexivity is "a conscious experiencing of the self as both inquirer and respondent, as teacher and learner, as the one coming to know the self within the processes of research itself" (p. 143). Through my research, I have come to understand reflexivity as an ongoing process of critically examining my own beliefs, biases, and roles, allowing me to navigate the dual positions of researcher and participant with greater self-awareness and authenticity.

Data processing and analysis

I followed the six steps outlined by Cresswell and Guetterman (2019) to process and analyze my data. These steps involved collecting data, preparing the data for analysis (i.e., transcribing interviews and handwritten or typed autobiographical narrative), reading through the data, coding the data, coding for descriptions, and coding for themes. Coding was a time-consuming task that allowed me to think about the analysis of the data. As Miles et al. (2020) claim, "coding is a deep reflection about, and thus, deep interpretation of the data's meanings. In other words, coding is analysis" (p. 63). The process followed a deductive approach at first using a priori codes based on the research questions and conceptual framework that included beliefs, attitudes, behaviours, routine practices, social relations, political relations, economic status, educational status, cultural, ethnic or national origin, and linguistic group. These a priori codes were guiding the initial coding of the data, but the analysis was not restricted by these preliminary codes. Inductive codes were assigned when a new theme or pattern emerged or when an a priori code was too broad and needed to be divided.

The analysis was also guided by the conceptualization of food *literacies* adopted in this study, which draws on a multiliteracies framework and a sociocultural lens. This lens helped me consider how food-related events and practices were shaped by context and meaning-making, not just content.

Analyzing and interpreting the data was an iterative and reflexive process that involved collecting more data, re-reading the data, and coding the data, which allowed me to gain a deeper understanding of the information provided by my participants (Cresswell & Guetterman, 2019). Coding the interview transcripts followed a process similar to that of the autobiographical narrative.

Sociocultural factors impacting food literacies – Major findings

The analysis of the data produced the following five major findings:

1. Social relations: All interview participants cited social relations (including families, friends, and institutions) as the major influence on their food literacies.
2. Economic status: The majority of the participants' food literacy practices are impacted by their economic status.
3. Health: The majority of the participants indicated that their understanding of healthy food and its benefits (both physical and mental benefits) drives their food literacy practices.
4. Gender: The majority of the participants shared notions about gendered roles in food literacy events and practices that are often associated with traditional ideas and cultural practices.
5. Emotions: All participants indicated how various emotions are attached to and inform their food literacy practices.

Finding 1: Social relations

Social relations were the most cited influence on participants' food literacies. Social relations can be defined as the interaction between two or more people, groups or organizations (Notta & Aiello, 2017). For study participants, social relations included parents, siblings, aunts, grandparents, and friends, as well as institutions such as schools and community organizations. Participants also reflected on being parents and how raising their own children affects their food literacies.

Parents

Parents were a major influence on participants' food literacies as role models, teachers, and agents of traditions. Participants explained how their mothers and fathers created food literacy events and practices that instilled and fostered attitudes, values, and beliefs around food choices and decisions.

Frank reflected on his food literacy practices and how his parents have guided him on that journey. In the writing activity he recognized: "I'm still learning things, but the things I learned are because my parents and the people before me helped connect little dots along the way". Walter's love of cooking is directly attributed to his dad. He remembered his dad "really enjoying" cooking and he believes that is where he "picked it up". Jack shared vivid memories in his writing of both of his parents cooking their large Sunday dinners with "all the pots steaming with vegetables and meat". He associates "food with his mom" and remembers his father's vegetable garden, where he picked carrots for the first time. Events and practices related to eating out with his mom have made lasting memories for him.

Sandy's mom taught her how to cook at the age of 13, and values around food waste and gluttony were instilled and made a lasting impact on her. Growing up in a food-insecure household, Sandy recalled in the interview that "We were raised in a way that, if we said no to anything on our plate we went without supper. So, we learned to like everything on our plate". For Evelyn food literacy practices were heavily influenced by her parents, but also her aunt, recalling how she taught her without recipes.

Not all food literacy events and practices with parents were positive. Gillian, Sarah, and Barb reported negative and abusive relationships with their parents

growing up that resulted in negative food literacy practices. For Gillian and Barb that meant learning how to take care of themselves and their siblings at a very young age and becoming homemakers in their teens. Barb was the main cook in her family at the age of 13. Her mother did not influence her cooking skills, but her absence due to alcoholism thrust Barb into the position of family cook. While Gillian would sometimes watch her mother cook, she mostly taught herself. She was the eldest of five children and "had to take over the cooking".

Grandparents

Grandmothers and grandfathers were mentioned as having an impact on food literacy practices and serving as role models. This was especially salient for Claire who had abusive parents and has fond food memories of her grandmother who not only provided her with nutritious food her parents neglected to provide, but also the family connections infused food literacy practices. She credits her grandmother in her writing for "instilling a love for cooking and a passion for serving her own children".

Being raised on her grandparents' farm, Wanda was greatly influenced by their way of life. Her earliest and fondest memories are those spent on the farm helping to "work the gardens for planting the produce needed to sustain us over the harsh cold winter months".

Similarly, Sandy credits her grandfather for exposing her early in life to a vegetable garden. She pointed out in the interview: "I think my grandpa's garden, that was a really good encouragement to let us see and let us taste fresh vegetables right at the garden and in the glory of growing and the enjoyment of it all".

Children and childhood

The impact participants' children have on their evolving food literacies was most prominent for Claire, Jack, and Frank. Reflecting upon their food literacy practices growing up, both positive and negative, they saw opportunities for change and growth for their own and their children's food literacies.

Claire stated in her writing, "As a mom I have a passion to serve my family much like the example my Granny set for me." She sees the importance of serving as a role model for her children and feels grateful to be able to "provide good meals to my family and show my kids all the ways I cook."

Jack reflected in the interview on his varied food literacy practices as well as experiences with food insecurity as a child and young adult:

> When you have kids and then you think about, well, food literacy: what does that mean to our children and how did the negative experiences in food literacy... want you to change so that you can address them for your children to make... food healthier and more impactful for them from... a nutritional point of view.

Brian feels a sense of obligation as a parent to ensure that his children are confident in their food literacies. He explained in the interview:

> What it means to me when it comes to food and family is, it provides a platform for us as parents to educate, instill confidence, and just nurture kids with a lot of skill. If there is any skill building they need right now it's emotional and food.

He strives to provide food literacy events for his children following the example his mother set. "Their palate has been broadened every time we've done a trip. I've exposed them to something new; I pushed just like my mom did with me."

Celebrations / gatherings / family

Food literacy practices shared with family, friends, and sometimes the community through celebration or just simple gatherings were extremely memorable for participants in this study. The social connections that are formed and strengthened through food are important aspects of food literacies. Frank's statement speaks volumes about this facet. He stated in the interview: "I think that the fundamental reason why I make food is because I want to connect to people." Participants shared sentiments around the value and impact of food and how it can "bring people together" (Barb). The idea that food is more than food, but also a tool to gather and connect with friends and family was articulated by many participants. For Frank, when asked in the interview about what his ideal meal would be he replied, "It would probably be with my mom, dad, and family" and "It wouldn't matter what the food is."

Cooking for friends and family (Frank, Barb, Claire, Walter, Sandy, Evelyn, Gillian), and for those less fortunate (Barb, Claire), brings joy and satisfaction to participants. Walter absolutely enjoys cooking and baking and will regularly cook for his friends a variety of meat dishes, although he is a vegetarian. As Claire explains in her writing:

> I absolutely love cooking for friends and family whenever I can. I cook every day for myself and two kids. It is my favourite part of the day because we are all together. I love when they help; it is good time spent as a family.

Family dinners are cited as important aspects of food literacy practices in the home. Barb always made sure they had a "family dinner at home", and Frank greatly values "dinner at the table" to connect with his children and friends. "Big Sunday dinners" were a tradition at Jack's home growing up and canning at Wanda's grandparents farm was a "family affair".

Participants also have a celebratory relationship with food, and this was most prominent with Jack. When asked during the interview what food means to him, he explained:

> Well, there's so many levels to food; there's celebration, and growing up in our family we had a lot of celebrations, so food was definitely about celebrations, birthdays..., any milestones that we had... , but food was about gathering, when we all got together, when family came over we would always surround ourselves with food and celebrate with food. The food..., was very important in our family and basically everything that we did we celebrated through food.

As I reflected on my earliest memories of food in my reflexive journal, I remembered an outing with a neighbourhood friend to a strawberry patch. It was the first time my family went to a pick-your-own strawberry patch, and it was an exciting experience because our friend's family also came along. Although we were not allowed to taste the strawberries as we were picking them, all the kids had red juice over their faces when we arrived at the little building where we weighed and paid for our harvest. It was such a memorable food literacy event because the experience was shared with a friend.

Institutions

Schools and community organizations were also mentioned as an influence on participants' food literacies. Many cited schools (Barb, Gillian, Jack, Evelyn) as a place where they learned about food. Jack in particular remembered Canada's Food Guide as part of his early school experience. Gillian, Barb, and I took home economics in high school and credit those

experiences for learning about food and how to prepare meals.

Claire's time spent at the maternity home provided her with many rich and memorable food literacy practices. There she learned how to cook, grow food, budget for food, and "mak[e] food last longer". Each week she also had to choose and prepare a meal for all the residents of the home, which ignited her love of cooking for others.

Community organizations also provided opportunities for participants to gather and create food literacy practices together. Gillian used to cook at various community gatherings, such as churches and the soup kitchen, while Sandy belonged to a community garden for four years growing her own produce with the support and guidance of the community.

Finding 2: Economic status

Economic status is a prevalent sociocultural factor. The majority of participants' food literacy practices are impacted by their economic status. Many participants highlighted how their low economic status has limited their food choices throughout their lives, and this is evident in participants who experienced food insecurity (six out of eight participants). Food insecurity is described as the "inadequate or insecure access to food due to financial constraints" (Tarasuk & Mitchell, 2020, p.3). According to Tarasuk and Mitchell (2020), levels of food insecurity can be categorized into three groups:

1. Marginal - limit food selection or worry about running out of food;
2. Moderate - compromise quality and/or quantity of food;
3. Severe - miss meals, reduce food intake.

Examples of how higher economic status impacts food literacies also emerged and illustrate how food literacy events and practices are impacted by financial status.

Low economic status

Many participants highlighted food literacy events and practices that were greatly impacted by their low economic status. This included not being able to afford the foods they wanted, like Sandy who would like to eat more seafood but cannot afford it. Similarly, Gillian spoke about this in the interview: "I wish I could have afforded healthy food and I had to use canned food, you know vegetables in cans instead of fresh, because the prices were too high on the fresh ... items." She also mentioned how she cannot afford take-out food or desserts and will often use coupons or discounts to stretch her food budget.

Both Jack and Walter pointed out that they grew up in poverty. It was difficult for Jack's parents to provide for their large family. Jack explained in the interview: "We grew up in a very poor area, disadvantaged, so we didn't ... have access to a lot of food. ...You know, on one occasion my father was arrested for stealing meat to feed our family." Walter reflected on his family's changing economic status and how that impacted their food choices: "At the beginning, I mean we were very poor and you know, I don't think we ate all that great. As I grew up, we started to get more into the middle class and had better choices of foods".

High economic status

Frank's travels as a child and adult afforded him the opportunities to explore a vast array of food literacy events and practices. He acknowledges in his writing that his "connection to food literacy has been diverse

and privileged". He points out that growing up, "on occasion, we would have breakfast in Germany, lunch in Austria and dinner in Italy. I was so fortunate and privileged my parents exposed me to so much during my developmental years." He continues these experiences today with his own children, broadening their "palate" every time they go on a trip.

Finding 3: Health

The majority of participants indicated that their understanding of healthy food and its benefits (both physical and mental benefits) drives their food literacy practices. Physical and mental health as a factor impacting food literacies emerged from the data as a key finding and entails ideas and understandings from participants that were two-fold: first, the way in which food impacts our health; and second, the way in which health impacts our food literacies. Participants did not define health or what they meant by "being healthy" (nor were they asked to do so), but rather shared ideas and values around food intake, quality of food, and physical limitations impacting selected food literacy practices.

Food impacts health

Many participants equate food with health and described food as nourishment (Evelyn), sustenance and a necessity (Frank); "It is healthy for us" (Sandy), provides nutrition (Gillian), is the "most fundamental element of life" (Wanda), and aids us in staying and looking healthy (Walter). As Gillian stated in the interview: "Food is ...to keep you healthy, ... nutrition that you need, vitamins and different ... essentials, and you got to find it through food most of the time." Sandy echoed this sentiment saying that food "is a source of keeping us healthy" adding that we should "stick to vegetables and seafood". Evelyn highlighted that "natural" foods are good for us, but that moderation is key. For Walter, in addition to staying healthy, the right foods can also make you look healthy and younger. He described in the interview: "I eat fairly well. I'm not going to say I eat perfect, but I eat fairly well and you know I don't smoke or drink, any of that kind of thing, so that certainly helps [me] stay young."

In the interview, Frank reflected on the impact of his divorce, which prompted him to reconsider the foods he puts in his body. His sentiments about the impact of food on a person's overall health were most striking, highlighting the physical, mental, and spiritual transformative power of food.

Health impacts food choices

Participants also cited their personal health, both physical and mental, as a significant contributor to the ways in which they develop and act on their food literacies. The most prominent example of this is Claire, who struggled with bulimia and anorexia as a young adult. She explains in the writing activity:

> It started out as me not eating for days and when I did it was very little. I knew I couldn't keep going like that; people were noticing. So... I began to eat at least one full meal a day and then bring it back up. It had more to do with self-love and self-esteem than anything. I used food to punish myself.

Another salient example is Barb, who uses food as a tool to fight her cancer; she changed her diet significantly after learning more about how food affects her health. After being diagnosed with cancer eight years ago, she started a "healthy lifestyle". She expanded on her food literacies following a new strict diet that cut out all sugar, carbohydrates, and processed foods. She then started intermittent fasting and now follows

OMAD (one meal a day), which means she fasts for 22 hours and eats for 2 hours.

For Gillian, her health problems had also restricted her food choices and her food literacy practices growing up. During the interview, she cited her health as being the biggest influence on her food literacies:

> Well, now I am more cautious [about] what I can eat and I cannot eat... and ... the kind of spices I can use or not use in certain dishes. I'm more cautious because of my health problems and being a diabetic, so...[laughter].

Only after becoming aware of her dietary-related health issues has Gillian become more cognizant of the impact of food on her health. She has also tried to take medication that would allow her to enjoy a greater variety of food.

Health not only impacts food choices but also other aspects of food literacies. Sandy used to be an avid gardener, something her grandfather inspired in her. She had a plot at a community garden where she grew a variety of produce for herself, something she was very proud of. But because of physical limitations, she had to give up her plot as she can no longer do the demanding physical work involved.

Finding 4: Gender

The majority of participants shared notions around gendered roles in food literacy events and practices that are often associated with traditional ideas and cultural practices. The positioning of women and girls in food literacy activities was often based on traditional ideas associated with the gendered expectations of Western society. As Kolata and Gillson (2021) posit, "food literacy is also intrinsically gendered insofar as it corresponds with responsibilities women share due to their gender, rather than their social position or occupation" (p. 572). This was especially apparent for the role women played in passing down knowledge and skills related to food preparation and cooking.

Notions around gendered roles in food literacy practices and experiences were shared by numerous participants. Evelyn highlighted in the interview how learning and working on her father's farm was promoted for boys only. She explained during the interview: "They teach me sometimes [but] because I'm a woman, they teach more for the boys." Judy noted how meals were divided on gendered practices, stating: "The man of the family always had the extra pork chop [laughter]. That was the rule because he went out and worked for it." I wrote in my reflection journal how my brother was excluded from doing the dishes and how this chore always landed on my sister and me.

Earliest memories around food shared in participants' writing often involved mothers in kitchens: watching a mother preparing meals (Frank), a memory of a mother wearing an apron as she stood by steaming pots (Jack), a grandmother "serving" her grandchildren her favourite breakfast (Sarah), a mother teaching her 13-year-old daughter how to cook gravy (Sandy), and a wise aunt passing down family recipes and traditions to her young niece (Evelyn). Women, more so than men, were remembered and observed in the role as sustenance provider, and all the women in this study who participated in the interview went on to become these sustenance providers in their own families. For example, Barb mentioned how she always made sure there was a family dinner at the end of the day, and Claire relishes the opportunity to "provide good meals for her family".

Males also played significant roles in food literacy experiences for some participants, in particular for Walter, who was inspired by his father's joy of cooking. While his mother also cooked, it was "mostly my dad

[who] cooked 'cause he really enjoyed it. That's kind of why I picked mine up". Walter has detailed that he is an avid cook now, loves experimenting with food, and will often cook for his friends and family. These views were also captured in my reflexive journal, as my father would always cook on the weekends and would engage my siblings and me actively in meal preparation that often involved new dishes. For him, it seemed to be more of an adventure and an opportunity to experiment, whereas for my mother, it seemed to be more of a chore. Similarly, Sandy credits her grandfather for inspiring her in growing her own fruits and vegetables and learning to make bread. She also fondly remembers "grandpa's raspberry bush" growing up. While she has not been able to garden since the operation on her shoulders, she holds loving memories of growing her own vegetables for years, and greatly values the benefits of gardening.

Finding 5: Emotions

This study elicited many emotions from the participants as they shared their unique food literacy practices. All participants indicated how a variety of emotions are attached to and inform their food literacy practices. While emotions can greatly impact food choices (Ashurst et al. 2018), participants' reflection in their writing and interviews evoked strong emotions across a variety of food literacy events and practices. By its design, participants' autobiographical writing was bound to produce a variety of explicit and implicit emotions in connection with participants' food literacy practices. The prompts provided to participants asked them to critically reflect on their food literacy practices, starting with their earliest memories. I believe that the writing activity provided a safe space from which participants could reflect, connect, and explore how food literacy practices influenced their past and shaped their present. This drew a variety of emotions including joy, passion, guilt, love, shame, pain, and nostalgia into their writing.

Joy

Many participants shared how they felt a sense of happiness and joy when cooking for others, or when mastering a new dish and having their cooking skills validated. Claire, for example, finds "so much joy in cooking and trying new foods/recipes". Frank pointed out that he "enjoyed finding new recipes to share with friends and roommates". When thinking about food, participants explained that "it's a happy thing" (Claire) and that "I feel good because it's healthy for us" (Sandy).

Wanda's favourite childhood memory captures the joyful emotions food literacy practices provide. She detailed this in her writing:

> One of my favourite childhood memories is that of time spent with my grandmother, her crock pots and fields of dandelions, which we gathered to make wine and salads. It was our job to pick the pretty tops and leaves, which ended in dancing and playing and laughter.

Passion / excitement

Food literacy experiences also evoked a sense of passion and excitement in participants. The most noticeable example of that was Frank. He shared in the interview this sense of excitement he feels about food stating that "it transforms us, like physically and mentally, and spiritually". When Gillian moved away from home, she experienced a new world of food, noting in her writing:

> Trying out new foods for [the] first time was a little like a new adventure. New chapters at every turn. When living in Ottawa, I wasn't so open to trying

> new tasty food until I moved here to a smaller city. I found that there was more gatherings and openness about people's choices of food. It was exciting to taste new foods I never tried before.

For Claire, being "deprived" as a child, and now having experienced the power of good food and being able to create and share food literacy practices with her family, fills her with passion: "As a mom I have a passion to serve my family."

Guilt

The emotion of guilt, although not as prevalent, also surfaced and is worth mentioning as guilt plays a role in food literacy practices, particularly around food choices. Referring to his "sweet tooth", Walter wishes he "could kind of stop that but I guess that's my thing when I don't eat all these meats and stuff I gotta have something that I reward myself with, and I reward myself with something that's sweet." Claire, who was a vegetarian for six months, feels bad when she eats meat, adding "I believe it is good nourishment but I also believe that big companies are not always humane, and I feel bad eating meat when I do not know where it comes from."

Love / affection

In general, food literacy events with families, whether these take the form of family dinners, picnics in the park, or celebrations evoked emotions of love, affection, and warmth. Participants also shared how they loved certain foods or smells of food. Gillian, recounting one of her earliest memories, said: "I love the tasty cake very much, and chocolate was my favourite flavour. It was very moist and enjoyable. Texture was very fresh and natural." Similarly, Jack mentioned a memory in the grocery store with his mom, walking in the coffee aisle. To this day, the smell of coffee evokes a sense of "comfort".

Participants also expressed a love of cooking for others. Claire "absolutely loves cooking for friends and family", and Gillian "loved" running a restaurant for three years in a small town.

Shame / unworthiness

The emotion of shame or feeling of unworthiness, while not as common, highlights how food literacy practices can evoke this negative feeling. This was most prominent for Claire, who struggled with eating disorders as a young adult. She confides in her writing: "I was severely depressed and thought bad feelings needed to be punished, so I starved myself from basic human needs."

Sandy, who has experienced food insecurity throughout her life, disclosed in the interview that she was too "embarrassed" at first to go to the local soup kitchen. She added: "I cried the first time I went, you know having to go to the soup kitchen to survive. It was very depressing, even though I was poor growing up, you never expect that, you know?"

Pain

Participants experienced pain, particularly around food insecurity. Sandy, reflecting on how she feels about food, states: "Bad at times in my life, I had to go without." While living on welfare in Toronto, she also remembers a time she felt pain because she could not provide a good meal for her son. Similarly, Gillian feels bad when she cannot "afford healthy food".

Evelyn explains how it was hard for her to adapt to a new food culture in Canada. She highlights how she continues to struggle to prepare culturally relevant meals for herself and her family because of a lack of

food choices available to her, saying: "Yeah it is different, everything is different… if you live tropical and you come here, it is very different."

Frank became very emotional when asked what his favourite meal would be. He wished for a meal that he could share with his mom and dad, whom he had not seen for a very long time.

Nostalgia

Nostalgia is commonly regarded as a "yearning for yesterday" (Vignolles & Pichon, 2014, p. 227). Research has shown that nostalgia plays a significant part in food consumption (Vignolles & Pichon, 2014). Nostalgic experiences shared in this study involved food products related to childhood, but also rituals or specific place-based food literacy practices. Jack mentioned all three of these concepts in this statement in his writing:

> My earliest memory of food would be with my mother and father going to church and having cookies and tea after the service. I was around four years old, I was really excited to go downstairs in the church basement with my parents and siblings and run around with other children and eat cookies. It was a weekly event and they had a variety of cookies that we could eat along with tea and sometimes juice. It made me feel very special to be a part of this event with my parents.

Cookies were a common thread in Jack's account of his food literacy practices. He acknowledged that "cookies from my childhood to adolescence to my adulthood looking back have played an important role and they have provided comfort, memories of my past being with my parents."

For Gillian, gravy holds a nostalgic association with her upbringing, connecting her to her family, especially her mother, who taught her how to make it at the age of 13. When Walter moved back to Canada from the United States, he rediscovered some of his favourite childhood sweets. He said: "It's like when I just moved back here; you know I hadn't had a lot of the different sweets when I was down in the States. So I ended up buying a bunch of that just to taste it again so you kind of miss foods [like] that when you're away but you don't get where you're living."

These five major findings highlight the sociocultural factors that influence and inform food literacies for participants in this study. The most prevalent factor is social relations. Participants highlighted how, in particular, parents play a major role in food literacies development. Economic status and health were also significant factors in impacting food literacies, particularly affecting participants' food choices. Values and beliefs related to gendered practices in food literacies were guiding factors in how participants described food literacy practices. And lastly, all participants indicated how a variety of emotions are attached to and inform their food literacy practices.

Discussion of key themes

The aim of the study was to identify the sociocultural factors that influence food literacies in study participants. In this section, I draw connections between the five major findings (social relations, economic status, health, gender and emotions) and the conceptual framework guiding this study, which is based in sociocultural learning theory, literacy as a social practice and the food system. The result is four key themes:

Theme 1: Social relations influence and inform food literacies
Theme 2: Economic status impacts food literacies
Theme 3: Values and beliefs influence food literacies
Theme 4: Emotions are attached to and inform food literacy practices

In turning my key findings into key themes of the study, I critically reflected upon my findings using a problem-posing approach applied by Freire (1970) as a "means to develop critical inquiry and understanding of experience" (Bloomberg & Volpe, 2015, p. 236). The concept of critical literacy is an embedded factor in literacy as a social practice, which recognizes the impact of social institutions and power imbalances in literacy practices (Barton & Hamilton, 1998). In interpreting the themes, I drew on the work of Azevedo et al. (2017), Truman et al. (2017), and Cullen et al. (2015), all of whom identify sociocultural influences as attributes of food literacy in their scoping studies. The domains outlined in these scoping studies include social relations, culture, values and norms, and emotional connection.

Theme 1: Social relations influence and inform food literacies

This theme reflects the role of social context in food literacies, a key influence identified by Azevedo et al. (2017), Cullen et al. (2015), and Truman et al. (2017), particularly in relation to family and peer relationships. Finding 1 found that social relations, involving parents, siblings, friends, and institutions – such as schools or community organizations – are the primary influence on participants' food literacies. Participants also reflected on being parents and how raising their children affected their food literacies. These social relations are impactful in that they greatly influence food literacies across all domains (culture, values and norms, and emotional connection). As Barton and Hamilton (1998) posit, "literacies are embedded in social relationships that give them their meaning" (p. 282), and the data suggest that this is indeed the case.

Parents

The most notable influence on participants' food literacies was that of parents. Participants described how they observed and learned various cooking and food preparation skills from a parent and the knowledge that is inherently passed down with these events and practices. Participants in this study reflected deeply on their childhood and earliest food literacy practices, and we can draw connections with how these practices have carried forward to their adult lives. For example, Walter observed his father's love for cooking growing up, and he believes that is the reason why he also enjoys cooking now. He attributes learning about cooking and meal preparation in his early years to his parents. Similarly, Sandy, now an avid and passionate cook, gained cooking skills from her mother while also observing her older sister cook. Her grandfather also passed down the craft of making bread and instilled a love for growing her own vegetables. Likewise, I noted in my reflexive journal how values related to where and how we eat that were modelled in my childhood are important practices I try to emulate with my family today.

Drawing on sociocultural learning theory, we understand that learning is inherently social (John-Steiner & Souberman, 1978). The data suggest that learning about the various domains of food literacies, and the social, historical, and cultural norms embedded in these activities begins in the home, mostly with parents and siblings, as well as grandparents and extended family. As Barton and Hamilton posit (2012), the "home is a prime site for learning because it is where children are brought up and it is the place where

personal life is regulated in the most intimate ways" (p. 190). Therefore, food literacy events and practices are key elements of our developing years and form part of our "world" that we read before we read the "word" (Freire, 1987). This means that even before we enter school as children or attend formal food literacy programming, we have a rich repertoire of food literacy practices informed by our histories.

Friends

Friends are also a factor that can impact a person's food literacy practices. Participants expressed how friends can influence eating practices and expose us to new cultural traditions. Jack expressed it this way:

> Because your friends are so important and they encourage you to go out and eat what they are eating. Or they talk about their food experiences at home and then you try them, or you are encouraged to try them. Yeah, I think [there's] even peer pressure with food; I remember going to my friend's house and he wanted me to try goat, and … I couldn't do it. I said no, absolutely not, and then there's another friend of mine who ate pigeons, and … I couldn't because I also associated them with being … dirty. So, when it comes to your friends and … influences that they have, … I think they expose you to different types of food and … their knowledge of food.

In addition, friends also served as the reason for various food literacy events, particularly cooking and eating, as was the case for Walter. He prepared a variety of meat dishes for his friends, although he is a vegetarian. "Tailgating" parties at football events always involved a variety of dishes that Walter would put together to socialize with his friends. What is interesting in Walter's case is that he never changed his firmly held convictions about not eating meat and was never influenced by his friends or surroundings to change his diet. However, he chose to cook meat dishes for his friends (he even bought a smoker), which perhaps speaks to the strong social connections he could form through these meals and gatherings with his friends and the importance of friendships to him. In Barb's case, her friend taught her how to preserve and can, and exposed her to elk meat. However, when asked during the interview if friends impact her food literacies, she replied, "no." Friends undoubtedly can impact our food literacies in a variety of ways, often without our explicit recognition.

Most food literacy events are driven by the social aspect, whether with family, friends, or community gatherings. While there is a physiological need for food, participants in this study described how food is a medium over which we gather, celebrate, and connect. As Frank described in his interview, "The fundamental reason why I make food is because I want to connect to people."

Institutions

Institutions such as schools or community-based organizations also represent social relations that participants engaged with. These places of learning play a role in food literacy development; however, they were rarely mentioned by participants in this study. Schools have been identified as a "promising setting" for developing food literacy (Amin et al., 2018), and the Ontario education curriculum speaks to food literacy skills and knowledge in both the Physical and Health Education Curriculum and the Science and Technology Curriculum (Ministry of Education, 2015, 2019). Participants in this study often described home-based food literacy practices as more meaningful and personally significant than those in school. Schools were referenced as a place where participants *learned about food*, but not to the extent that those events provided memorable experiences or lasting influences on participants' food literacies. Just as Amin et al.

(2018) finds, children associated domains of food literacy with the home and family more so than experiential food literacy programs at school. This, they explain, could be either because the school programs do not reach all students or because food literacy experiences at home or in the community are more personalized or memorable. This sentiment is echoed by Barton and Hamilton (1998), who find that certain literacy practices are best learned at home, which they term "vernacular learning" (p. 198). In their study of literacy practices in homes, the authors find significant differences in the amount and quality of dialogue in the home. Barton and Hamilton also point out the power relations between parents and children and between children and teachers, as well as "more real-life modelling in home where adults are using literacy for their own purposes" (p. 198). The authors explain how literacy events in school are often evaluated formally in terms of meeting a curriculum standard, whereas home literacies, which are embedded in practical activities, are judged by whether they "served their purpose" (p. 194).

Moreover, schools and teachers are often seen as the "authority" of learning and hold a certain weight over what knowledge is the right knowledge. This power dynamic needs to be considered, and informal or vernacular knowledge that supports literacies needs to be taken into account in the formal school learning environment (Barton & Hamilton, 1998). In addition, schools and other institutions, compared to the home, often follow a restricted curriculum and attached guidelines such as Canada's Food Guide. As a former K-12 teacher, I am familiar with worksheets used in elementary school to "teach" the food guide. It is more likely that a parent, for example, refers to a family recipe jotted on a piece of paper, perhaps even memorized, rather than consult Canada's Food Guide when engaging in a cooking event. Evelyn shared this notion when reflecting on cooking with her aunt: "I don't have paper, I don't have a pencil, but they teach me everything: do this, do that…". We can see how, in this example of home *versus* school, the home environment is less formally structured and more engaging and meaningful compared to school. This is not to say that this is always the case, as was illustrated with Claire's negative home experiences growing up, which are discussed further below.

In addition, schools and other institutions often differ in the way in which they provide instruction compared to the home. To that argument, Kozulin (2003) finds that learning events with parents often involve more mediation, that is, more scaffolding and guidance, compared to a formal learning environment. Food literacy events in the home are akin to what Rogoff (2003) terms "guided participation in cultural activities" (p. 283) in that children learn about food literacies as they engage with and are guided by "the values and practices of their cultural communities" (Rogoff, 2003, pp. 283-284).

One counter-example to the aforementioned argument is Claire's story. She was the only participant in this study who shared personally significant and lasting memories of the food skills development program in a maternity home, which she credits for developing and nurturing her food literacies. It was there she experienced the joy of cooking for herself as well as for the other residents. Of note is that Claire did not have positive experiences at home growing up; her parents did not provide the basic necessities, and she was often left to fend for herself, including finding enough food to eat. It appears that Claire found the missing social relationships that gave her food literacies meaning (Barton & Hamilton, 2012) in the maternity home. Similarly, Gillian had abusive parents; she learned her food-related skills and knowledge in high school as well as the group home she attended. Therefore, lacking positive food literacy caregivers

growing up, who provide enough food and engage in positive food practices, necessitates the need for formal food literacy programming in institutions, such as schools and community organizations.

Theme 2: Economic status impacts food literacies

This theme builds on Azevedo et al. (2017), Truman et al. (2017), and Cullen et al. (2015) recognition of food systems and structural influences as essential domains of food literacy, detailing a more nuanced look at how economic status shape participants' food literacy experiences. The second theme that emerged from finding two was that a participant's economic status greatly impacted their food literacies. Many participants shared how their low economic status limited their food choices throughout their lives, and this is evident in the participants who experienced food insecurity (six out of eight participants). These findings are consistent with a study completed by Araque-Padilla and Montero-Simo (2025) that observes that lower-income individuals are likelier to buy food that is less expensive. Higher economic status also influences food literacies and allow for more diverse food literacy events and practices. This is not to say that participants with low economic status did not have diverse and varied food literacy practices, but that their low income restricted their food choices and placed certain food literacy events out of their reach.

Economic status determines where one lives and what is accessible; it determines one's food environment and positioning within the food system. Jack shared in his interview that he grew up in government-subsidized housing and that often the fridge would be empty. He highlighted that his father was once caught stealing meat at the local grocery store to provide for his family. In addition, Jack reflected on his participation in a kids' cooking show where he realized the socio-economic differences between himself and the teen host of the show. He revealed in his writing how he felt he was speaking to a "girl from another country" and how this experience was the first time he became aware of his economic position within the food system:

> I guess I felt uneasy; it was a good experience for me because I was now aware that people in different neighbourhoods have different values and different incomes. My observations relating to food literacy [were] that she had such great knowledge and expensive knowledge on food and desserts and I think that has a lot to do with her family's income bracket and their socioeconomic status.

Similarly, Judy "had to go without" food growing up and still experiences food insecurity as an adult. She shared how, on one occasion, her mother gave her and her siblings a spoon and a jar of peanut butter. She thought back then it was a treat, but later realized that they were low on food.

On the other hand, increased financial means can provide opportunity, choice, and flexibility in relation to food literacies. A higher economic status can provide more diverse food literacy practices, as was shared by Frank. He reflected on his upbringing and how his parents provided him and his brother with unique and diverse food literacy events that included culinary experiences in different countries made possible by his father's profession. He credits travel as the most significant influence on his food literacies, which was sparked by his mother and which he later, as an adult working in the travel industry, could continue and build on. For example, in his interview, he shared how he "learned how to make sushi with a world-famous sushi artist" and observed "rain forest tribes in Panama feed and find sustenance." Frank's economic status allows him to continue to develop new food literacy

events and practices and act on his existing food literacies.

Although participants shared that they experienced food insecurity and had "to go without" food at times, the study's data show little to suggest that their food literacy practices were of less significance. Participants pointed out how scarce financial resources did not limit their food literacy practices, both past and current. For example, Judy has rich food literacy practices from her childhood that included making gravy with her mother and working a plot in a community garden. Similarly, Jack highlighted vivid experiences of shared food literacy practices with his family, which included large family dinners, picnics in the park, and many celebrations with and around food. Even though he grew up in government-subsidized housing, he reported how his neighbourhood exposed him to different cultures and their "enjoyments of food" like roti (flatbread) and chicken curry. Likewise, Gillian's low-income status did not prevent her from developing new food literacies, such as learning how to preserve foods for her family. This phenomenon could be explained by the fact that food literacy practices are usually shared between people – it is the people that give meaning to the practices, and it is those practices that are remembered in a historical context by participants. This is in direct connection to Theme 1 in that social relations, including those with parents and friends, are the primary influence on participants' food literacies.

Theme 3: Values and beliefs influence food literacies

The data suggest that values and beliefs related to food literacies are culturally driven and historically situated. Participants' narratives and interviews demonstrated that food literacy practices are informed and influenced by values and beliefs, and this is supported by sociocultural learning theory and literacy as a social practice approach. From a sociocultural learning perspective, we understand that "children learn as they participate in and are guided by the values and practices of their cultural communities" (Rogoff, 2003, pp. 283-284). Literacy as a social practice posits that literacy practices involve not just texts, but also values, feelings, attitudes, and social relationships (Barton & Hamilton, 2000). And Azevedo et al. (2017), in their scoping study to identify attributes of food literacy, describe values and norms as sociocultural influences on food choices and eating practices. In this study, the impact of values and beliefs on food literacies was most prevalent in the ways in which participants highlighted two particular concepts: 1. health and 2. gendered practices.

Values and beliefs related to health in food literacies

Many participants equate food literacies with good physical and mental health, and this is certainly also the existing academic view of food literacy. As discussed previously, food literacy has traditionally been viewed from a health perspective with the ultimate goal of improving population health. Many food literacy scholars, the majority of whom are from a health discipline, position food literacy as a subset of health literacy along with nutrition literacy (Azevedo Perry et al., 2017; Cullen et al., 2015; Howard & Brichta, 2013; Krause et al. 2018; Nutbeam, 2000; Renwick, 2013; Truman et al., 2017). Participants in this study highlighted how food impacts health, but also how health impacts their food literacy practices.

Participants in this study described how their values and beliefs related to healthy food drive their food literacies, in particular their food choices. The concept of healthy food is relative because everybody has a different idea of what is healthy and good, but

generally, participants used words such as nutritional, balanced, natural, variety, and moderation to describe their preferred food choices. Often, these values and beliefs are rooted in a variety of sociocultural contexts. For example, Evelyn described in her interview how she values "all foods that are natural" and reminisced about her time in Haiti, where all that was needed to grow produce was "only wind and sun." She tries as much as possible to make meals that meet her values of natural foods, but she is restricted by income and access to tropical choices. Another example is Judy, who was glad she accessed the local soup kitchen to counter her food insecurity. Her values and beliefs were met by the food choices offered there. She described how food served at the soup kitchen was culturally relevant to her, stating that "it's nice because you get … everything in the food order that you need; you know, your vegetables, your tators and your meat….and your fruit."

While values and beliefs are culturally driven and historically situated, they are not necessarily stagnant. Values and beliefs can change over time, and participants in this study shared how significant life events prompted them to reconsider their values and beliefs in relation to their food literacies. This was particularly the case with Barb, who significantly changed her food literacy practices when she began to value her health more highly after being diagnosed with and treated for cancer. Her food literacy practices prior to her diagnosis were rooted in what could be described as traditional Western food literacy practices, with traditional gendered roles (wife as the homemaker who had meals ready when her husband came home from work) and "meat and potato" dinners. She recalled in her interview that it was her family life and her husband's values and beliefs that influenced her food literacies. She was also a home economics teacher instructing grade seven and eight students in how to cook "from scratch" following Canada's Food Guide and later became and still is the leader of a weight loss chapter that also runs their programs around Canada's Food Guide. Her food choices were dictated by these values and beliefs, which completely changed after her cancer diagnosis, when she "started a healthy lifestyle." She was "taught" that "sugar, carbohydrates and processed food are what make live cancer cells grow"; she also started intermittent fasting, which resulted in significant weight loss. Three years ago, she started canning and preserving. She now has new values and beliefs around her food literacy practices that were a direct result of her cancer diagnosis. Specifically, Barb engaged in food literacy events "as a transformative tool to promote or cope with personal change" (Barton & Hamilton, 1998, p. 231). Through her participation in new food literacy events, she modified her values and beliefs related to her existing food literacies, in particular, her food knowledge and food choices.

Jack highlighted a shift in values and beliefs related to food literacies that occurred after he got married. Jack indicated how getting married changes the food literacies dynamic "because now I'm combining my food literacy with my wife." He reflected on becoming a parent and how he could change his food literacy practices to be "healthier and more impactful" for his children. Others shared how the birth of a child and becoming a parent prompted a renewed emphasis on existing values and beliefs.

Values and beliefs related to gender in food literacies

Values and beliefs related to gender play an integral role in food literacy practices. The positioning of women and girls in food literacy events and practices was often based on traditional concepts associated with gendered expectations that our society holds. This was especially evident in the role women played in passing down

knowledge and skills related to food preparation and cooking. For example, mothers were remembered in traditional roles, preparing meals and providing sustenance. Mothers played a significant role in participants' food literacy events and held traditional gendered roles and practices, such as cooking and serving meals.

Food literacy events and practices recalled by participants often involved mothers in kitchens: watching a mother preparing meals (Frank), a memory of a mother wearing an apron as she stood by steaming pots (Jack), a grandmother "serving" her grandchildren her favourite breakfast (Sarah), a mother teaching her 13-year-old daughter how to cook gravy (Sandy), and a wise aunt passing down family recipes and traditions to her young niece (Evelyn). The women in this study who participated in the interview went on to occupy these traditional gendered roles in their adult lives. For example, Barb shared in her interview how she always prepared a "family dinner at home when my husband comes home from work and my son from school," and Claire relishes the opportunity to "serve" her children just like her grandmother did. The prior comments illustrate how these gendered practices were modelled in childhood and how these practices became the roadmap for future practices. As Barton and Hamilton (1998) posit, "children see which literacies are associated with women and which with men" (Barton & Hamilton, 2012, p. 191), highlighting how food literacy practices are deeply embedded in social and cultural contexts.

While fathers and grandfathers also shaped food literacy practices, their participation was less prominent and seemed to include mainly what could be considered "masculine" practices. For instance, gardening was mentioned as a practice performed by Jack's father and Judy's grandfather. Judy mentioned in her interview how "the man of the family always had the extra pork chop (laughter) that was the rule because he went out and worked for it." Evelyn highlighted how farming skills in her native Haiti were mainly taught to boys rather than girls. This would indicate that values and beliefs around gendered food literacy practices are firmly rooted in traditional and patrilineal roles, which greatly influenced participants' food literacy practices.

Conversely, research on gendered home literacy practices also found that factors such as confidence, resources, time, and routines can challenge traditional notions of what would be considered a woman's or a man's job (Barton & Hamilton, 1998). These factors would be evident in Walter's case, whose father was the main cook in the home growing up, or Frank's case, who, after his divorce, had to take on all food literacy practices in the home with his two young children. Therefore, while values and beliefs related to traditional gendered roles in food literacy practices inform and influence food literacies, various factors can challenge this notion.

Theme 4: Emotions are attached to and inform food literacy practices

Emotion is one of the themes that Truman et al. (2017) identify in their scoping study to define food literacy. This theme appears 13% of the time across novel definitions of food literacy (compared to the theme of knowledge, which appears the most at 69%) and is described as a theme that covers "the influence of attitudes and motivation" (Truman et al., p. 367). The authors do not define or elaborate on the meaning of emotions in food literacy in their study. Slater (2017) also includes emotional dimensions in her conceptualization of food literacy, emphasizing "positive relationships with food" (Slater et al., 2017, p. 553). Although emotions appear less frequently in food literacy frameworks (Truman et al., 2017; Azevedo et al., 2017), this theme expands on their inclusion by

showing how emotional experiences, ranging from joy to shame, are deeply tied to food literacy practices.

The most prevalent aspect of the connection between emotion and food literacy in the academic literature is how emotions and/or mood (sometimes these terms are used interchangeably) drive food choices and consumption (see, for example, Ashurst et al., 2018; Gardner et al., 2014). Scholars examining the connection between emotion and food consumption describe the relationship as one that is very complex and includes physiological factors (hunger and satiation), psychological factors, previous experiences, memory and habit formation, sociological factors (economic status, eating culture), emotional coping mechanisms, and personality traits (Köster & Mojet, 2015).

Emotions were omnipresent in food literacy events and practices of study participants. In this study, emotions refer to the implicit and explicit feelings attached to food literacy events and practices. These included joy, passion, guilt, love, shame, pain, and nostalgia.

Research has found that emotions can greatly impact food choices (Ashurst et al., 2018; Gardner et al., 2014), and the data from this study have produced examples of how emotions affect food behaviours and decisions. For example, Claire was a vegetarian because she felt bad when eating meat; Walter rewards himself with sweets. However, emotions impacted more than just food choices and are present in a variety of food literacy events and practices.

Kitchener (2002) posits that "the link between food and emotions is a sensible one because being nourished (food/feeding) and being nurtured (feelings/emotions) are linked" (p. 1). In this sense, the theme of emotion is also closely tied to Theme 1 (social relations influence and inform literacy) as well as Theme 3 (values and beliefs influence food literacies). Emotions are closely linked to social relations, values, and beliefs in that they are part of food literacy practices rooted in historical, social, and cultural contexts. For example, Jack's narrative writing and interview referred to cookies. He acknowledged in his writing that "Cookies from my childhood to adolescence to my adulthood, looking back, have played an important role and they have provided comfort, memories of my past being with my parents." For Jack, cookies provided nourishment, but more so, provided nurture. Another example is Claire, who "loves" to serve her family just like the example her grandmother set for her. She is connecting the social relations with her grandmother, and the feeling of love she felt as a child when being served by her, to her present food literacy practices with her own children.

Barton and Hamilton (1998) claim that "all literacies have an emotional dimension to them" (p. 255). It is evident in this study that literacy events and practices have a variety of emotions attached to them. However, most of these events and practices would be considered informal or vernacular food literacies – those practiced in the home, with parents or friends. As discussed in Theme 1 above, formal food literacy practices were not as personally significant for participants. This is important to consider in school or community food literacy programs, as "emotions are most likely overlooked in formal food literacy education programs" (Barton & Hamilton, 1998, p. 255). Recognizing the prevalence of emotions in food literacies could help educators and program designers create more impactful programs that address the diverse experiences of learners.

Sociocultural factors not mentioned by participants

This study did not find that participants' food literacies were influenced by such social media platforms as Facebook, Instagram, or TikTok. Although Hui (2022)

proclaimed that TikTok is "upending our ideas on what we eat - and how we talk and think about food" (Hui, 2022, para. 7), participants in this study did not mention any type of social media influencing or impacting their food literacies. In TikTok's case, Hui's observation could be explained by the platform's user demographic, which is 75% under the age of 35 (Hui, 2022). The median age of participants in this study was 55 years old at the time of data collection. Only one participant in this study was under the age of 35.

Participants in this study also did not highlight school food (lunch or snacks provided at school for students, usually in the form of a cafeteria) as a factor impacting their food literacies. Only, Frank, who grew up in the United States, mentioned his experiences with school cafeteria food, and he expressed surprise that his children's school in Canada does not offer school food and that parents are responsible for providing lunches and snacks for their children at school. The lack of data relating to school food in this study could be explained by the fact that Canada is one of the few countries that did not have a universal school food program at the time of data collection (Food Secure Canada, n.d.). The federal government only recently committed funding to establish a national school food program, which is still in its early stages of development (Government of Canada, 2025). Since starting my teaching career in 2007, I know that most schools will offer lunches to families who cannot afford them, and many schools, with the assistance of their parent council, will offer snacks, such as fruits and yogurt to students free of charge.

Conclusion

This study is among the few that qualitatively explores the food literacies of adults in a low-income Canadian community through a sociocultural lens. The data gleaned from this study suggest that there are numerous sociocultural factors that influence food literacies, including social relations, health, gender, economic status, and emotions. Specifically, the study highlighted how participants practice their food literacies in relation to their histories, cultural identities, economic status, and shifting life experiences. As such, food literacy practices are not neutral and void of meaning and emotions; they hold significant historical, cultural, and social elements. Therefore, an ideological approach to food literacy is necessary to acknowledge the social and cultural diversity that is present among different contexts (Street & Lefstein, 2007, p. 42). This is consistent with the work of Truman et al. (2017), Azevedo et al. (2017), and Cullen et al. (2015), who argue that food literacy is not only a set of individual competencies, but is shaped by structural, cultural, and relational factors.

Sociocultural factors not only influence food literacies; they also define them. As such, this study supports a shift away from a definition of food literacies that is centred around skill and knowledge development to improve health to one that is critical and views food literacies as something people do and considers why they do it. This study contributes to a growing body of research that challenges dominant health-oriented definitions of food literacy by emphasizing the deeply embedded sociocultural, emotional, and relational dimensions of food practices. The broader implications of this study could extend to how academia conceptualizes food literacy and how policymakers and educators can design more context-sensitive food literacy programs that take into account the various sociocultural factors that influence food literacy practices, particularly in low socio-economic areas.

The results are limited by the small participant sample and single case. Still, I hope my descriptions of the case, participants, and methodological framework allow readers to make connections to similar contexts. To build on this study's findings, future research should consider a larger and more diverse sample across multiple communities to capture a broader range of sociocultural influences on food literacies. Comparative studies could explore differences and similarities between urban and rural settings or between various age, cultural or socioeconomic groups. Longitudinal studies would be valuable in understanding how food literacies evolve over time and in response to changing sociocultural conditions.

Conflicts of interest: None

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Research Article

Balancing economic and social dual bottom-lines: Qualitative inquiry of healthy food retailing in rural Newfoundland and Labrador

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Abstract

Rural populations in Newfoundland and Labrador (NL) often experience a higher burden of diet-related chronic diseases - an issue compounded by the limited availability of affordable healthy food options in rural stores. Our study focussed on factors impacting healthy food retailing in rural NL, Canada, from the perspective of food storeowners. Using three store case studies, we conducted interviews with storeowners exploring the store (ownership model; goods and services offered; suppliers; location; competition), relationship with customers, and healthy food retailing (options; facilitators; barriers). Three themes describe key factors that impacted healthy food retailing in rural NL communities from the perspective of storeowners: (1) the store is an agent of community; (2) independence increases the stores' capacities to serve the community; (3) storeowners are frustrated with imbalances in conventional food systems and aspire to

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participate in local food systems. These themes highlight the positive and challenging interactions between retailers, their customers and food systems whereby food storeowners navigate financial and social bottom lines simultaneously to meet their own and community needs. Food system factors appear to constrain food store business operations, particularly around procuring and selling healthy, quality, affordable foods. Future research exploring feasibility and impact of healthy food retailing interventions within rural NL food stores and communities, as well as measures to balance power within food systems to alleviate challenges of cost and availability, are needed for equitable population-based interventions to support healthy eating in rural communities.

Keywords: Chronic disease prevention; diet; food environments; food retail; food systems; rural; small food stores

Résumé

Les populations rurales de Terre-Neuve-et-Labrador (T.-N.-L.) sont souvent plus touchées par les maladies chroniques liées à l'alimentation, un problème aggravé par le manque d'options alimentaires saines et abordables dans les commerces ruraux. Notre étude s'est concentrée sur les facteurs influençant la vente d'aliments sains dans les zones rurales de T.-N.-L., au Canada, du point de vue des commerçants. À travers trois études de cas, nous avons mené des entrevues avec les commerçants afin d'explorer leur magasin (modèle de propriété, biens et services offerts, fournisseurs, emplacement, concurrence), leur relation avec la clientèle et la vente d'aliments sains (options, facteurs facilitants, obstacles). Trois thèmes principaux se dégagent : (1) le magasin est un acteur de la vie communautaire ; (2) l'indépendance renforce la capacité des magasins à servir la communauté ; (3) les commerçants sont frustrés par les déséquilibres des systèmes alimentaires conventionnels et aspirent à participer aux systèmes alimentaires locaux. Ces thèmes mettent en lumière les interactions, à la fois positives et complexes, entre les détaillants, leurs clients et les systèmes alimentaires, interactions dans lesquelles les commerçants doivent concilier impératifs financiers et sociaux pour répondre à leurs propres besoins et à ceux de leur communauté. Certains facteurs liés au système alimentaire semblent limiter les activités des commerces d'alimentation, notamment en ce qui concerne l'approvisionnement et la vente d'aliments sains, de qualité et abordables. Des recherches futures sont nécessaires pour explorer la faisabilité et l'impact d'interventions visant à promouvoir une alimentation saine dans les commerces et les communautés rurales de Terre-Neuve-et-Labrador, ainsi que des mesures pour rééquilibrer les pouvoirs au sein des systèmes alimentaires afin d'atténuer les problèmes de coût et de disponibilité. Ces recherches sont essentielles pour mettre en œuvre des interventions équitables à l'échelle de la population et favoriser une alimentation saine dans les communautés rurales.

Introduction

Newfoundland and Labrador (N.L.) faces significant public health challenges due to its rapidly aging population with poor health behaviours and disproportionately high rates of chronic disease. N.L. has markedly higher prevalences of chronic conditions compared to the national average, with nearly one-third of residents living with at least one chronic disease and about nine percent experiencing at least two conditions (Buote et al., 2019). Notably, N.L. reports the highest proportion of older adults with three or more chronic diseases and incurs the highest per capita healthcare expenditures among Canadian provinces (Health Accord N.L., 2022).

Elevated incidence rates of obesity, diabetes, cancer and cardiovascular disease mortality further emphasize the severity of this burden (Lukewich et al., 2020). It has been shown that the N.L. faces dietary challenges, including low consumption of fruits and vegetables (Quality of Care N.L., 2021), which is related to high rates of chronic diseases such as obesity and diabetes. A study comparing dietary patterns over a decade found that major dietary patterns in N.L. are associated with increased risk factors for chronic disease (Chen et al., 2015).

Rural populations in N.L. often experience a higher burden of diet-related chronic diseases. This issue is compounded by the limited availability of healthy food options in rural stores and higher food prices (Mah & Taylor, 2020). Action on food security is recommended to improve health in N.L. meaningfully (Health Accord N.L., 2022). Addressing food security—physical, social, and economic access to food (Peng & Berry, 2019)—is highly complex in N.L. This is due to the province's remoteness from mainland Canada, where most food is sourced from; its vast geography, which constrains access to healthy foods for populations dispersed in rural locations (Mah & Taylor, 2020); and its topography and climate, which make it challenging to grow foods locally. Additionally, the large rural population in N.L. (Statistics Canada, 2022a) experiences economic challenges, outmigration to urban areas, an aging population, and reduced stability of its communities as a result (Sims & Greenwood, 2021). For example, many communities have a convenience store as their primary food retail option (Mah et al., 2018).

An analysis of N.L. food environments and policies revealed significant room for improvement in food provision, retail, and pricing to improve population diets (Vanderlee et al., 2017). Retail food environments significantly shape dietary behaviours and health outcomes in Canada as they influence access to nutritious, affordable foods while often promoting energy-dense, nutrient-poor options. Improving retail food environments is therefore critical for supporting healthy diets and reducing diet-related chronic diseases across Canadian communities (Minaker et al., 2016). In this regard, research on community-based food retail interventions shows how accessible retail food environments can support health. For example, opening the Good Food Junction grocery store in a former food desert in Saskatoon had a positive impact on household food security and mental health among shoppers (Abeykoon et al., 2024).

Pilot studies of food store interventions have been promising (Cavanaugh et al., 2014; Mah et al., 2017; Minaker et al., 2017); however, the evidence in rural communities is limited (Hartmann-Boyce et al., 2018; Slapø et al., 2021). In a systematic review of grocery store retail interventions, only four of 35 studies were located in rural communities (Hartmann-Boyce et al., 2018).

Rural communities are unique and complex, which can obscure common factors affecting food environments. In an assessment of 78 rural stores in N.L., Mah & Taylor (2020) were unable to detect differences in food environments by store characteristics, which may be due to the complex mix of factors affecting store operations across rural communities in N.L. With a large rural population (Statistics Canada, 2022a), N.L. is an ideal location to study food retailing in rural and remote settings; however, this research is only just emerging (Mah et al., 2018; Mah & Taylor, 2020). More research is needed to understand retail food environments in rural communities (Hartmann-Boyce et al., 2018; Slapø et al., 2021) and to inform relevant food retail solutions that can equitably improve food access, diets, and health in rural communities (Needham et al., 2025).

Objectives

This study aimed to explore food store owners' perceptions of factors impacting healthy food retailing in rural communities in N.L. This study is the introductory part of a community-based food security project, Great Things in Store (GTiS), conducted in partnership with the non-profit organization, Food First NL (FFNL), which has over 25 years of experience leading programs and advocacy in N.L. They envision that together we can create a province where everyone can eat with joy and dignity. They organize, advocate for, and participate in programs and actions related to food insecurity, food sovereignty, food access, and food policy. The GTiS project is a strategic partnership with small food retailers in N.L. aimed at improving physical and economic access to nutritious, safe, and culturally appropriate food. Through community-designed retailer interventions, GTiS tested the effect of rural food store actions on community food security. The findings of this study were used to inform healthy food retailing intervention in food stores in rural N.L. for GTiS, and capacity-building supports from FFNL. to support food stores.

Methodology

The study followed a case study approach to understand factors that impact healthy food retailing in rural N.L. This research received approval from the Health Research Ethics Authority of N.L. (20222741).

Participants and sampling

Private food retailers located in rural communities in N.L. were invited to participate in GTiS through an open call advertised through FFNL's social media, community networks, and email listservs. Thirty-five retailers submitted applications to FFNL via a short online survey describing their store and their vision for participating in GTiS. Eight were deemed eligible to participate in the study as per a priori criteria: sold a variety of whole, unprepared food items, had a conventional storefront, were sole proprietors, and were amenable to intervention. Of these eight, the research team, in collaboration with FFNL, purposively selected three retailers using maximum variation sampling to

participate in this study (Palinkas et al., 2015) (Table 1). Owners of the three stores provided written consent to participate in the study.

Data collection

In November and December 2022, we conducted, recorded, and transcribed interviews with store owners to explore factors affecting healthy food retailing, which were used to inform the GTiS project. Stores A and C each had two co-owners who both participated in the interviews. A trained research assistant conducted semi-structured in-person interviews, asking questions about the store (ownership model, goods and services offered, suppliers, location, competition), relationship with customers, and healthy food retailing (options, facilitators, barriers). (See Supplemental File). The interview guide was adapted from previous research by Martinez et al. (2018), which evaluated retailers' perceptions of barriers and facilitators for healthy food retailing in supermarkets in the United States (Martinez et al., 2018). In consultation with FFNL, questions about retailer-supplier relationships, business practices, and experiences with healthy food retailing were adapted for relevance to small, private food stores in rural N.L. (Stuckless et al., 2022). Interviews lasted between 60 and 90 minutes.

Data analysis

All qualitative analyses were managed in NVivo 12 (QSR International) and Microsoft Office. Interview transcripts and meeting notes were analyzed inductively using thematic analysis, through two rounds of coding, followed by categorization of codes, and theme creation (Braun & Clarke, 2006). Data from interviews and focus groups were triangulated at the category level to identify similarities and disparities between findings, generating an overall illustration of the system. Thematic analysis was completed by research staff through iterative, independent, and collaborative work, using consensus-based decision-making. We generated thematic maps and reviewed data for internal and external homogeneity by themes. Following best practices for ensuring rigour in qualitative data (Morse et al., 2002), we ensured data quality through prolonged engagement with the community through GTiS to improve interpretation of the data, concurrent data collection and analysis, member checking, and peer debriefing and memoing by the research team and FFNL, documented through regular project updates.

Results

The characteristics of participating stores and their respective communities are described in Table 1. All three participating stores were private enterprises, although two operated under a corporate banner associated with a national grocery chain. All stores were the sole food retailer within their respective communities; full-service grocery retailers were between 16 and 58 kilometres away by highway. The stores have been in operation for varied durations, from six to 137 years.

Stores were located in rural communities outside census metropolitan areas and census agglomerations with less than 1,000 people and a low population density (<400 persons per square kilometre), aligned

with national (Statistics Canada, 2022b; Statistics Canada, 2022c) and provincial (Government of Newfoundland and Labrador, 2019) definitions of rurality. Communities were considered "somewhat" to "highly" accessible, according to a Accessibility-Remoteness Index which assigns a value between zero ("highly accessible") and one ("very remote") to represent the community's travel time to amenities (e.g., health care, supermarket, pharmacy), time children spend on the school bus, and the population size during regular business hours adjusting for commutes and short-term migration (Power & Forsey, 2018). Approximately one-fifth of residents in each community were classified as low-income (Statistics Canada, 2023).

Table 1: Characteristics of Case Study Stores and Store Communities

Characteristics	**Store A**	**Store B[1]**	**Store C**
Community			
Population size[2]	584	2,237	313
Population density[2]	19.7	64.9	58.1
Accessibility[3]	Accessible A-R I: 0.28	Highly Accessible A-R I: 0.15	Somewhat accessible A-R I: 0.35
Distance from St. John's, N.L.[4]	59 km	315 km	139 km
Average age[2]	47.4 years	46.8 years	52.2 years
Average family size[2]	2.0 people	2.2 people	2.1 people
Median annual after-tax income for one-person households[2]	$26,800	$27,600	$24,200
Median annual after-tax income for two or more-person households[2]	$68,500	$74,000	$73,500
Proportion of residents classified as low-income[2,5]	21.6%	17.6%	17.5%
18-64 year olds[2]	17.0%	12.6%	8.0%
65 years old and older[2]	26.0%	31.6%	34.0%
Store			
Ownership	Independent	Independent	Independent
Corporate Banner	Yes	Yes	No
Year of establishment	1886	1980s	2019
Highway distance to nearest full-service grocery store	33 km	16 km	58 km

[1]Community statistics are reported for the Census Subdivision within which the community that houses the store is located, since no further granulated population sizes were reported by Statistics Canada. The community within which the store is located is a proportion of this total population and is estimated to be less than 1000 people.
[2]Statistics Canada (2017)
[3]Accessibility-Remoteness Index (A-R I) which assigns a value between zero and one to represent the community's accessibility (time travel) to nearest primary health care, secondary health care, dental clinic, supermarket, pharmacy, the time travel children are bussed to high school, and the daytime population, with zero being "highly accessible" and one being "very remote" (Power & Forsey, 2018). There are five A-R I groups: Highly Accessible (Index values 0-0.20492, e.g., Corner Brook, N.L.); Accessible (Index values 0.20493-0.30979, e.g., Rocky Harbour, N.L.); Somewhat Accessible (Index values 0.3098-0.3904, e.g., Ferryland, N.L.); Moderately Remote (Index values

0.3905-0.4826, e.g., Trepassey, N.L.); Remote (Index values 0.4827-0.6726, e.g., Port Hope Simpson, N.L.); Very Remote (Index values 0.6727-1, e.g., Nain, N.L.) (Power & Forsey, 2018).
[4]Capital city of the province. Calculated using Google Maps.
[5]According to the Low Income Measure-After Tax (LIM-AT), "a fixed percentage (50%) of median adjusted after tax income of private households" (Statistics Canada, 2023).

Three themes describe key factors that impacted healthy food retailing in rural N.L. communities from the perspective of store owners:

1. The store is an agent of the community.
2. Independence increases the store's capacities to serve the community.
3. Store owners are frustrated with imbalances in conventional food systems and aspire to participate in local food systems.

These themes highlight the positive and challenging interactions between retailers and their customers and food systems, whereby food store owners navigate financial and social bottom lines simultaneously to meet community and their own needs. The themes, described in detail below, explore store's agency in generating close relationships with customers and experiences of economic, social, and political limitations, such as small stores in the food system. Exemplar quotes are included in Table 2.

The store is an agent of the community

Across all three communities, the stores are situated within the fabric of the community and contribute not only to food provision but also to the well-being of the people who live there. Store A has the longest legacy among the three communities, with a history dating back to the late 19th century. It has cultivated a reputation and loyalty that comes from serving five generations of customers. Witnessing outmigration and hearing complaints that "there's nothing to keep our children here for," was the impetus for opening Store C. After seeing new houses built and community growth since the opening of the store, Store owner C2 stated, ".... the community with nothing, you know, it don't take long for it to die...This community, when I first came here, I referred to it as it's a dying town...I don't no more."

The retailers' ability to serve the community contributes to a positive reputation and loyalty from customers. All three retailers actively cultivate an image of a community store with a personal touch and with customer service that transcends the merely transactional.

The ongoing evolution of the stores' services is admirable and seems to go beyond the perceived traditional role of a retail food store. In ways big and small, the retailers demonstrated care for the customers, creating and nurturing meaningful relationships with their communities. As Store owner B1 put it, "I don't want people to feel like they're just coming in to shop. I want them to have that overall community feel...that family experience."

The retailers described several examples of how they make their stores welcoming, but their efforts extended their role beyond a friendly partner in the community. Store owner C1 exclaimed:

> We're dependable. People know if they need something, we're there...we're after coming out

> 12 o'clock in the night and getting gas for people because they had a sick child and, you know, and after giving them the gas, not charging them for it…it all goes a long way.

Store owner A1 articulated this mission explicitly when they stated that they go above and beyond for their customers. "[N]ot for the recognition, certainly…we do it because…of the need and we want to help…it's just part of being a good member of the community."

Charity and community support were considered vital contributions of the retailers to community solidarity and well-being, including donations to food banks, community agencies, local businesses, schools, community events, and fundraisers.

Balancing affordability for retailers and customers

A universal approach used by retailers to demonstrate care for their customers was to seek affordable products. Retailers strove to balance the values of altruism and pragmatism, offering affordable products that were still profitable. Offering fair prices to customers was a source of pride for retailers. Retailers' healthy food retailing goals centered on food affordability, "the chance to eat healthy at a reasonable price" (Store owner A1), and, for "people to leave feeling like they got everything they needed…at a good price" (Store owner B1).

However, beyond this, there was a clear desire to demonstrate care for the community through retail pricing practices. Store owner C2 remarked that, "it's hard… to look at seniors where they're trying to budget or in heating their home or have food to put on the table. It's difficult times and not just seniors, either…for anyone, really, it's expensive."

Store owner B1 expressed a similar sentiment, claiming, "I'm in this to make it better for our customers…I don't want to see people struggling and not eating healthy because they can't afford [it]." Retailers admitted to taking a loss or less profit to keep prices affordable for customers.

At times, Store owner C1 made decisions that benefitted customers more than the store's financial status, describing that they "pumped a lot of my own money into the business, which everyone do… I'm after taking a loss on stuff just to provide the people."

An example of this is milk, for which they travel to a nearby city to purchase from a larger retailer at a price cheaper than that of the distributors. Unfortunately, because they insisted on keeping the resale price low, Store owner C1 cautions, "we makes nothing on it by the time I goes to [nearby city] and picks it up… and we sells it because you gotta take into consideration your time and your gas and everything."

Instead of offering deeply discounted prices on particular items, Store owner B1 will often opt not to stock them. "[T]here are things I won't bring in the store because I know it's too expensive for customers to purchase… I don't want to be known as a store that offers things that people can't afford to buy."

For Store B, profitability cannot be subordinated to customer care, as they outlined their ideal scenario as follows: "if I can offer them… a sale on something here or a lower price and I can still run my business, then, that makes me happy" (Store owner B1).

The relative expense of healthy food compared to less healthy items can thwart the desires of both customers and retailers from purchasing and stocking healthy food. As Store owner C1 articulated, "[t]here is a desire there for healthy food" but if the customers see

"it's so much money for that…then they turns to the cheaper stuff."

Increasing the availability of healthy food was deemed necessary, but not sufficient, to improve diet and health; affordability was key. The search for lower prices and the desire to "shop the specials" motivated customers with vehicles to leave their communities to shop at other retailers, despite the cost of fuel. Awareness of, or perceptions of, cheaper pricing in local retailers were believed to encourage customers to shop close to home. Store owner B1 described the minor act of sourcing tomatoes at an affordable price, one of thousands of items sold in the store, to encourage customers to shop at their store:

> I try to bring in other options that are more affordable. Like, for example, tomatoes, you know, there are four or five different kinds that you can order, so I'll try to bring in the cheaper ones. Not necessarily the ones that people you know, [laughs], might at [national grocery store] find, um, but people may look at it and say, 'okay, well, that's too expensive. I'm not going to buy that tomato, right? We can get a tomato cheaper at [Store B], so we'll go there and buy it. It's just a tomato' (laughs).

Independence increased the retailer's capacities to serve the community

This theme includes the ownership and control that retailers have over their businesses, focusing on how the flexibility of their ownership models allows them to meet community needs. As independent non-franchisees, retailers had a sense of control over their business activities, including decision-making about products, pricing and suppliers, as well as the flexibility to adjust when issues arose, such as missing order items. Store owner B1 described their non-franchise status as an advantage for healthy food retailing, saying, "we have our policies and procedures and rules…we're not sort of stuck under…anyone's umbrella so we can shop for better pricing…we're not tied to any one supplier."

Retailers believed they offered better pricing than comparison grocery stores as a function of their small, independent status. Both banner stores maintained that independence and flexibility were key features of their business operations, despite corporate ties. On the other hand, franchises were deemed too expensive to operate and too limiting, "[A] lot of dictation, too, when you're a franchise and sometimes a franchise don't suit a community's needs" (Store owner C2).

Stores A and B valued their corporate banner program, which they believed increased their ability to secure more affordable products. However, Store owner C2 said their store was required to actively seek out more affordable items from across multiple suppliers, wholesalers, and other retailers. "[W]e're always price shopping, we have to…if you can do a few cents cheaper on a product, well, that means more customers."

Retailers strove to understand their customers, used strategies to meet consumer demand, and worked through challenges of supply and demand in small communities. As small retailers, the store owners had the advantage of intimately knowing their customers. Retailers perceived a shift in consumers' purchasing, motivated by increased knowledge of the connection between food and health and changing demographics—a fact that impacted what products they stocked. As Store owner A1 put it, "the customer tends to dictate for the most part what we put on the shelf", a sentiment that appeared true for the other retailers.

With the freedom to select the types of products and services that could be offered in community stores,

retailers were increasingly offering several non-food items unlikely to be found elsewhere in the community, such as hardware items, motor vehicle parts, pharmaceuticals, propane, tobacco, alcohol, lottery, mail services, and hunting and fishing licenses. Retailers also sourced single items for individuals on demand. Store owner C1 was perhaps the most willing to go the extra length for customers, "if someone calls over looking for something, I runs, picks it up at the store in (nearby community) and brings it back to them".

The retailers' independence is a key feature of their business which allows them to respond to customers' needs nimbly, within their means to do so, as it contributes to their reputational strength and the sense of their stores as community institutions; however, it can be straining on the business itself.

Retailers often used trial and error to refine their understanding of customers and to determine popular products and effective marketing strategies. Store owner A2 stated, "We've dabbled in it all, and we just hung on to what would be saleable...," echoed by Store owner B1: "[w]e would bring in stuff, if it didn't sell, we wouldn't bring it in again." Concerns over low sales and food waste override the retailers' desire to bring in fresh or otherwise perishable products. Sufficient demand had to precede supply in these stores to avoid product and financial loss. Store owner A1 summed up this approach with the example of fresh produce, which "has to be something that the community wants, certainly, and at a price that they're willing to pay for it."

Store C also stated a growing demand for fruits and vegetables, which increased their willingness to sell such products; however, it was unclear if they believed they had sufficient demand to avoid food waste. Store C stated that minimum purchasing requirements resulted in them ordering 24 or 48 units of an item to fulfill a single customer's request, which contributed to food waste and revenue loss.

Store owners are frustrated with imbalances in conventional food systems and aspire to participate in local food systems

Retailers emphasized imbalances in food distribution within the food system, believed to be related to store size more than geographical location. One of the challenges faced by smaller retailers was the tendency of distributors to favour larger retailers. All retailers reported inconsistent access to products; the two retailers located further from St. John's, N.L., the capital city of the province, experienced the issue most strongly. This led to inconsistent product availability and pricing challenges, among other issues. Despite placing an order for particular items, according to Store owner C2:, "[w]e don't know until we get the delivery, so, therefore, we're left short."

Even if Store C puts in its order at the same time as the larger retailers, the owners believed the distributors would give priority access to the latter. Store B also found it challenging to compete with larger retailers because they were unable to secure a regular supply of certain products. Store owner B1 stated that the consequence of this irregular supply is that the "repeat shopping that you get at the larger stores [it] sometimes makes it harder for the smaller stores to compete that way and you don't want to lose customers, repeat customers are everything to a store our size."

Despite better proximity to St. John's, Store owner A1 still reported inconsistencies in product availability, which affected their motivation to bring in new items. "[I]t's no good of bringing in something one month and then not being able to get it the next month...you

don't want to get the customer used to getting it then all of a sudden being unable to get it".

Retailers believed that all stores had their deliveries impacted by weather, which was understood to be beyond their control. Weather-related or not, unreliable deliveries impacted retailers' ability to offer, display and sell healthy food. Store owner B1 stated that:

> If you look at my produce section, right now, I've pre-ordered, like six or seven different bagged salads. I might get two today…that's a struggle for me, like, I don't like seeing empty shelves, but it's beyond my control…we never know before the truck shows up if we're getting it or not. Yeah, so somebody could, could shop for, I don't know, a certain type of salad one day and a week later, I might not be able to get it…On a good delivery day, we, our displays are really solid; it's the days where, like, half our produce comes in. The other half is God knows where, or just can't get it, and it's hard to fill, you know, our produce section when you're not getting the items…

The notion of sourcing locally produced food for retail exists as an aspirational ideal for these retailers. The idealized vision of a store stocked with locally grown food runs up against the economic realities and production scale. Local food was seen as a solution to distribution challenges, including unreliable and inconsistent supply, and increasing food costs, but was in line with the values of community care. The store owners all described their desire to sell local food; however, the expense of products, small-scale production, seasonality, and health and safety regulations impact its feasibility. Store A sells small amounts of local meat and vegetables, but only between August and September. Store owner B1 described the challenges for them:

> One of the barriers for me being out here is not having more access to local grown products, right. So, for example, like, my blueberries came from Peru. We have, like, our blueberries grow here like outside the store, everywhere, but, because there's no local supplier here offering blueberries, I have no choice but to order, right, outside, so my supplier picks blueberries from New Zealand, and Peru, same thing, all our produce comes from those…I know there are N.L. eggs, but I'd have to [add] two dollars on every carton if I purchased the Newfoundland eggs…being in N.L., you'd think the pricing would be in our favour, but it's not.

Store owner C1 believed that local food could be a good selling point for their business and has acquired their own fishing license, which has allowed them to sell some of their catch in-store, albeit in limited quantities. They remarked, "[B]elieve it or not, a lot of people looks for it… a lot of people come to me looking for salt fish, looking for fresh fish, and everything."

Challenges securing local fish, meat (game), and produce were echoed by Store B, which emphasized a lack of government support for local food access:

We're not allowed, as of right now. If, if, if the government has, you know, has said that we can offer wild game at our store, I think we would definitely do that. But as far as I know, we're not… if someone just caught a salmon, we can't sell that here…I would love to be able to start a farm, but with what I've got going on here I can't…the government needs to have a direct relationship with these people and really push…the "let's grow locally" thing.

Discussion

This study aims to describe factors impacting healthy food retailing in rural N.L. food stores from the perspective of store owners. Our research describes highlights as key aspects of the economic, social, and political landscapes in which food stores operate. To this end, we found that regular business practices of food stores in rural N.L. simultaneously navigate financial and social bottom lines. Our findings show that the stores served as important agents in the community, providing not only food but also supporting their community functions through independent ownership models. However, wider factors—unreliable, restricted, and expensive food access—hindered further success of these small, rural food stores.

Previous research suggests that a healthy corner store intervention that incorporated business fundamentals, merchandising and increasing consumer demand with a spirit of experimentation can positively impact food store environments in N.L. (Mah et al., 2017). The retailers we focused on all expressed an openness to change and to embracing new ideas that they believed could benefit their communities. Small retailers contribute to community coherence and connection and are distinguished by their personalized approach to customer service and community involvement. These are valuable, intangible resources that indicate relationships with customers that transcend purely financial aspects and may be leveraged in the intervention process. Of course, altruistic ideals must be blended with the financial viability of the business, but this balancing act appears to be the mainstream operational model of small retailers in rural N.L.

All retailers believed that their independent operating models gave them greater flexibility and control. They claimed that their independence enabled them to better meet the needs of their consumers and that this, along with their reliability and generosity, allowed them to cultivate stronger relationships with their respective communities. Research by Rybaczewska and Sparks (2020) confirms a link between independent convenience stores and community coherence. Locally owned convenience stores strengthen the local economy while also offering non-financially motivated services by acting as community hubs, which foster a sense of connection with their customers. In the Western Isles of Scotland, researchers found that small, independent stores were considered essential to the fabric of the community (Marshall et al., 2018). The more personalized approach to customer service, as well as their commitment to community involvement, were identified as unique benefits offered by small stores (Pinard et al., 2016; Benoita et al., 2020; Clarke et al., 2010).

One way the retailer-consumer relationship manifests itself is through pricing. As the retailers all expressed concern for their customers' well-being, they try to balance pragmatism with altruism. At times, the scale can tip more toward altruism, with the retailers taking a loss on certain products. Adjusting in-store pricing to accommodate consumers is not atypical of small retailers (Pinard et al., 2016). Benoita, Kienzlerc and Kawalkowski (2020) argue that small retailers often rely on their intuition, rather than objective economic facts, to make pricing decisions. This intuition extends to retailers' beliefs about how consumers will perceive and respond to their prices (Benoita et al., 2020).

The food system disadvantages which frustrated small retailers found in our study are confirmed by other research. Convenience stores may need to charge

customers a price premium to offset both their weakened bargaining power compared to large retailers and their lower sales volumes (Benoita et al., 2020). Rural store owners faced challenges in distribution logistics, as they found the distribution to their stores to be inadequate and costly (Pinard et al., 2016). Retailers' interest in local products has also been identified in the UK by Rybaczewska and Sparks (2020), who found that locally owned businesses were keen to cooperate with local people and to promote local products. These retailers demonstrated sensitivity to local issues and expressed a desire to choose more local suppliers and products as a long-term goal. Pinard et al. (2016) also identified an enthusiasm for local food and products among rural retailers. However, their desire to support local was dampened by the reality that these products were cost-prohibitive for many customers. Skallerud and Wien (2019) explored the psychology behind the attraction to local food, connecting it to "helping behaviour," which stems from general empathic social and community concern.

Strengths and limitations

We took a case study approach to understand the system in which food stores operate in rural communities in N.L. This study reveals the multi-layered interconnected factors that may facilitate or challenge healthy food retailing interventions. As a community-engaged study, the findings are highly relevant to the front-line industry and were used to inform retailing interventions to support healthy eating in communities as part of the GTiS project. In particular, the findings will be most relevant to small, private food stores that serve as a major food source in rural or remote areas in N.L. and Canada; the findings may not be applicable to franchise stores or those located in competitive, urban markets. This study included small, independently run stores; food stores operating with different ownership or management models, such as those governed by boards, may have different experiences. Further, the participating retailers self-identified as interested in healthy food retailing, which may limit the transferability of the results to like-minded store owners in similar communities.

Conclusion

This study provides a rich description of factors impacting healthy food retailing in rural food stores in N.L. We revealed the important relationships between consumers and retailers, the value of independence in store ownership, the dominating challenge of food prices, and imperfect local and conventional food systems influencing healthy food retailing in small stores in rural N.L. Food system factors appear to constrain food store business operations, particularly around procuring and selling healthy, quality, affordable foods. Future research exploring the feasibility and impact of healthy food retailing interventions within rural N.L. food stores and communities, as well as measures to balance power within food systems to alleviate challenges of cost and availability, is needed for equitable population-based interventions to support healthy eating in rural communities.

Abbreviations:
FFNL, Food First NL
GTiS, Great Things in Store
N.L., Newfoundland and Labrador

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Appendix

Table 2: Theme Names, Definitions, and Exemplar Quotes

Theme	Definition	Exemplar Quotes
1. The store is an agent of the community.	This theme includes how the store is situated within the fabric of the community and contributes beyond food provision to the people who live there.	• The store is the major hub of the community, you know, we're not, we're not just a store, we're a meeting place, we're a gathering place at times, too. News is spread or gossip is spread, whichever way you want to look at it. And it's always, it's always been that way, certainly... I'd say I guess we've been around that much. now we've become a landmark within the community. And you know, even looking for directions, well, start at [the store] then go from there...we try to maintain a clean, clean store and a bright store, you know, and, and a friendly environment, it's not just in and out, the staff, you know, know the customers. A lot of them get called by name. [Store A] • [W]e runs the store when the power is gone, which is a great convenience for everybody. We got a generator, so people don't lose their stuff. They can come and get their gas and come and get their knick knack stuff and, you know. And we give back, too, like when there's, like, say, a community bonfire or community events. Stuff like that... we helps out as much as we can and everything and, like I said, it plays a big factor in people coming into the community... And, the stuff we does, too, is, believe it or not, as a store, is helping the community come together more, look at different things from a different perspective. And the way I handles stuff with the people within the community, like they'll come in pissed off and they'll go out smiling. [Store C] • I try to donate anything within this community, so if someone approaches me for a donation, I, I, will always give to any community activities. or food banks or whatever. Like, I never, never turn down people that are from within our community and support our store. Any organizations that support us, you know, friends and family who support us from those organizations, we will one hundred percent give back. [Store B]

1a. Builds community by managing affordability for retailers and customers	This subtheme includes how managing food prices and options is an act of care for the community. Price is presented as an inevitable challenge that must be creatively managed to make food affordable for customers.	• [T]hat's my biggest, I guess venture now, is to try and help prevent these price increases somehow. I know I'm just a small piece of the pie, but somebody's got to start something somewhere. If not, this is going to continue; people are not going to be able to afford food. Like, just to heat their homes now, if they have an oil furnace, like, I don't know how seniors are doing it, I really don't. So, if I can offer them, you know, a sale on something here or a lower price, and I can still run my business, then that makes me happy. [Store B] • We can't put our regular markup on that because it's not going to move. But we want our customers, because we care, about the health of our customers, we still want them to have access to the lettuce but we don't want to have them have to go to [nearby community] and pay $8 for a head for the lettuce so we're kinda [take a] loss on an item, but...if it just sits there, it's, that's not good either. Customers are happy, we're moving the product, you know, we're not going under (laughs). [Store B] • I'm trying to offer lower prices that customers are satisfied when they come in with the pricing. I hear a lot of customers saying, that, you know, 'oh, my gosh, I purchased this item down [at a major grocer] and it's two dollars less here.' Like, I'm coming here to get it from now on, kind of thing, right. So, if, if they're price shopping, if they're comparing, I think we're in a right spot, so yeah. We're just trying to be that community, family-run grocery store that people know and love. You know, people want people to come in because they're finding good quality items at good prices... [Store B] • Basically, we do whatever we gotta do to do to keep everything going, you know. I mean, some store owners you go into, like, some small businesses I'm after going in, like, some of the attitudes they has, like it's like, 'pay for it or not, go somewhere else and get it, we don't care. The price is the price,' and just grumpy and, you know, there used to be a store owner here, he died now, he had a store here for years. Oh, by, he was some crooked to people. Oh, boy (laughs)! It was crazy, crazy. Everyone comments, 'You're no [previous store owner.' (laughter). [Store C]

		• We're trying to find a happy medium because you know it's hard, uh, to look at seniors where they're trying to budget as in heating their homes or have food to put on the table. It's difficult times and not just seniors, either, I just use seniors because I see more of them, but for anyone really it's expensive. And then, like healthy, fruit and vegetables, like for example I went to order lettuce yesterday and it was almost ten dollars for me to get lettuce to come in. [Store C]
2. Independence increased stores's capacities to serve the community	This theme includes the ownership and control retailers have over their businesses, focusing on how they can be more flexible in meeting community needs.	• We pick and choose what we put on our shelves… they don't limit us as to what we can get or we can't get, uh, you know, if there's anything in the [distributor] we can get it, and if they don't have it, then we're free to buy from any distributor that has. [Store A] • We started up privately, like, to join a franchise, it's a lot of money. It's a lot of money to pay for a franchise name and something that I don't think that we would be able to do… It's a lot of dictation, too, when you're a franchise. And sometimes a franchise don't suit a community's need… Like, a lot of time with franchises, if there's a flyer on sale or specials, you have to go by that flyer, but these are products that would probably not sell here. [Store C] • We're not a franchise, so we're not governed by, I guess, uh, you know, any other entity type thing, uh, so, I guess in retrospect, we can, we can be a bit more competitive with our pricing. It's not, it's not like [national chain] where the manager of [national chain] is handed a manual and said, "Here, this is your pricing model… we have our own policies and procedures and rules it's just we, we're not sort of stuck under any, anyone's umbrella so we can shop for better pricing. Uh, we're not tied to any one any one supplier, yeah, we're just more flexible than, say, your average grocery store… [Store B]
3. Store owners are frustrated with imbalances in conventional food systems and aspire	This theme includes the broader context in which the retailer operates, including challenges as a small retailer and ideas for a renewed food system in the province.	• It's outta stock. We finds that a lot, outta stock and that's another point we would make, too. Like, with us as a small business, when we orders, it seems, like, the [distributors], all them, they takes their supply for the big grocery store as opposed to us so we're left on the bad end of it. We don't get

to participate in local food systems		it, because it's gone to the bigger store, even though we puts in our order same time, so they'll supply the bigger store, say, you know then, as opposed to a small convenience store. Then we has to run to [nearby community] shop to pick it up and bring it back... We don't know until we get the delivery, so, therefore, we're left short....a lot of times we think it's coming and it don't. Then we got people coming in looking for it and then says, well, I'll have it for you tomorrow (laughs) and then I'm gone off in the truck if I can get it for them and bring it back, you know, which is costly too, because we got to burn gas to do it, and stuff, too, you know. [Store C] • I guess our location, our proximity to major wholesalers helps so, depending on what we're looking at doing, you know, a reliable supply chain is definitely going to be, it's not good of bringing in something one month and then not be able to get it the next month you know you don't want to get the customer used to getting it and then all of a sudden being unable to get it. [Store A] • [I]f we had the room, we'd try to get into a bit more, right, especially, like, like, you know, I always thought about it as the same as like the farmer's market that's down there for fresh strawberries and all that kind of stuff, you know... I would like to have... like the fresh wildlife, fresh seafood, fresh vegetables, just all in that part of the store right... I think, I thinks it would really go over good and stuff. [Store C] • [T]here was a small farm there in [nearby community]... but... they're getting older and they, not offering as much. There are no younger people around here offering that type of a service... one of the barriers for me being out here is not having more access to local grown products, right... I guess some vegetables, I guess you could say we could get locally but it's seasonal. Same thing with like fresh products like fish and stuff like that, it's seasonal... They have a salmon farm down here... So I'm really, really hoping that eventually they're going to offer the fresh salmon to stores like us and we'll be able to purchase directly (laughs). [Store B]

		• People want local, fresh, affordable products. You can quote 'affordable' if you want (laughs). Right? I mean, by the time something comes from Peru... by the time they pick them, package them ship them, there's so many tariffs and taxes, and mark up gone on those by the time they get to us, can you imagine if we could have access to that here on the island and, you know, kind of wipe away all those additional costs. That's what's going to make it more affordable for the people in these communities to be able to get access to those types of products. I would love to be able to start a farm, but with what I've got going on here I can't. But there are people out there I know want to, and the government's got to back them... don't make it too expensive for those people to get started, like that's what deters people from starting these types of businesses is the expense of it, right... the government needs to have a direct relationship with these people and really push...the 'let's grow locally' thing. I can't see any other way. [Store B]

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Research Article

Conceptualizing cultural food security through the experiences of newcomers and service providers in the Halifax Regional Municipality of Nova Scotia, Canada

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Abstract

In Canada, food insecurity is defined as the result of inadequate financial resources. However, this definition obscures the many factors that exacerbate the prevalence, and shape the lived experience, of food insecurity among newcomers (i.e., immigrants and refugees) to Canada. This research, conducted in partnership with Common Roots Urban Farm (CRUF), a large urban farm located in Halifax, Nova Scotia, Canada, uses a qualitative descriptive research design and semi-structured interviews with newcomers and providers of settlement services who are located in Halifax, to explore the meanings and experiences of, and barriers and strategies to, accessing culturally appropriate foods and foodways. We draw on three concepts—cultural food security, salutogenesis, and occupational justice—to expand the conceptualization of food security for newcomers beyond financial constraints to include access to culturally appropriate foods and foodways. Overall, our findings indicate that access to culturally appropriate food is intertwined with financial barriers, and is vitally important to newcomers' sense of identity, connection to friends and family, and belongingness.

Keywords: Cultural food security; newcomers; occupational justice qualitative descriptive research; salutogenesis

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Résumé

Au Canada, l'insécurité alimentaire est définie comme le résultat d'une insuffisance de ressources financières. Cette définition occulte les nombreux facteurs qui exacerbent la prévalence et façonnent l'expérience de l'insécurité alimentaire chez les personnes nouvelles arrivantes (immigrantes et réfugiées) au pays. Cette recherche, menée en collaboration avec Common Roots Urban Farm (CRUF), une grande ferme urbaine située à Halifax, en Nouvelle-Écosse (Canada), s'appuie sur une méthode qualitative descriptive et sur des entretiens semi-structurés avec des personnes nouvelles arrivantes et des prestataires de services d'établissement situés à Halifax ; il s'agit d'explorer l'accès à des aliments et à des habitudes alimentaires culturellement appropriés en abordant le sens et les expériences ainsi que les obstacles et les stratégies. Nous nous appuyons sur trois concepts (la sécurité alimentaire culturelle, la salutogenèse et la justice occupationnelle) afin d'élargir la conceptualisation de la sécurité alimentaire, pour les personnes nouvelles arrivantes, au-delà des contraintes financières, et d'y inclure l'accès à des aliments et à des habitudes alimentaires culturellement appropriés. Dans l'ensemble, nous constatons que l'accès à des aliments culturellement appropriés est relié aux obstacles financiers, mais qu'il s'avère d'une importance vitale pour le sens de l'identité des nouvelles et nouveaux arrivants, pour leurs liens amicaux et familiaux et pour leur sentiment d'appartenance.

Introduction

The definition of food insecurity—the inadequate or insecure access to food due to financial constraints—on which data collection and monitoring in Canada is based, reflects the firmly established association between food insecurity and economic precarity (Tarasuk & Mitchell, 2020). However, conceptualizing food insecurity as the result of financial constraints alone obscures the many factors that exacerbate the prevalence of food insecurity and shapes the lived experience among equity-deserving populations, namely newcomers (i.e., immigrants and refugees). Newcomers' experience of food insecurity is shaped by a number of factors that include, but also extend beyond and intermingle with, financial constraints. One important factor elucidated elsewhere is access to culturally appropriate foods and foodways. Yet, how access to culturally appropriate foods and foodways shape newcomer settlement and wellbeing are poorly understood.

This research emerged as a partnership between the research team and Common Roots Urban Farm (hereafter Common Roots) and was funded by the Change Lab Action Research Initiative (CLARI). We used a qualitative descriptive research design (Kim et al., 2017) and semi-structured interviews with newcomers and service providers who offer food-related settlement services to newcomers located in Halifax, Nova Scotia, Canada. Our work is grounded in three key concepts—cultural food security, salutogenesis,[1] and occupational justice. These concepts inform our exploration of the myriad facets of newcomers' access to culturally

[1] Defined and discussed in more detail later, but in short, this term refers to what contributes to good health (versus pathogenesis, what makes people sick) (Antonovsky, 1987).

appropriate foods and foodways. Our aim with this work is to explore newcomers' experiences and meanings of accessing culturally appropriate food and therein expand the edges of cultural food security as a theoretical concept.

Literature review

In this section we discuss the literature of relevance to: 1) newcomers, food insecurity, and cultural food security in Canada; 2) food, culture, and immigration; and 3) food and foodways as occupational justice. Throughout these subsections, we elaborate the three key concepts that inform this work—cultural food security, salutogenesis, and occupational justice.

Newcomers, food insecurity, and cultural food security in Canada

In 2021, more than 401,000 permanent residents settled in Canada, the highest number ever in a single year. This increase follows focussed efforts by federal and provincial governments to boost immigration to Canada. Immigration, Refugees, and Citizenship Canada (IRCC) described immigration as necessary "to drive our economy, enrich our society and support our aging population" (Government of Canada, 2021, para. 5). The population of newcomers is expected to continue to rise; by 2036, newcomers are projected to make up nearly 30 percent of Canada's population, compared to 20.6 percent in 2011, and 21.9 percent in 2016 (Statistics Canada, 2017a). Nova Scotia has also sought to increase immigration to the province, particularly in rural areas, to boost cultural and economic development and to fill specific labour needs (Government of Canada, 2022; Ivany et al., 2014; Nova Scotia Department of Communities, Culture & Heritage, 2017). In 2016, immigrants made up 6.1 percent of Nova Scotia's 908,340 residents (Statistics Canada, 2017b); since then, the number of landed immigrants per year has nearly doubled, with 2019 and 2021 setting records for immigration to the province (Government of Nova Scotia, 2022). However, what is crucial to note and of central concern in this research, is that many immigrants choose to leave Nova Scotia if their knowledge, skills, aspirations, and other human potential is not valued, such as through access to meaningful occupation and employment (Akbari, 2020).

While the boom of newcomers has been cast as a success for Nova Scotia, data related to the health and wellbeing of those who settle in the province, and in Canada broadly, tells a different story, particularly with respect to food security. Data on food insecurity in Canada, collected prior to COVID-19 in the same time period our study was conducted, indicates that 12.7 percent of Canadian households, or about 4 million Canadians, were food insecure (Tarasuk & Mitchell, 2020). The prevalence of food insecurity in Nova Scotia at that time was well above the national average at 15.3 percent (Tarasuk & Mitchell, 2020). Food insecurity has been an issue of increasing importance since the onset of the COVID-19 pandemic, with 2022 data suggesting that 17.8 percent of Canadian households experience food insecurity and 21.3 percent of Nova Scotian households experiencing food insecurity during that time period (Li et al., 2023). The prevalence of food insecurity among newcomers who have been in Canada for less than five years was even higher at 17.1 percent in 2019, decreasing to 13.8 percent among

those who have been in Canada for five years or more (Tarasuk & Mitchell, 2020). This trend continued in 2022, with 26.1 percent of recent immigrants to Canada experiencing food insecurity in that time period (Li et al., 2023), indicating that this issue is worsening over time. It is also relevant to note, however, that any increased vulnerability to food insecurity in this population disappears when the analysis accounts for other economic and sociodemographic characteristics (Li et al., 2023). Other research indicates that food insecurity rates vary considerably among various newcomer groups with much higher rates among populations from certain countries of origin (e.g., Mexico and Colombia; Vahabi et al., 2011), newcomers who face additional systemic barriers, namely women (Quintanilha et al., 2019), and refugees (Lane et al., 2019; Tarraf et al., 2017).

Nevertheless, these data are based solely on measures of food insecurity as defined by a lack of access to sufficient food due to financial constraints, and thus, do not reflect the unique factors, such as access to culturally appropriate food, that shape food security for newcomers. The role of cultural factors in mediating food insecurity, though poorly understood (Moffat et al., 2017), are vital to the health and wellbeing of newcomers who may experience dramatic change in the food and foodways available to them (Stelfox & Newbold, 2019; Stowers, 2012). Canadian research has shown that in addition to inadequate finances, newcomers face challenges in adapting to the foods, food customs, and food system in their adopted communities and in accessing culturally appropriate foods (Power, 2008; Tarraf et al., 2017). Power (2008) first proposed "cultural food security" to conceptualize the lack of access to cultural foods and foodways among Indigenous populations in Canada as an important social justice concern that lies beyond food insecurity due to financial insufficiency. Cultural food security has since been used to elaborate the barriers to food security among newcomers. For example, Moffat et al. (2017) applied Power's concept of cultural food security to explore the three pillars of food security—availability, access, and use—among an immigrant population in Hamilton, Ontario. The authors note that newcomers face challenges related to culture within all three of the pillars of food security, and that cultural dimensions of food insecurity must be considered when addressing nutrition and health among this population.

Based on their research with African immigrants to Australia, Wilson and Renzaho (2015) assert that among newcomers, cultural food insecurity also goes beyond the quantity, quality, and cultural acceptability of the foods being consumed to encapsulate disruptions to cultural food practices. Research participants discussed the loss of family commensality after moving to Australia and no longer having a traditional family breakfast in the mornings (Wilson & Renzaho, 2015). Vallianatos and Raine (2008) conducted research with South Asian and Arabic newcomer women to Edmonton, Alberta and found that being disconnected from cultural foods and foodways contributed to their anxieties about immigration and to feelings of social isolation. Women faced a variety of barriers to accessing ethnic foods, including lack of availability as well as language barriers. Ultimately, this research highlights the gaps in the definition, measurement, and monitoring of food insecurity, which fail to capture the unique factors that shape the prevalence and experiences of food insecurity among newcomers.

Food, culture, and immigration

Anthropologists have long studied the relationship between food and culture and have shown that foods and foodways are ritual systems in which patterns and

worldviews of culture are embedded (Meigs, 1987). For newcomers, immigration disrupts established and deeply held ritual systems, including those related to food. Ahmed et al. (2003) describe the process of settlement as "regrounding" whereby newcomers are not starting new lives, but are re-rooting familiar ways of life, knowledge, skills, and aspirations that they bring with them to their adopted communities. Not surprising then, is research that shows that food plays a unique and vitally important role in the settlement process, as well as in the health and wellbeing of newcomers.

A significant portion of the research on newcomers and food focuses on "dietary acculturation," the process by which newcomers adapt to or adopt the "dietary practices" of their new communities (Alakaam & Willyard, 2020, p. 229). Dietary acculturation has been identified as a source of "acculturative stress...defined as a reduction in health status (including psychological, somatic, and social aspects)" of newcomers (Berry et al., 1987, p. 491; Satia-Abouta, 2010; Satia-Abouta et al., 2002). Dietary acculturation contributes to a phenomenon known as the "healthy immigrant effect" whereby newcomers' physical and mental health status tends to decline with length of residence in Canada (Vang et al., 2017; Aljaroudi et al., 2019). Paradoxically, this decrease in newcomers' health status occurs despite data showing that food security increases with length of residence (Li et al., 2023; Tarasuk & Mitchell, 2020), which suggests the healthy immigrant effect is not solely due to financial insufficiency and a consequent lack of access to nutritious food. Nevertheless, food insecurity puts newcomers at increased risk for communicable and chronic diseases, poor physical and/or mental health, and compromised nutrition status (Burgess, 2016; Dennis et al., 2017; Islam et al., 2018; Maynard et al., 2018; Weigel & Armijos, 2019). In sum, much of the research on newcomers and food focusses on the pathogenic impact of food insecurity among newcomers.

In contrast, salutogenesis, a term devised by Aaron Antonovsky (1987) to conceptualize not what makes people sick (i.e., what is pathogenic), but what contributes to good health (i.e., what is salutogenic), provides another lens to consider food security for newcomers. Since Antonovsky's introduction of the concept, salutogenesis has been taken up across the life course and in various contexts including healthcare, migration, and policy making (Mittelmark et al., 2022), though has only been explicitly applied in limited ways within the food security literature (Herens et al., 2018). Central to Antonovsky's (1987) salutogenic theory is "generalized resistance resources" (p. 28), the internal and external resources that people possess to cope with stressors, which inform their "sense of coherence" (p. 15), the degree to which people perceive their world to be comprehensible, manageable, and meaningful. Research by Antonovsky and others who have since used salutogenic theory have shown that those with greater generalized resistance resources and a higher sense of coherence enjoy greater health and wellbeing even in highly stressful and traumatic situations (Braun-Lewensohn & Sagy, 2011; Braun-Lewensohn et al., 2011).

Cultural food security can be considered using salutogenic theory; generalized resistance resources include commitment and cohesion with one's cultural roots, cultural stability, and ritualistic activities (Idan et al., 2022), all of which can be supported by engagement in cultural food practices. Given the ways that food-related programs like community gardens can contribute to the health and wellbeing of newcomers (Hartwig & Mason, 2016; Ramburn et al., 2023), this is an area ripe for exploration. One example of research that centres the salutogenic impact of food and foodways, though does not directly engage with

Antonovsky's work, is Hughes' (2019) ethnographic study of refugees from Myanmar living in Australia. Hughes (2019) explores food and foodways as factors that contribute to individual and community resilience, and reports that home and/or community gardening was a vital and multifaceted aspect of newcomers' settlement experience that provided access to traditional foods and ways of life, a means of earning income, and therapeutic engagement with green space, potentially contributing to a sense of coherence.

Connected to the sense of coherence provided by gardening is the concept of placemaking (Ellery & Ellery, 2015); this is a concept that emerged in the 1970s within planning theory, and has been used to discuss the material and non-material elements that contribute to someone creating a sense of place and relatedly, a sense of self (Hughes, 2019), a process that is "central to personal and social existence" (Gray, 2002, p. 39). Hughes (2019) cites gardening as a facilitator of placemaking for their participants, while Minkoff-Zern (2012) additionally found that connection to land and to agriculture is important to newcomer settlement because it provides spaces for "retaining and highlighting agricultural, cultural, and dietary practices and knowledge" (p. 1190). Other researchers, including Jean (2015), Lucas and Li (2020), and Strunk and Richardson (2019), have also emphasized the importance of activities like farming and gardening to the process of placemaking for newcomers, including in Canada.

Jean (2015), in her work with participants of an urban farming program for refugees in Utah, emphasizes the role that farming can play as an act of resistance to cultural assimilation and to acculturation into American food norms. Participants in the program highlighted the familiarity of connecting with land and of planting a seed in the soil, even though the characteristics of the soil in a new place can be different and unfamiliar. Beyond the important connection to cultural foodways, places like community gardens can provide important access to community building and to sharing existing knowledge and skills (Brigham, 2015; Moquin et al., 2016). Lucas (2020) conducted interviews with participants at the Rainbow Community Garden in Winnipeg, Manitoba, as well as urban agriculture professionals. Participants in the research described the garden as a site of healing, cross-cultural and intergenerational exchange, and a way to feel connected to both their home country and their new home, despite what was an unsuccessful and disappointing growing season (Lucas, 2020; Lucas & Li, 2020). This research highlights the importance of relationship to land and others in the placemaking and settlement process, and the salutogenic role that agricultural activities can play for newcomers.

Food and foodways as occupational justice

Scholarly and grey literature identifies employment-related skill development as an important priority for newcomer settlement (Maganaka & Plaizier, 2015). Yet, newcomers bring with them a breadth of knowledge and skills that could strengthen the economies, racial and cultural diversity, and food systems of their new communities, but are often met with barriers that prevent them from sharing these assets (Scultheiss & Davis, 2015). Many newcomers experience a decline in job status related to a mismatch between their education and experience and employment opportunities in Canada (Wilkinson et al., 2016). Thus, it may be that, for at least some newcomers, it is not skill development that is needed, but access to meaningful employment. Nevertheless, settlement includes more than employment and is best approached through the broader lens of occupation.

Following occupational therapy scholars, we understand occupation to include the "day-to-day means through which we exercise health, citizenship and social inclusion" (Townsend & Wilcock, 2004, p. 81). This includes food-related occupation, such as food provisioning and preparation, which are important sources of connection to ritual, tradition, family, identity, etc. for many people, and "are rife with symbolic meaning" (Beagan et al., 2018). We concur that "humans are occupational beings. Their existence depends on enablement of diverse opportunities and resources for participation in culturally defined and health-building occupations," which include, but are not limited to, employment (Townsend & Wilcock, 2004, pg. 76). "Enablement" in this definition connects occupation to social and structural contexts, and thus, positions access to occupation as a matter of justice (Nilsson & Townsend, 2010; Stadnyk et al., 2009; Townsend, 2003; Townsend & Wilcock, 2004; Whiteford, 2003; Wilcock, 2006; Wilcock & Townsend, 2000). Occupational justice occurs when the "rights, responsibilities, and liberties that enable the individual to experience health and quality of life through engagement in occupations" are realized (Wolf et al., 2010, pg. 15). Conversely, occupational injustice describes the lack of occupation or occupational insecurity that "occur[s] when people are denied the physical, social, economic, or cultural resources or opportunities to be engaged in these meaningful occupations" (Wolf et al., 2010, pg. 15). We see access to cultural foodways as an issue of occupational (in)justice, and cultural food security and occupational justice as two mutually reinforcing factors at the heart of understanding, and thus supporting, newcomers' experiences of immigration and resettlement from a salutogenic approach.

Research questions

A key aim of our research is to flesh out cultural food security as a concept by drawing on the experiences of newcomers and service providers with a view to enhancing its use for justice-enhancing research and policy. Hence, our research sought to answer the following questions:

1. How is cultural food security understood by newcomers and social service providers located in the Halifax Regional Municipality (HRM), in Nova Scotia, Canada?
2. What are the experiences of newcomers living in the HRM of accessing culturally appropriate food?

Methodology and methods

Methodology

We used a qualitative descriptive research design to conduct this research because of its alignment with our intention to describe the understandings and experiences of participants through their own voices and with little interpretive analysis (Kim et al., 2017). In this approach, data analysis is low-inference and researchers stay close to the data, with limited transformation occurring during analysis, with the resulting description being straightforward (Kim et al., 2017). This research design is appropriate when

studying concepts like cultural food security which are still in development.

Sampling and recruitment

Service providers were recruited via a selection of settlement services organizations which were identified through an initial environmental scan. Individuals within the organizations were emailed invitations to participate in a sixty-minute interview. Newcomer participants were identified and invited to participate in an interview via an email from Common Roots, a community garden that, at the time that this research was conducted, was centrally located in downtown HRM on land adjacent to and owned by the QEII Health Sciences Centre, a large urban hospital. While at that location, Common Roots comprised over fifty garden plots and operated a weekly Market Garden where gardeners could sell their produce to local residents. Common Roots also operated a program for newcomer gardeners through a partnership with the Immigrant Services Association of Nova Scotia (ISANS), a large centre that offers an array of services and programming for newcomers to the province. Newcomers were offered a cash honorarium of $25 and travel costs for their participation. This study was granted ethics approval by the Mount Saint Vincent University research ethics board.

Data collection and analysis

Interviews with newcomers were conducted by the co-authors (ME and MB led interviews with newcomers; JB led interviews with service providers), in late 2018 and early 2019, using a semi-structured interview guide tailored to each population group. Written consent was collected from each participant on the day of the interview. Interviews with newcomers included questions such as “Are you able to access/purchase the kinds of food you like/prefer/consume here in HRM?” and “What do you consider central to newcomers’ cultural food security?”, while service providers were asked “Do issues of food insecurity come up in your interaction/work with newcomers; what is your understanding of the issue?” and “Do the services/programs you provide consider issues of food security, especially cultural food security for newcomers to the HRM?” among other questions related to newcomer food security. An interpreter was present for newcomer interviews as needed, which were audio recorded and transcribed verbatim. Newcomer interviews ranged in length from twenty-five to forty-nine minutes, while service provider interviews were twenty-five to eighty-one minutes in length. Interviews with newcomers took place in community settings (e.g., the public library, YMCA centre, etc.); service providers primarily took place in the provider’s workplace. Interview data were analyzed by ME and JB who independently coded each transcript in MAXQDA using both inductive and deductive, based on existing literature on cultural food security and occupational justice, coding before comparing codes and collaboratively developing themes (Braun & Clarke, 2022). Collaborative decision making around themes was a straightforward process due to our use of qualitative description; there was less interpretation of the meaning of participant's words, and more of an emphasis on finding patterns.

Results and discussion

In total, eight service providers from six different organizations, and ten newcomers participated in an interview (see Table 1 for profile of newcomer participants). Most newcomers had originally come to Canada as refugees. Service providers were employed in a range of organizations, including public health, immigration settlement, community food centres, community gardens, etc. All names used in this section are pseudonyms.

Table 1: Demographic profile of newcomer participants

Pseudonym	**Country of Origin**	**Length of Time in Canada/HRM**	**Immigration Status**
Anitha	Rwanda	4 years/1 year	Permanent resident
Keza	Rwanda	4 years	Permanent resident
Mary	Democratic Republic of Congo	11 years	Citizen
Anga	Tanzania	4 years	Permanent resident
Batsa	Bhutan	7 years	Citizen
Adesh	Nepal	3 years	Temporary resident
Cheetri	Nepal	7 years	Permanent resident
Joseph	Cameroon	7 years/6 months	Citizen
Saania	Syria	3 years	Refugee
Abdel	Syria	3 years	Permanent resident

Through our analysis, we identified three key themes that specifically address our research questions, and which we address in turn in the subsections below: 1) understandings of cultural food security; 2) barriers and strategies to accessing culturally appropriate food and foodways; and 3) growing and sharing as occupation.

Understandings of cultural food security

Culturally familiar food and foodways were routinely talked about by newcomers and service providers as providing a material and symbolic connection to newcomers' past, present, and future lives. Many newcomer participants described the importance of food to "finding home." Food enabled newcomers to maintain and foster a sense of connection, inclusion, and belonging within their communities of origin as well as within their adopted communities, suggesting that food and food practices were important in placemaking, as demonstrated in previous research (Strunk & Richardson, 2019; Vallianatos & Raine, 2008; Xia, 2021), and relatedly, in their development of a sense of coherence. Access to cultural foods and traditions provided a lens through which newcomers could make sense of their life in Canada. Mary captured the essence of newcomers' perspective on the central role of food in stating:

> Without the food, I'm gone. Food is everything. Food is my health, food is money, food is family. Food is the friends. Food comes everywhere. Everything we do, food is at the front line.

Several participants also equated the meaning of food with "culture," "participation," "family," "friendship," and "life." More specifically, for newcomers, food was a crucial and accessible means of maintaining a sense of connection to their families, familiar ways of life, and cultures that were left behind. Conversely, participants highlighted the role of food in building social networks among newcomers of similar national and linguistic origin, the larger community of newcomers, and among the people, places, and ways of life in their adopted communities. Anitha highlighted this important dual role that food and foodways play in connecting newcomers to their adopted and home communities, when discussing her participation in the Common Roots Market Garden:

> We are happy.... We ate our food, we were able to share with the friends, we were able to sell some to people who know that food so, we were connected again with our communities around the world. Also, we were able to express ourselves. Our culture, our food. We were able to teach other people from different countries who are the part of Common Roots program. We were able to teach them how to plant them, how to grow them, how to cook...to eat them.... So, we are so happy.

Anitha's experience speaks to the value of cross-cultural exchange, which can support newcomers in feeling connected to their home country, through continuing familiar food practices, as well as to their new place of settlement, through connecting with other people and sharing skills and knowledge that they have brought with them from their country of origin. This also reflects the imagined garden which Strunk and Richardson (2019) argue "is constructed through social, economic, and cultural interactions that take place between gardeners of different ethnicities, genders, religions, and generations in the garden" (p. 830), facilitating intergenerational and cross-cultural exchange of knowledge. The "imagined garden" expands beyond the biological and material processes of gardening to acknowledge the salutogenic benefits of human interaction and cultural production within a community garden like Common Roots or like the Rainbow Community Garden in Winnipeg (Lucas, 2020; Strunk & Richardson, 2019).

Service providers similarly underscored the importance of culturally appropriate food to fostering coherence among newcomers' past and present lives and a sense of purpose in their adopted communities, highlighting the salutogenic role that access to cultural food and foodways can have. For example, Marta, an employee at an immigrant services agency in Halifax, explained:

> What I see is a vast amount of knowledge and a deep sort of connection with food. People may not even recognize themselves in terms of what they could be contributing to Canadian society. So, for people to actually recognize, 'Oh you know, it's not just that I want the opportunity to buy this or this.' It's that 'I actually have all this food knowledge to contribute, agricultural knowledge, and understanding of how to grow.' And even if you have to adapt your ways of growing to growing in Canada, there's some really basic stuff and really deep knowledge that's in people's bodies that people know how to do.... People are having to start over in so many ways that it can be a really demoralizing process, especially when people have, or are facing all kinds of barriers to meaningful employment or making friends.

Even though newcomers often had to adapt their gardening methods and techniques to their new home in Nova Scotia, this was something that gave them a sense of purpose and familiarity and could foster

meaningful and worthwhile occupation, even when other aspects of settlement may be proving challenging. Connecting with land can feel both different and the same from home concurrently, as also highlighted by participants in Jean's (2015) study when describing the differences in soil between their home country and their place of settlement but the core experience of placing a seed in the earth and fostering its growth. Marta went on to highlight the ways that culturally appropriate food and foodways connect families across generations, and thereby add to newcomers' sense of purpose:

> The seniors that we have in our gardens, people just love it. Like it gives them a sense of meaning to their days and a team. They often don't have other places that they go, so their families, younger people, families will start to get jobs and go to school, but the senior of the family doesn't have much, right? So, going and sitting or going to water their garden and sitting with their friend at the picnic table becomes really important because it's sort of more similar to what they might've done in the past. And it's more what they expected what they would be doing when they came to Canada.... And that it's part of their cultural, like they want their kids to know how to grow food. And—and food that's particular to, particularly important for them, you know, so. And to, it's a way of sharing what life was like back home.

Passing down cultural food traditions to children, especially those born in Canada, can be an important aspect of settlement and placemaking, but can also be challenging in a new place when access to cultural foods is limited (Lucas, 2020; Vallianatos & Raine, 2008). Access to a community garden like Common Roots can provide opportunities for this important intergenerational learning and contributes to the comprehensibility and meaningfulness of participants' lives. Anitha's and Marta's insights exemplify a key finding of this research—that access to culturally meaningful foods and foodways is vitally important to settlement for reasons beyond financial and physiological health which are commonly centred in research.

When asked specifically about what cultural food security means to them, newcomers contrasted cultural food and survival food, whose conceptualizations were informed by culturally rooted ideas of health and edibility. For example, Anga contrasted the foods he eats "for surviving" and what he considers foods "for living." Similarly, Joseph said:

> Cultural food is ah, I just simply see it as something that is part of your culture, you have been doing it. So, that is what I consider, that's cultural food because in that food there is part of your culture, your origin. It's not food just for food; basic food. It's food that narrates a story for you.

For many newcomers', cultural perspectives of healthy food were also a key element of cultural food security, and comprised elements of the food itself (i.e., sugar content, freshness) and the means of growing it (i.e., use of chemicals, environmental impact), as well as the familiarity and trustworthiness of the knowledge used in its production (i.e., cultural foodways versus science). Cheetri explained,

> When I was in my country, we ate all our organic, fresh milk, fresh product, everything is fresh, and the—made in the, you know, made by hand. You use everything, like you know, we grow fresh vegetable, fresh, organic, everything organic, but here is not that kind of, you know, the environment. Like the food, everything, we cannot find, that's why we always miss, you know, our culture, that thing that's the other reason.

Finally, cultural food security was also informed by culturally rooted ideas about the edibility of foods. Anitha joked,

> When I came, in the hotel, it was a big, like, big tray of salad. I said, 'wow, am I a goat?' [everyone laughs].

> Because the animals in my country, they eat raw greens.... True story though [laughter]. We didn't eat; we stayed hungry [laughter].

Although Anitha finds humour in her experience, she also highlights the ways in which food is central to finding a place for herself in her adopted community. Both Cheetri and Anitha's experiences are reminiscent of one participant from Jean's (2015) research who noted that gardening and growing his own food let him and his family eat food "our way" (p. 68) by, for example, growing corn beyond the maturity when it is typically harvested in America. For Cheetri and Anitha, eating food "their way" could potentially be seen as a way of resisting assimilation to Canadian culture and food practices and maintaining their autonomy in this new place of settlement.

What is also clear from this research is that for newcomers, cultural food security extends well beyond the financial accessibility of food, and even beyond access to particular foods, to include culturally rooted ideas of what is edible, what is healthy, and how food should be grown and prepared. Understood through Antonovsky's (1987) salutogenic theory, newcomers' and service providers' insights highlight the role of culturally meaningful foods and foodways, such as gardening and growing food in a communal space, in helping participants to make meaning in their lives, thus fostering a greater sense of coherence. Likewise, newcomers and service providers highlight the interrelated salutogenic value of meaningful occupation that may be fostered through culturally meaningful foodways. We assert that newcomers' access to culturally appropriate foods and foodways is a matter of occupational justice. For newcomers, social and structural supports that enable them to practice culturally meaningful foodways as part of occupation are as important as access to culturally appropriate foods in enabling and sustaining cultural food security, defining identity, connecting individuals to their communities, and facilitating a sense of purpose (Koc & Welsh, 2001; Wright et al., 2021).

Growing and sharing as occupation

For newcomers who participated in this research, opportunities to grow and share food was not just about access to food but also about access to meaningful occupation, defined as "doing things that are perceived as being right, important, and worthwhile" and that provide someone with autonomy and choice over what to do (Ikiugu et al., 2015, p. 47). For some, growing and selling food through Common Roots' Market Garden provided newcomers with a modest financial return that supplemented other forms of income. However, as discussed above, occupation means more than employment and income. In line with conceptualizations of occupational justice, newcomers explained that growing and sharing food is a particularly meaningful way of contributing their knowledge and skills for the benefit of their families, fellow newcomers of similar national or cultural origin, and their adopted communities. This further speaks to the value of the "imagined garden" (Lucas, 2020), where cross-cultural exchange and social connection can occur, benefitting gardeners beyond the physical practice of gardening and food production. Participants spoke to the practice of gardening as a form of meaningful occupation, wherein their engagement with gardening was worthwhile and provided many participants with a sense of autonomy (Ikiugu et al., 2015).

Mary explained that growing food gives newcomers needed opportunities to make use of and to share the valuable knowledge and skills that they bring to their new homes:

> "I think if everyone thinks about the importance of having food closer, so everyone can play an important role.... They have to think about how important these skills that newcomers bring especially, because the Canadians don't care about what they eat. If they can support newcomers to have the support, either from private or from the government, we can do a lot. To improve the food security, to develop our food, to develop our skills, to develop our income. There are lots we can do, but we don't have any permission to do it."

Growing food was also an important means of knowledge and cultural preservation and exchange; newcomers described the importance of practicing culturally familiar foodways as well as opportunities to teach people of other cultural backgrounds. Thus, growing food was described as a form of self-expression, and an important means of maintaining cultural identity while making a new home for themselves in the HRM. Hence, we assert that having access to practice cultural foodways is an important, but often overlooked, component of cultural food security, and of occupational justice, and a way of resisting assimilation into dominant culture (Jean, 2015). Mary went on to explain that growing food is central to her cultural foodways and inextricable from how she thinks about culturally appropriate food:

> So, in my culture, we don't buy food. Even meat we grow; we grow our chickens and the goats, and the...not very much go buying food. So, this was a very much challenge and as well, the taste, because the food is not as fresh, doesn't taste the same.... Last year, I had to touch—touch my hands in the ground, plant, grow my food...I'm telling you I was on depression medication, because I am a survivor of a genocide. I went through lots of things. My brain was in—in pain, like stressed, because of not getting enough of what helps me, but gardening helped me. And I am off the medication. Now, uh, during the year, I started the gardening...I forgot about going to buy food [laughter]...I'm telling you, night, morning, I could get up and water my plants. I watched my tomatoes, and my kales, and my beans, everything, growing. I ate them. I felt that, oh my goodness, I am now home.

Opportunities to practice culturally appropriate foodways provided newcomers with a means to earn a modest income. However, more broadly, opportunities to grow food was a means to engage in meaningful occupation and foster occupational justice, independent of employment or finances, which subsequently enabled newcomers to experience health, quality of life, and belonging in their adopted communities. Mary describes an experience of placemaking, of finding a home, through the practice of growing food and finding meaningful occupation through that practice. However, some participants noted that physical space for gardening is limited and that not everyone in their community has access to adequate land, resources, or, at times, knowledge, presenting an issue of occupational injustice or inequity (Wolf et al., 2010).

Barriers and strategies to accessing culturally appropriate food and foodways

Barriers

Participants identified three key barriers that limit newcomers' access to culturally appropriate foods: 1) the high cost of ethnic foods coupled with inadequate financial resources; 2) a lack of information about where to find culturally appropriate foods and how to substitute with available foods; and 3) lack of information about and/or availability of transportation to ethnic grocers. Considering data on food insecurity among newcomers in Canada (Li et al., 2023; Tarasuk & Mitchell, 2020), it is not surprising that newcomers identified financial constraints, which comprised the high cost of culturally appropriate foods coupled with

inadequate income, as a barrier to food access. As is typical for households experiencing food insecurity, newcomer participants struggled to afford a sufficient quantity of food to feed themselves and their families, but were also unable to access a desirable quantity, quality, and variety of culturally appropriate foods, even when such foods were available. Some newcomers added that financial precarity also prevents small-scale ethnic grocers, which are often owned by newcomers, from stocking culturally appropriate foods. Keza explained, "So, the cultural stores are, but they don't have everything. Even those foods, African foods they sell, they don't access them easily here. They have to import it, which is difficult. You cannot get enough because it's expensive."

Keza's point about the inaccessibility of culturally appropriate foods for newcomers and small-scale retailers was echoed by newcomers and service providers alike and points to the multifaceted barriers to newcomers' cultural food security. Vallianatos and Raine (2008) also found similar financial barriers existed in their research with South Asian and Arabic newcomers in Alberta, though they did note that ethnic foods were becoming more available; the availability of food has likely continued to improve in the years since their research was conducted, though the affordability of these items is still in question.

A second key barrier cited by newcomers and service providers was a lack of information about where to purchase culturally appropriate foods. Speaking through an interpreter, Abdel explained the challenges that not knowing where to access Halal food presents: "His first challenge was like to know where exactly to get the Arabic food. And especially like Halal food 'cause he's following like a specific religion that obligate him to do that. And so, when he met his friend in here, so know where those places are, so he was like going to purchase from them the Arabic food."

Anaya, a service provider involved in local food policy advocacy also highlighted the lack of information about where to access culturally diverse foods in the HRM as a barrier for newcomers: "When we did that *Food Counts* report with the Halifax Food Policy Alliance, it was a huge issue, we tried to create an inventory of food stores that serve culturally appropriate foods. It was really difficult; like this is a really under-researched and under—under[sic] served population. And so, the lack of data was very difficult for us."

At the time that the report Anaya referenced was published (Halifax Food Policy Alliance, 2015), the authors reported that there were 64 ethnic food stores (including chain grocery stores like Sobeys, Atlantic Superstore, and Walmart that carry multicultural foods) in the Halifax region, as well as 43 market vendors (who primarily sold baked goods and prepared foods). If this information was difficult to access for professionals who work in the field of food security, it is understandable that this would serve as a barrier to newcomers who have less knowledge of the area and perhaps of the English language. Adding to the lack of information about where to access culturally appropriate foods was a lack of information about how to prepare culturally familiar dishes with ingredients that are available, affordable, and accessible to newcomers in the HRM. Patricia, a service provider with an immigrant settlement organization that, in part, supports newcomers with business endeavours, noted that the lack of information about recipe substitutions also presents barriers to newcomers' entrepreneurial goals:

Most often it happens that somebody comes in and they've decided that they want to open a restaurant that's related to their cultural background. And so...they want to have an authentic [restaurant], because there may be a small community, but they want

to make it like home, not a North American version of it. And so, then they discover as they go to look for the recipes that they're going to make is that those food items aren't available…there is a huge gap as to what's available here and what they need to get somewhere else to do what they want to do.

Where to find culturally appropriate foods and how to use more readily available and accessible ingredients to prepare familiar dishes was a significant barrier and reflects the lack of attention and resources directed toward newcomers and cultural food security.

A third key barrier was a lack of information about how to get to ethnic grocers via public transportation, which was compounded by the expense and additional time required to navigate the city, often by bus; this has also been identified as a barrier to food access for immigrant populations in previous research (Vahabi & Damba, 2013). Helen, a service provider in a local food focussed organization that offers newcomer programming explained:

> I think like transportation can be an issue for many newcomers and so even if particular foods are available somewhere throughout HRM doesn't mean that it's like necessarily really easy to get to that place on a regular enough basis to be able to access it…I think like in an ideal world I suppose there would just be more [culturally appropriate food] readily accessible throughout the city or the province or whatever to be able to access. So, you didn't have to take two or three buses to get to, you know, that one store that you know has those like those ingredients you use.

Helen went on to raise another crucial point about the intersection of gender and the newcomer experience:

> Then if you have children in tow…I think there's like a lot of pressure at times on women to be upholding that aspect of family life.… It's a lot of pressure and it almost feels like a bit of an impossible task to me. Particularly if you don't have the language and you have multiple children that you're having to look after while doing—trying to access food.

The intersections of gender, culture, race, language, and financial precarity undoubtedly shape newcomers' experience of accessing culturally appropriate food. However, like cultural food security generally, how these intersections shape experiences among diverse newcomer populations are poorly understood but are essential to a fulsome conceptual framework that adequately describes cultural food security and that may inform future research supports for newcomers.

A final barrier highlighted by service providers was a lack of clarity about what cultural food security means, how realistic versus aspirational it may be, and the consequent lack of policy and best practices to guide implementation of supports for newcomers. Cleo remarked, "We haven't done a good job I don't think in the food policy work locally and engaging people that work with newcomers or newcomers themselves. So that's maybe one barrier…I think probably some of it comes back to—to [how] cultural food security and cultural appropriateness would be defined…like it would mean different things to each community, so when you're looking at HRM as a whole, how do [you] apply that, I guess. So, it comes back to not having like a way to define it, and best practices like how to promote it."

In other words, not having a conceptual model to describe cultural food security engenders a gap in policy and programming. Research building from this work, as well as that of other researchers like Moffat et al. (2017) and Power (2008), is crucial to elaborating a conceptual model of cultural food security from an intersectional perspective whereby the interplay of gender, race, socioeconomic status, country of origin, immigration category, and other factors that shape

newcomers' experiences may be better understood and addressed through policy and programming.

Strategies

Newcomers overcame barriers using a variety of strategies to piece together culturally appropriate foods from various sources and in various ways that were often precarious, highly seasonal, and that involved significant time and financial burden. Most newcomers interviewed for this project noted that there is no ethnic grocer in the HRM that caters to their culture or cuisine of origin and described needing to visit several ethnic grocers and big box retailers across the city to find familiar and affordable ingredients needed to prepare culturally appropriate meals. When asked where he buys food, Saania described visiting numerous retailers that are scattered throughout the city: "Store Arabic, but now I buy some food Arabic at Superstore and Walmart. Cheaper than store Arabic [laughs]...buy at store Arabic beside Giant Tiger Al-Arz, and [on the] Bedford Highway named Ar-Arif, and Kawther Meat on Bedford Highway for buying meat [and] olive."

Likewise, many newcomers grew food in community garden plots as a way to access culturally appropriate foods. However, for many newcomers, especially those with farming backgrounds or who were accustomed to growing food as a part of their cultural foodways, the size of community garden plots was insufficient to grow enough food for themselves, their families, and others in their communities, paralleling findings by Jean (2015) where the participants' biggest complaint was about the limited physical space provided to them by the gardening program. As an example, Keza noted that: "So, before I started the gardening at the Common Roots, I started it in the community gardening, where they gave me half of a plot...I started growing some greens and then when I was going to harvest, it was just a little tiny [laughter]...it was not enough for my family."

Community gardening is precarious, highly seasonal, and produces limited quantity, and hence, may help to redress episodic financially and culturally related food insecurity, but does little to fulfill the need for year-round, long-term solutions. Anitha also reinforced this by saying that community gardening may be a solution for food security, but only if newcomers are provided with more space, tools, and skills to do so. Thus, like in Lucas's (2020) research in Winnipeg, the actual material benefits of gardening may sometimes be limited, despite the social benefits that newcomers attain from the "imagined garden," such as the happiness that many participants experienced from sharing their food culture and traditions with other members of their community. Additionally, like many Canadians, newcomers may lack time or knowledge to grow food in their adopted communities, and community gardens often have wait lists of those wishing to access a plot (Lucas & Li, 2020). Market and community gardens like Common Roots also deal with uncertainty around funding and financial sustainability; in 2025, as we were working on updating this paper for publication, MetroWorks, Common Roots' parent organization, declared bankruptcy and the gardens were forced to close for several months. As of June 2025, a new parent organization has stepped in, and Common Roots has launched a fundraising campaign to support the 2025 season (Mott, 2025). Without long-term investment in these gardens, they cannot be relied on to solve the issue of food security for newcomers or other groups.

Securing seeds presented another layer of precarity to newcomers' ability to access culturally appropriate foods and foodways. Newcomers who participated in this research primarily drew on contacts in their home countries to source seeds. Keza described the

significance that growing seeds from home had for her and others in her community:

> "[Marcia] from the [community gardening] program, so she start encouraging us to go outside and garden in the community, gave us a small, tiny space for gardening...but we didn't have seeds from home, then we said what are we going to plant? [laughter] We had one friend from our community, she ordered—her friend from Mozambique in the refugee camp where they were living, and then they sent her some few seeds of lenga-lenga and the zucchini [laughter]. So, we shared; we started planting those. That's how we started being connected to our roots again."

A final strategy that newcomers used to access culturally appropriate foods was through an informal economy of sharing and selling produce grown in their community garden plots.

Keza described her experience:

> "We participated in the Common Roots market because we had some Canadian vegetables we grew there, but our home culture foods, lenga-lenga, eggplant, and the zucchini leaves and beans leaves, were sold by word of mouth, and they [customers/community members] would call us, 'hey, is anything there?' So, then they would say 'okay, go prepare for me, I'm coming, I will pick them up from the garden,' or they will say, 'okay, take it home, I'll come to you to grab it on my way home.' So yeah, that's how mostly we sold them."

Selling produce grown in community garden plots provided newcomers with a small income and provided other newcomers with access to some culturally appropriate produce. Nevertheless, the challenges faced by newcomers in growing culturally appropriate food underscores the important, but inadequate, potential of community gardens to resolve cultural food insecurity and support newcomer settlement. Community gardens can help newcomers build social networks and ties to their adopted communities (Brigham, 2015). However, the precarity and seasonality of community gardens means that more is needed to facilitate cultural food security for newcomers.

Conclusion

This research makes a unique empirical and theoretical contribution to understanding the experiences, meanings, and implications of cultural food security as a tool that may inform future research and structural change. The empirical findings of our research shed light on the experience and insight of newcomers and service providers located in the HRM, Nova Scotia, Canada regarding the meaning, experiences of, barriers to, and strategies for cultural food security. Moreover, this research also expands the edges of cultural food security as a theoretical tool in three ways: 1) by incorporating Aaron Antonovsky's (1987) work on salutogenesis, which highlights newcomers' and service providers' view that culturally appropriate food access is fundamental to health and wellbeing, and to finding a sense of meaning and comprehensibility in one's life; 2) by incorporating the work of occupational therapy scholars who have elaborated occupational (in)justice, which underscores the social and economic meanings of food in the lives of newcomers; and 3) by reaching beyond access to culturally appropriate food to include access to culturally appropriate foodways as an element of cultural food security, as well as occupational justice, among newcomers. Hence, this research strengthens the

conceptual foundation of cultural food security which may inform future research and change-making to support enabling conditions that promote access to culturally appropriate food and foodways. This research also underscores what the small pool of related research has reported—access to culturally appropriate food and foodways, including gardening and growing food, is vital to newcomers' sense of identity and purpose; their connection to their friends and family; and to their sense of belonging within their past and adopted communities, all of which are important salutogenic factors that shape the newcomers' settlement experience and wellbeing (Jean, 2015; Lucas & Li, 2020; Vallianatos & Raine, 2008). Although income precarity remains a key barrier to food security for newcomers, financial constraints are intertwined with additional barriers to accessing culturally appropriate food and foodways. Creating conditions that enable newcomers' access to culturally appropriate foods and foodways may help to redress financial barriers, as well as related barriers to meaningful occupation. Newcomers bring knowledge, skills, and aspirations to pursue various occupational activities, including entrepreneurship, in growing and producing culturally diverse foods. Hence, advancing occupational justice by creating opportunities for newcomers to grow, produce, and access culturally appropriate foods and foodways will enhance newcomers' settlement experience and wellbeing, and is likely to add to the diversity and resilience of local food systems. For example, opportunities for newcomers to grow foods that may be new to the region may support economic and entrepreneurial activity through new food product development, which could supply retail, food service, and hospitality and tourism operators, as well as replace the need for and cost of imported foods with locally grown products.

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Review Article

Pathways, barriers, and contributions of older adults in the food justice movement: A narrative review

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Abstract

In North America, older adults are increasingly facing food insecurity and are among a rapidly growing group of emergency food users. While the food justice movement advocates for the "right to food" and equitable access within food systems, the contributions of older adults within this movement remain underexplored. This narrative review addresses this gap, synthesizing literature at the intersection of food system advocacy and aging. The findings reveal existing pathways, barriers, and opportunities for older adults in the food justice movement. The thematic analysis of relevant articles revealed three pathways of involvement for older adults: as cultural stewards sharing oral histories, as engaged citizens in food system governance, and as participants in alternative food networks that enhance access to food. Barriers to their engagement include differing conceptualizations of the "right to food," limited knowledge of food systems, self-perceived lack of agency, and structural constraints. The review also identifies opportunities for older adults to become involved in food justice, including intergenerational collaborations and participatory engagement in food governance. Recognizing the unique perspectives and experiences of older adults within food systems positions them as social change agents in the broader food justice movement, helping to address ageism and contribute to a more inclusive and sustainable food future.

Keywords: Community food systems; food justice; intergenerational; older adults; social justice

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Résumé

En Amérique du Nord, les personnes aînées, de plus en plus confrontées à l'insécurité alimentaire, constituent un groupe croissant d'utilisateurs de l'aide alimentaire d'urgence. Alors que le mouvement pour la justice alimentaire milite en faveur du « droit à l'alimentation » et d'un accès équitable aux systèmes alimentaires, la contribution des personnes aînées à ce mouvement reste peu étudiée. Cette revue narrative comble cette lacune en faisant la synthèse de la littérature autour de la défense du système alimentaire et du vieillissement. Les résultats font apparaître les voies qui existent, les obstacles et les opportunités pour les personnes aînées dans le mouvement pour la justice alimentaire. L'analyse thématique des articles pertinents a révélé trois voies d'implication pour les aînés et aînées : en tant que gardiens de la culture qui partagent des histoires oralement, en tant que citoyens engagés dans la gouvernance du système alimentaire et en tant que participants à des réseaux alimentaires parallèles qui améliorent l'accès à la nourriture. Les obstacles à leur engagement comprennent des idées différentes sur ce qu'est le « droit à l'alimentation », une connaissance limitée des systèmes alimentaires, un manque d'autonomie perçu et des contraintes structurelles. L'étude fait aussi ressortir les possibilités qu'ont les personnes âgées de s'impliquer dans la justice alimentaire, notamment par des collaborations intergénérationnelles et une participation active à la gouvernance alimentaire. La reconnaissance des perspectives et des expériences uniques des personnes aînées au sein des systèmes alimentaires permet d'en faire des agents de changement social dans le mouvement plus large de la justice alimentaire, contribuant ainsi à lutter contre l'âgisme et à bâtir un avenir alimentaire plus inclusif et durable.

Introduction

In North America, older adults are a growing group among emergency food users. In Canada, older adults have represented the fastest-growing demographic of food bank users since 2019 (Food Banks Canada, 2022). In the U.S., about 7 percent of households with an older adult, and 7.2 percent of households with an older adult living alone, experienced food insecurity (Mavegam Tango Assoumou et al., 2023). Both Canadian and U.S. figures point to a worsening trend that has intensified since the COVID-19 pandemic. Food insecurity occurs when an individual does not have adequate access to safe, nutritious, and culturally appropriate foods (Mavegam Tango Assoumou et al., 2023; Government of Canada, 2010; Keller et al., 2007). Food insecurity has been considered an early indicator of poverty, as food is one of the first essential items that is sacrificed when managing limited financial budgets (Leroux et al., 2018). Rates of food insecurity are more prevalent among marginalized groups, which includes low-income and immigrant older adults, however this demographic is often overlooked in the discussion of food insecurity (Mavegam Tango Assoumou et al., 2023; Leroux et al., 2020).

The disparities in food security outcomes that disproportionately impact marginalized populations have led to social movements advocating for equitable access to food, such as the food justice movement. Advocates of the food justice movement seek to challenge the dominant industrial food system by

focussing on policy reform and structural changes to address food insecurity, striving for a collective vision of justice (Regnier-Davies, Edge, & Austin, 2022; Wilson & Levkoe, 2022). It is important to note the distinction between food justice and the more socially entrenched charitable approaches to alleviating food insecurity. This is because the increasing number of older adults accessing emergency food services often receive food through the predominant charitable model (e.g. food banks, food pantries, meal programs, etc.).

Food insecurity has historically been understood and treated as an issue of inadequate access to food. This framing of the problem has consequently elicited responses focussed on improving access to food for those with a demonstrable need. Despite the benefits offered to recipients of emergency food programs, the charitable response to food insecurity has been critiqued for its failure to address the root causes of food insecurity—namely poverty (Tarasuk et al., 2020; Tarasuk & Eakin, 2003).

Food banks have been problematized for having little to no impact on household food insecurity and detracting needed attention from provincial and federal policy efforts (Collins et al., 2014; Regnier-Davies, Edge, & Austin, 2022; Tarasuk et al., 2020; Tarasuk & Eakin, 2003). Furthermore, research has demonstrated that food banks do not meet the needs of the individuals who frequent them, and that older adults underutilize these services due to the stigma of receiving food assistance (Aday et al., 2023; Tarasuk et al., 2014; Tims et al., 2021). Emergency food programs have been considered a symbolic act, deflecting responsibility from governmental action and failing to directly address the root causes of food insecurity (Tarasuk & Eakin, 2003). While in recent years there has been a shift with some food banks adopting more dignified or community-oriented approaches to food distribution, these efforts continue to exist within a broader charitable model that dominates the food insecurity landscape.

Grassroots and non-profit community food organizations take an approach that is different than the charitable model, instead focussing on the importance of "a sustainable food system that maximizes community self reliance and social justice" (Collins et al., 2014, p. 139). This community food system approach removes emergency food access as the focal point of efforts to alleviate food insecurity, instead focussing on local leadership to drive social change and intentionally addressing the underlying systems and policies that contribute to food insecurity (Murray et al., 2023; Regnier-Davies, Edge, & Austin, 2022). The collective actions of community food organizations and individuals who advocate for just and sustainable food systems has come to be known broadly as the food movement (Wilson & Levkoe, 2022).

Food justice movement

The "food movement" has been described as a "movement of movements," encompassing a wide range of activities and engaging a diverse array of social actors (e.g., non-profit and charitable organizations) as well as food producers, consumers, small businesses, academics, and political representatives (Wilson & Levkoe, 2022). These actions and actors operate in different food systems that serve socially and economically diverse communities, often in response to local needs. Despite this diversity, overarching themes unite these movements, many of which are underpinned by a desire for food system reform and a rights-based commitment to ensuring food for all.

Existing frameworks within the broader food movement include food justice, food sovereignty, food security, food democracy, food citizenship, and others. While the boundaries between these concepts are fluid,

in this review we use the term "movement" broadly to capture actors and initiatives aligned with food system reform, regardless of specific terminology.

Within this broad terrain of food system reform, "*food justice*" has emerged as a galvanizing framework, distinct from other movements due to its alignment with social justice and advocacy. Gottlieb and Joshi (2010) conceptualize food justice as both a goal and a process: "ensuring that the benefits and risks of where, what, and how food is grown and produced, transported and distributed, and accessed and eaten are shared fairly" (p. 6). In their framing, food justice entails three arenas for action: 1) challenging and restructuring the dominant food system, 2) centering equity for historically marginalized populations, and 3) building linkages with other social justice activism (Gottlieb & Joshi, 2010, p. ix). Building on this, Murray and colleagues (2023, p. 4) similarly emphasize that food justice is rooted in "human rights, equal opportunity, fair treatment and is participatory and community-specific." Taken together, these definitions highlight both distributive concerns (access, wages, resources) and participatory concerns (agency, governance, empowerment) related to food justice (Loo, 2014; Murray et al., 2023).

To date, food justice activism has emphasized distributive inequalities, such as improved working conditions, fair compensation and providing equitable access to healthy food (Murray et al., 2023). While important, this approach overlooks the significance of participative disparities, which can contribute to the observed inequalities in distribution (Loo, 2014). A more participative conceptualization of food justice would see that vulnerable community members are empowered to participate in governance and decision making within food systems. This approach must also include the rapidly growing demographic of North American older adults facing food insecurity—a group that has been overlooked in current approaches to food justice in academic literature (Mavegam Tango Assoumou et al., 2023; Murray et al., 2023).

Efforts to theorize food justice have produced diverse interpretations, but with recurring points of convergence. A recent scoping review (Murray et al., 2023) identified five recurrent themes when conceptualizing food justice: 1) social equity, 2) food security, 3) food systems transformation, 4) community participation and agency, and 5) environmental sustainability. These themes map closely to Gottlieb and Joshi's three arenas for action, helping to outline "entry points for engagement" and extend understanding of food justice in diverse contexts.

Conceptualizations of food justice overlap with other related food system reform frameworks such as "food democracy" and "*food sovereignty,*" among others. For example, food sovereignty emphasizes the rights of food producers and their communities to define their own food systems, challenge industrial agriculture, and advance ecological and intergenerational equity (Wittman, 2011). While food sovereignty is distinct from food justice, the two share significant conceptual ground, particularly in their attention to equity, participation, and food system reform.

Given the conceptual overlaps, for this review we adopt an umbrella conceptualization of food justice that includes scholarship and practices aligned with its core justice-oriented principles, even when articulated through adjacent terms. In this framing, we acknowledge that not all activities in food movements (e.g., farmers' markets, community gardens) are inherently food justice; however, where the literature explicitly links these activities to rights-based or participatory initiatives**,** they may be aligned with food justice. Crucially, this umbrella framing recognizes that food justice has been conceptualized both in distributive terms and in participatory terms. Together, these complementary

approaches move food justice beyond charity toward structural reform.

Food justice rejects the dominant paradigm of food as a commodity and advances counter-hegemonic approaches such as "food as a commons," where food is viewed as a shared human resource (Gottlieb & Joshi, 2010; Vivero-Pol, 2017). To attain this, Gottlieb and Joshi's propose a theory of change that draws explicitly on Antonio Gramsci's concept of a "war of position" (Gottlieb & Joshi, 2010, p. 232). Gramsci argued that in capitalist societies the ruling class maintains control not only through force but by shaping beliefs and values, and to challenge that control the oppressed must engage in a long-term battle of ideas that transforms public consciousness, builds solidarity, and lays the groundwork for more direct collective action (Egan, 2014). Gottlieb and Joshi translate this into the food realm: the food movement should seek to shift public discourse through a counter-hegemonic language about food justice that will "lay the groundwork" for incremental political, institutional, economic, and policy change (Gottlieb & Joshi, 2010, p. 232).

While the food justice literature has examined structural inequalities and discrimination related to race, class, gender, cultural politics, white privilege, historical trauma, and colonization (Murray et al., 2023), it has yet to engage with ageism and poverty within older adults. It is therefore worthwhile to consider older adults' perspectives not only because they are among the fastest-growing demographics experiencing food insecurity, but because their lived histories position them as valuable actors in this "war of position." Many older adults witnessed the shift from food as a shared cultural good to food as a market commodity and so carry narratives, practices, and place-based knowledge that can contest dominant framings (Koberinski et al., 2022; Neff et al., 2017; Neufeld & Richmond, 2020). In Gramscian terms, these perspectives and practices are resources for a counter-hegemonic discourse. Through meaningful participation in food justice initiatives, older adults can help reshape public understandings of food, acting as agents of change versus being considered as passive recipients of distributive efforts. The inclusion of their perspectives may help reconfigure the cultural terrain that precedes and enables structural reform of food justice. Further to this, older adults are often treated as a homogenous and passive demographic, rarely positioned as participants in social movements. Recognizing their potential to engage in food justice therefore challenges broader societal norms about aging while contributing to food systems change. In this way, advancing older adults' participation in food justice represents a dual opportunity: to expand the scope of justice-oriented food system reform and to disrupt ageist narratives that may limit the agency and contributions of older people.

Methodology and methods

A narrative review was chosen as the most suitable approach for this review to provide a comprehensive perspective on an area with limited published literature. Narrative reviews are useful in exploring under researched areas of the literature as they can provide insights on advancing the field (Sukhera, 2022). Given the wide array of activities and movements associated with food justice, a narrative review has the ability to track the development of a concept, whereas the restrictions of a systematic review may lose the overall

narrative of the phenomenon in question (Ferrari, 2015). This narrative review uses systematic methodologies to reduce bias, as outlined by Ferrari (2015), to link theoretical frameworks with real-world context, fostering academic discourse and encouraging further research.

The objective of this review was to examine the existing role and presence of older adults within the food justice movement. The initial focus was on literature specifically addressing older adults' involvement specifically in food justice, but limited results necessitated a broader conceptualization of food justice as outlined in the introduction as well as the following inclusion and exclusion criteria section of this paper. The search strategy for this review was international, however the included articles are geographically skewed toward North America (Canada and the United States), findings are interpreted primarily in relation to North American policy and service contexts with international examples for additional insight. Country of study for each included article is reported in Table 2.

For the purposes of this review, "older adults" were defined as individuals aged sixty years and older. This aligns with the World Health Organization convention, which uses sixty years and older as the threshold in global aging research (Beard et al., 2015; World Health Organization, 2002). While definitions of "older adults" vary across disciplines and policy contexts (often ranging from fifty-five and up to sixty-five and up), we adopted sixty years as an internationally recognized benchmark.

Inclusion and exclusion criteria

To adequately capture scholarship addressing justice-oriented food system reform at the intersection of aging, we adopted an expanded conceptualization of "food justice" that used Gottlieb & Joshi's (2010) three arenas of action as the primary screening framework and Murray et al. (2023) to refine thematic relevance. Specifically, studies were retained if they explicitly used the term "food justice" or substantively engaged with at least one of Gottlieb & Joshi's arenas: (1) challenge and restructure dominant food systems; (2) centre equity and disparities, particularly among vulnerable populations; or (3) link food system reform to broader social justice advocacy. Studies passing this threshold were then mapped to Murray et al.'s five thematic domains (social equity; food security; food systems transformation; community participation and agency; environmental sustainability) to classify how justice was enacted in practice.

This approach also allowed inclusion of overlapping terminology (e.g., food sovereignty, alternative food networks, food advocacy) and acknowledges that, in both literature and practice, the boundaries of "food justice" may be fluid. For transparency, included studies were mapped to both Gottlieb & Joshi's arenas and Murray and colleagues' thematic domains, with results presented in Table 2. Studies were excluded if they focussed exclusively on technical, nutritional, or production aspects of food systems without consideration of justice, equity, or participation. Inclusion and exclusion criteria are detailed in Table 1.

Identification and selection of relevant studies

The primary researcher independently conducted an initial literature search across multiple databases, including Web of Science, PubMed, JSTOR, AgeLine, and Google Scholar. The search strategy combined relevant keywords and terms: ("Older adults" OR "Seniors" OR "Elderly" OR "Aging population" OR "Gerontology") AND ("Food justice movement" OR "Food activism" OR "Food equity" OR "Food sovereignty" OR "Community food security" OR "Food policy" OR "Food systems").

The initial search identified 1,090 records across Web of Science, PubMed, JSTOR, AgeLine, and Google Scholar. To augment the database search, a manual review of reference lists from relevant articles was conducted by the researcher to address potential evidence gaps (Ferrari, 2015). Google Scholar generated a very large number of results due to the inclusion of multiple versions of publications (e.g., institutional repository, publisher PDF, pre-print), as well as full dissertations and non-peer-reviewed materials. As such, the first round of screening conducted by the primary author involved removal of exclusion of clearly irrelevant records (e.g., food microbiology, nutrition interventions, or food consumption studies without any justice or equity orientation) and duplicates. This step reduced the sample to ninety-three records.

In the second stage the remaining articles were imported into Covidence software for further organization and analysis. Article abstracts were reviewed for methodology, study characteristics, participant demographics, and findings, which included both quantitative results and qualitative themes and were assessed for alignment with the review's focus on older adults and food justice. Ninety-three articles underwent an abstract scan, with sixty proceeding to a full-text review. Exclusion criteria at this stage were applied to studies due to 1) population relevance (n=9), where older adults were absent or only incidental to the analysis, 2) wrong study design (n=9), where the design did not include substantive engagement with food systems or justice/equity concerns, or 3) wrong outcomes (n=28), were the outcomes focussed exclusively on distributive relief (e.g., emergency food programs, nutrition, etc.) without connecting to food system reform or social justice. Following this stage, fourteen studies remained for full narrative analysis. The time frame was limited to publications from 2004 onward, stemming from Murray and colleague's recent scoping review on the conceptualizations of food justice where the authors noted that "the majority of food justice studies" occurred after 2004 with a fourfold increase year-over-year in the terms usage since 2015 (Murray et al., 2023). See Figure 1 for PRISMA diagram.

It is important to note that much of the existing scholarship at the intersection of food and aging focusses on food access, food insecurity determinants, and interventions, and biomedical or nutritional dimensions of health and longevity. Despite the use of justice-related search terms, a significant proportion of results reflected these themes rather than substantive engagement with justice, equity, or participatory food system reform. This helps to explain the large reduction from the initial 1,090 records to the final fourteen included studies. and highlights the relative scarcity of justice-oriented research involving older adults. While fourteen articles may seem modest in number, this reflects the emergent state of scholarship at the intersection of aging and justice-oriented food systems research, highlighting the contribution of this review in mapping an underexplored domain.

The selected articles were imported into MAXQDA, where they underwent a process of coding and thematic analysis to identify main themes and

concepts as outlined by Braun and Clarke (2006). Coding evolved iteratively, with conceptual themes and noteworthy insights emerging around older adults' involvement in food justice and the barriers and opportunities that face in enacting food system reform.

Results and discussion

The included articles were published between 2007 and 2024, with most appearing in the past five years, reflecting the growing scholarly interest at the intersection of food justice and aging. The United States accounted for the largest share of studies (n=6), followed by Canada (n=2), the United Kingdom (n=2), and single studies from Austria, New Zealand, India, and Australia.

The conceptualization of food justice in this review looked beyond the single term "food justice," to include complementary frameworks related to food system reform that emphasized rights, equity, and the participation of older adults. The literature revealed adjacent terminology such as: "food sovereignty" (Wehi et al., 2023), "food citizenship" (Tuckett et al., 2022), "repeasantization" (Korzenszky, 2019), "alternative food systems" (Tims et al., 2021) and the "right to food" (Brady et al., 2023). Older adults' involvement was also captured through their participation in activities associated with alternative food networks, which include activities such as gardening, farmer's markets, and community supported agriculture (Levkoe, 2006; Sprague & Kennedy, 2016), which are not explicitly related to food justice, however, if these activities are aimed at the reformation of the dominant food system, or support the rights, equal participation and inclusion of older adults, then can they may be considered to be supportive of food justice efforts (Gottlieb & Joshi, 2010).

Given the diverse conceptualizations and terminologies related to food justice, each included article is mapped to the conceptual arenas for action and engagement with food justice as articulated by Gottlieb and Joshi as well as the thematic dimensions food justice outlined by Murray and colleagues (See Table 1).

The thematic analysis of the articles included in this narrative review identified three overarching themes: 1) the current pathways for involvement of older adults in food justice; 2) existing barriers to participation of older adults in food justice; and 3) opportunities for the involvement of older adults in food justice. Subthemes were also identified within the broader themes. While most subthemes were supported across multiple studies, a few findings appeared in only a single article. These are presented not as themes but as insights, as they raise conceptually important considerations and highlight gaps for future research. Examples include discussions of the right to food and experiences of limited agency. In the following section, insights are explicitly marked as such, whereas unmarked sections represent themes supported by multiple studies. Insights should therefore be read as promising directions for further inquiry rather than well established patterns in the literature.

Current involvement and pathways for older adults in food justice

The involvement of older adults in the food justice movement is a novel concept in the academic literature. Despite this, this review identified several ways older adults have been involved in activities related to food justice, namely through knowledge translation and cultural traditions; community engagement in governance and access to land and food.

Intergenerational cultural knowledge transfer

The first pathway for the involvement of older adults is through knowledge translation and the continuation of cultural traditions (Demientieff et al., 2023; Lim et al., 2024; Wehi et al., 2023). In certain Indigenous cultures, older adults are active participants in events that emphasize community, unity, and cultural resilience (Demientieff et al., 2023; Wehi et al., 2023). Cultural events represent an opportunity for older adults to play an essential role in upholding traditions through their contributions to food preparation, service, and mentorship of younger generations (Neufeld & Richmond, 2020; Wehi et al., 2023). These events are gatherings that serve as opportunities for "cultural autonomy" through expression but also serve as platforms for intergenerational learning and social cohesion (Demientieff et al., 2023; Wehi et al., 2023). The engagement of older adults in these cultural events helps to reinforce their social position by maintaining and adapting cultural practices within the existing food system (Wehi, 2023). Older adults play a role in helping "re-envision food systems" through strong social networks and intergenerational connections that are developed and fostered as a result of these cultural events (Wehi et al., 2023, p. 2). Furthermore, the continuation of cultural traditions also represent sites for "empowering" elders, adding to knowledge about traditional foodways that may have been lost due to colonization (Demientieff et al., 2023). This restorative role is particularly important given the structural impacts of environmental dispossession and cultural loss attributed to colonization (Neufeld & Richmond, 2020). Elders' participation ensures that food is framed not only as nourishment, but also as a collective right tied to land, identity, and resilience. This lens moves the participation of older adults beyond questions of food access and into participatory system reform, aimed at advancing equity for historically marginalized communities. Maintenance of this traditional knowledge enforces "cultural autonomy," (Wehi et al., 2023, p. 6) representing both an existing and future pathway for older adult involvement in practices that support community food sovereignty and access to food, principles that are aligned with the concept of food justice (Murray et al., 2023).

Community engagement in governance and research

Older adults are also engaged in food system reform through collaborations between community-based service organizations and academic institutions (Robinson-Miles et al., 2022; Tuckett et al., 2022). Projects that are aimed at supporting participatory food system governance involve older adults as actively engaged citizens within their communities (Tuckett et al., 2022). Collaborations between community organizations and academic institutions that seek to evaluate and improve local food security initiatives have intentionally involved older adults and requested their input (Robinson-Miles et al., 2022; Tuckett et al., 2022). The aim of this approach is to have the lived experiences of citizens impacted by food insecurity, namely older adults, shape and underpin

recommendations and initiatives aimed at improving food security programs and advocacy efforts (Robinson-Miles et al., 2022; Tuckett et al., 2022). Tuckett and colleagues (2022) employed a "citizen science approach that empowers older adults as active change agents" (p.9), ensuring that their voices and experiences were integral to the development of food security programs that serve the local community—both at programmatic and policy levels. The development of initiatives such as Food Train, a program that "was developed by older people, for older people and is driven by the lived experience of its older members," exemplifies how older adults can drive community-based solutions that address the specific challenges faced by their demographic (Robinson-Miles et al., 2022, p. 393). Such instances of engagement centre on the importance of participatory engagement and represent a pathway towards food system reform whereby individuals have a say in the governance of the social systems that enable or constrain their choices (Levkoe, 2006; Thompson et al., 2020; Tuckett et al., 2022). Community agencies and academic institutions have championed the inclusion of the perspectives of older adults, and such collaborations that foster their participation have led to policy changes at the national level in the United Kingdom (Robinson-Miles et al., 2022).

The engagement of older adults through participatory approaches can also be extended into academic research on food system reform. Neufeld and Richmond (2020) demonstrate this by integrating Elder women into the research process using a community-engaged methodology. Their approach not only upheld Indigenous data sovereignty but also actively involved community members in shaping the analysis. Participants reviewed their own transcripts to ensure accuracy and contributed to the development of the analytical framework, with discussions taking place in inclusive, community-oriented settings such as a potluck. This methodology highlights how academic research can be participative for older adults to respectfully include their knowledge and perspectives.

Access to land and food

Another pathway in which older adults are involved in food system reform is their role in reshaping norms of access to land and to food. As noted by Neufeld and Richmond (2020), "for Indigenous Peoples, the right to food is linked to land access and is formulated as a collective right" (p. 8). This perspective situates land-related interventions within a food justice frame as it relates to advancing collective rights and fostering participation. In some contexts, elders contribute to land-linked justice primarily through knowledge transmission, stewardship, and community leadership, rather than through formal land transactions. Their perspectives can contribute towards a shift in the narratives regarding understanding land ownership. Through interviews with Elders, two of the review articles found that Elders teaching younger generations helps in preserving cultural traditions, including the perspective of food as a collective good—a perspective that is counter to the perspective of the dominant food system (Neufeld & Richmond, 2020; Wehi et al., 2023). While these activities do not include the direct transfer of legal land titles or creating new land-access programs, it does show the potential for the lived experiences and leadership of older adults in forming a practical foundation for rights-based and participatory interventions that align with Gottlieb & Joshi's theory of change.

In the review of the literature, some older adults played a role in facilitating access to land for younger generations who are interested in farming. This was achieved through the process of extrafamilial farm

succession, which is "the transmission of a farm between non-kin" (Korzenszky, 2019, p. 291). The process involves a partnership between young aspiring farmers and older farmers who are looking for successors to take on their existing farming operation. This alternative method of land-transfer provides an opportunity to resist the shifts towards an "increasingly globalized, concentrated, industrialized and science-intense" food system (Korzenszky, 2019, p. 292). While such agreements help to limit the shift towards corporatization of agricultural land, this practice of land transfer does not automatically support food justice. In these instances of intergenerational cooperation, older adults play a central role in this exchange, providing access to "ecological capital" in the form of land while also transferring "invaluable" knowledge that older farmers have "have collected from their ancestors, in some cases for centuries" (Korzenszky, 2019, p. 304). The access to resources that older adults have are transferred to younger generations through cooperation and partnership, which in some cases may help to remove the direct need for financial capital that can be prohibitive for aspiring young farmers entering agriculture, therefore helping facilitate access to land. This said, succession may reproduce existing inequalities unless it is intentionally structured to prioritize equitable access, participation, and long-term stewardship. Where succession explicitly reduces barriers for under resourced entrants, or includes knowledge sharing and participatory governance, it can be understood as a justice-aligned pathway, however if it functions primarily as private asset transfer, it is more likely an agricultural practice with limited justice impact. Additionally, we did not find published reports of similar models in contexts outside of this paper, which was situated in Austria, possibly speaking to the limits on the potential applicability of this pathway.

Older adults' participation in alternative food networks (AFNs) provides them with opportunities to gain more equitable access to food and engage in participatory initiatives that contribute to food system reform (Lim et al., 2024). Initiatives such as farmer's markets, backyard gardens, community gardens, and community supported agriculture (Martínez & Salazar, 2020; Tims et al., 2021) represent sites where the ethos of food justice may be actualized (Gottlieb & Joshi, 2010; Sprague & Kennedy, 2016). While these sites may be useful in addressing issues relating to equitable access to food, they remain heterogenous and contested. Farmers' markets and CSAs may increase access for some while remaining unaffordable or exclusionary for others. Where AFNs incorporate subsidy programs, inclusive governance, or participatory practices targeting marginalized groups, they provide both distributive and participatory benefits, shifting from access alone toward civic engagement and agency. Lim and colleagues (2024) identified farmer's markets as potential sites capable of addressing issues relevant older adults and being a locus of civic engagement where older adults can learn and contribute to social change initiatives in their communities.

Barriers to involvement of older adults in food justice

Despite the pathways for older adult involvement in food justice, there are elements that can also hinder their participation. These barriers range from physical barriers to socioeconomic and cultural barriers.

Insight: Conceptualizations of "right to food" and individual responsibility

One significant barrier to involvement stems from how older adults conceptualize the principal ethos of the

food justice movement: the "right to food." Some older adults do not align their views with theoretical understandings of access to food as being a human right (Brady et al., 2023). Instead, they often perceive food access as a matter of personal and individual responsibility (Brady et al., 2022, 2023). In their interviews with older adults discussing "the right to food," Brady and colleagues (2023) note that older adults believed that the necessary resources to enable adequate food access for individuals are "already available through government programs and emergency food providers," and those who lack access should seek out these resources (p. 173). So, these older adults frame inadequate access to food as an individual choice versus pointing to systemic issues as constraints to food access. The difference in conceptualization is further cemented by the view that inadequate access to healthy food is an "unchangeable reality" (Brady et al., 2023, p. 176). This perspective runs counter to the principles of food citizenship and food justice that aim to provide equitable access to healthy food through collective action (Brady et al., 2023; Gottlieb & Joshi, 2010; Thompson et al., 2020).

The difference in the conceptualization of the right to food that is held by some older adults represents a perspective that shifts the focus of the causes of food insecurity away from structural inequalities towards individual choices. This difference in perspective creates a barrier to the involvement of older adults in food justice because they do not necessarily consider food justice initiatives as a necessity to address inequities in the food system. When the ability to access adequate amounts of food is framed as a personal responsibility rather than a systemic issue, the impetus for older adults to engage in broader food justice initiatives diminishes, as they may not perceive a need for systemic change. It is important to note that the findings from Brady and colleagues (2022, 2023) come from a limited sample that was "predominantly White and female" (p.176). The sample did not include any Hispanic participants or people receiving forms of food assistance, as such the perspectives on the right to food are limited and may not be representative of all older adults or individuals facing issues related to food insecurity (Brady et al., 2022, 2023).

Insight: Knowledge of food system structures

In addition to the differing perspectives on the right to food, an additional barrier reported by Brady and colleagues (2022) is the lack of knowledge that older adults have about food system structures. The authors highlight that even when older adults feel a sense of responsibility towards food justice, they "often lack the information required" to become involved in advocacy efforts (Brady et al., 2022, p. 580). This gap in knowledge prevents older adults from acting as "food citizens" who actively participate in shaping a just food system (Brady et al., 2022). The gap in understanding the complexities of the current food system limits the involvement of older adults in food justice movements. This barrier to engagement leads to a form of disengagement from the drive of the movement because of a lack of information relating to how the food system operates and the existing pathways to make change. The lack of knowledge related to food systems combined with older adults' differing perspectives of the principles underlying the food justice movement both act as barriers that diminish older adults' motivation to act towards food justice.

Insight: Self-perceived lack of control

Even if older adults are aware that change is needed, there is a self-perceived lack of control or agency within the food system that acts as a barrier to their

involvement. Older adults often feel that they have "relatively little control" over the food they eat and the broader food environment, including potential hazards in foods, such as pesticides (Neff et al., 2017, p. 61). This perceived lack of control can lead to a sense of powerlessness that results in disengagement in food advocacy efforts—even if there is a feeling that change is needed. The lack of control points to feelings of limited capacity to make change, and therefore a need for greater agency, a key component in driving the work food justice (Clapp et al., 2022). A limited sense of agency could be a significant barrier to the involvement of older adults in food justice, as it reduces motivation to engage in social action because their efforts may seem futile, and future outcomes are beyond one's control.

Infrastructure barriers

Infrastructure barriers also play a role in limiting older adults' involvement in food justice activities. Transportation, health status changes, and neighborhood cohesion significantly influence social participation among older adults. This is especially the case in those with mobility challenges, those living in rural areas or with limited access to reliable transportation (Lim et al., 2024; Neff et al., 2017). These factors can restrict the ability to participate in community-based food justice activities. In some cases, these barriers are in opposition to older adults' intrinsic desire to participate in community activities. For example, Lim and colleagues (2024) found that some older adults who wanted to attend their local farmer's market were unable to do so due to limited transportation options. The lack of supportive infrastructure for adequate transportation and a lack of programming that addresses the transportation barriers, especially for rural older adults, creates barriers to accessing programs related to food justice These barriers can be mitigated when older adults have access to a strong social support network (e.g. family and friends), which provides opportunities to access carpooling and assistance grocery shopping, thereby facilitating participation in community-based activities (Kansanga et al., 2024; Lim et al., 2024).

Opportunities for involvement of older adults in food justice

The literature review highlights opportunities at the intersection of pathways and barriers for older adults to engage in the food justice movement. Neff et al. (2017) note that older adults' priorities regarding their local food system "dovetail with many of the priorities embraced by food system reform advocates" (p.61), underscoring potential for their increased involvement in food justice efforts.

Intergenerational collaborations—knowledge transfer

One significant opportunity for deepening the involvement of older adults in food justice is through fostering intergenerational connections and collaborations. These connections are an initial theme in this research, highlighting older adults' current involvement, but they also offer an opportunity to extend their engagement in food justice. Transferring knowledge from one generation to the next has been considered a form of social capital that may help provide advantages to younger generations beginning careers in agriculture (Korzenszky, 2019). These cross-generational collaborations are especially valuable to food sovereignty in Indigenous communities, where knowledge transmission of knowledge sustains cultural foodways and autonomy—challenging existing food system norms (Demientieff et al., 2023; Wehi et al.,

2023). Within this context, "food sovereignty has been the domain of women, who have led movements aimed at both social and environmental justice" (Neufeld & Richmond, 2020, p. 1). Yet, as Neufeld and Richmond (2020) note, colonialism has contributed to the undervaluing of women's perspectives, they therefore assert that to attain Indigenous food sovereignty, these underrepresented voices need to be heard. This is especially true in seeking to understand the impacts of historical events, social changes and ecological shifts that have occurred in their lifetimes and impacted Indigenous foodways. Intergenerational collaborations thus represent an important mechanism for amplifying the practices and perspectives of female Elders and positioning them as central actors in food system reform. As discussed earlier, the inclusion of Elder perspectives can help to reshape dominant framings of food as a commodity by advancing Indigenous understandings of "food as a commons."

The opportunity is to create intentional, structured collaboration—such as mentorship programs, co-designed community food initiatives, and intergenerational governance—to allow younger and older generations, especially women Elders, to jointly challenge inequities, share alternative food values, and co-create just food futures. The intention behind these collaborations should uphold the principles of food justice, where efforts are aimed at attaining food system reform, equity for marginalized groups and linking the outputs to other forms of advocacy (e.g. environmental sustainability). By participating in these intergenerational collaboratives, older adults not only contribute to the sustainability of food systems but also help advance food justice efforts (Murray et al., 2023).

The different understandings that older adults have on the "right to food," as noted by Brady and colleagues (2022), also represents an opportunity for intergenerational collaboration. While some older adults frame food access primarily as an issue of personal responsibility rather than structural inequality, this difference can open space for dialogue across generations about the underlying drivers of food insecurity and the importance of justice-oriented solutions. Similarly, the lack of knowledge some older adults report having about food system structures (Brady et al., 2022) highlights a further opportunity: creating intentional intergenerational spaces where younger generations engaged in food justice activism can share knowledge about food systems and advocacy pathways, while older adults contribute lived experience and cultural traditions. Together, these collaborations could bridge gaps in understanding, foster mutual learning, and cultivate a shared commitment to advancing food justice.

Participatory engagement and citizen science

Participatory governance methods offer older adults a democratic way to engage in food justice by intentionally incorporating the perspectives of the people served by programs and policies (Levkoe, 2006; Thompson et al., 2020). The benefit and opportunity in taking a participatory governance approach, such as citizen science, is that it allows for alternative forms of engagement and collection of feedback that may be more accessible to community members (Tuckett et al., 2022). Approaches such as photovoice, focus groups, interviews, participatory mapping and digital storytelling (Jull et al., 2017) represent non-traditional forms of engagement that may be used within research on food systems governance, while also serving as participatory practices that support governance processes themselves. These methods can be more accessible to older adults, therefore providing new ways to involve this population in actively participating in reshaping food systems (Jull et al., 2017; Tuckett et al.,

2022). Tuckett and colleagues (2022) emphasize the importance of using citizen science to empower older adults, enabling them to highlight issues important to them and advocate for change.

In addition to ensuring voices of older adults are considered in governance, participatory research methods also help to provide community members with more clarity on existing issues within the current food system (Robinson-Miles et al., 2022). Their participation creates an opportunity for older adults to learn about civic issues, build their awareness of gaps in the existing food system and allows people to make more informed decisions as active citizens (Robinson-Miles et al., 2022; Tuckett et al., 2022). By involving older adults in these initiatives, the food justice movement can benefit from their insights and experiences, while also addressing the barriers they face, such as a lack of knowledge about existing food systems. It has also been suggested that older adults' involvement in citizen-engaged forms of governance can contribute to physical wellbeing and provide opportunities for "social participation and connectedness" (Tuckett et al., 2022, p. 3).

Overall, participatory engagement methods help bridge the gap between research and governance by ensuring that the needs and perspectives of older adults are incorporated not only into studies about food systems reform but also into the decision making processes that shape them. This dual function democratizes the process of food systems change, empowering participants while fostering a sense of agency and ownership among older adults, thereby providing opportunities to become active participants in food justice rather than passive beneficiaries (Jull et al., 2017; Levkoe, 2006; Murray et al., 2023b; Thompson et al., 2020).

Strategic partnerships and policy influence

To increase the likelihood of the success of the participatory governance approaches discussed, strategic partnerships between government, academic, and community organizations are critical (Tuckett et al., 2022). Without strategic partnerships to champion citizens' insights, policy formation risks becoming "siloed" from citizens' lived realities (Robinson-Miles et al., 2022, p. 396). Failing to incorporate citizen perspectives in food policy has been criticized in the literature and considered to be an approach that overlooks the true needs of those facing food insecurity (Levkoe, 2006; Murray et al., 2023; Thompson et al., 2020). Conversely, an approach that favours partnerships that include academic, governmental, and community-serving organizations can help lead to an "interconnected approach" that benefits the whole food system (Robinson-Miles et al., 2022, p. 396). Such partnerships can serve to incorporate and direct the perspectives of older adults in the implementation of novel programs and policy solutions related to food system governance (Robinson-Miles et al., 2022; Tuckett et al., 2022).

Simply including the perspectives of older adults in academic research is not sufficient to make impactful changes in the food justice movement. Government and community partnerships must work in concert to translate the findings of academic study into social policy making and the implementation of community-directed programs (Regnier-Davies, Edge, Yu, et al., 2022; Thompson et al., 2020). Partnerships between government and social service agencies also help to alleviate the stresses that can be imposed on communities dealing with issues of food insecurity (Wehi et al., 2023). Participation in these collaborations represents an opportunity for older adults to share their lived experiences and knowledge to inform policy

creation and implementation, ensuring that food justice initiatives are both inclusive and effective.

Limitations

Due to the diverse and evolving nature of the food justice movement, the literature search revealed considerable variation in terminology across citizen-driven food system reform efforts (e.g., food justice, food sovereignty, food citizenship, etc.). Rather than focussing on these distinctions, this review adopts an umbrella conceptualization of food justice which incorporates these activities collectively to understand the role of older adults in food-system reform focussed on equity and human rights. This said, the review yielded a small number of articles, reflecting the emerging nature of scholarship at the intersection of aging and food justice. This highlights the contribution of this review in mapping an underexplored domain and setting a foundation for future research. We excluded grey literature to maintain rigor and comparability across studies, focussing only on peer-reviewed work. A limitation of this approach is that practice-based engagement of older adults in food systems may be unrecorded or fall outside of academic publishing, representing an important gap for future research.

Additionally, much of the existing literature on older adults within food systems primarily addresses the experiences of older adults facing food insecurity. Rather than focussing on these perspectives, which are a downstream effect of systemic issues within the industrial food complex (Collins et al., 2014), this review instead focusses on efforts towards structural reform of the food system rather than charitable food programs, as these have been critiqued as failing to address the root causes of food insecurity (Gottlieb & Joshi, 2010; Levkoe, 2011). Finally, due to the exploratory nature of this review, insufficient literature was available on the gendered aspects food and older adults' involvement in food justice and as such this was not examined. Future research should take an intersectional approach, considering not only gender but also race, ethnicity, citizenship status, and other social locations, to further inform our understanding of older adults' specific contributions to the movement.

Conclusions and implications

Drawing on Gottlieb and Joshi's (2010) Gramscian framing, we suggest that the participation of older adults should be understood not only in terms of distributive outcomes but also as part of a broader "war of position," where shifting narratives and public discourse precede structural change. Older adults' perspectives, informed by lived histories of food, land, and community, can serve as a counter-hegemonic resource that challenges the dominant paradigms that commodify food—reasserting the perspective of food as a right and a common good. Recognizing and mobilizing this role positions older adults as

contributors to the conceptual, participatory and policy foundations of food justice.

Older adults' experiences span the historical transformation of the food system from small-scale farming to corporatization (Neff et al., 2017). This narrative review synthesizes how their unique perspectives, informed by earlier agricultural traditions, both align with and diverge from modern food advocacy movements. Their lived experiences, informed by practices linked to "peasant agriculture," have served as models for modern day advocacy efforts, such as *La Via Campesina*, which seeks food sovereignty through supporting local agriculture (Korzenszky, 2019; Thompson et al., 2020; Vivero-Pol, 2017; Wilson & Levkoe, 2022). Older adults that have experienced alternative food systems therefore hold perspectives that may serve to support the priorities being championed by modern food system reform advocates, highlighting the potential for collaboration (Neff, 2017).

While there is overlap in values, this review also demonstrated a divergence. One of the highlighted barriers was the misalignment in views on the right to food, where some older adults viewed existing food access programs as sufficient while also considering the status quo as "unchangeable," thus running counter to the rights-based logic of food justice (Brady et al., 2022, 2023). Compounding this, some older adults reported limited knowledge of food-system structures and advocacy, as well as a self-perceived lack of agency that discourages engagement (Brady et al., 2022; Neff et al., 2017; Clapp et al., 2022). Mobilizing older adults will therefore require more than simple invitation, it demands creating shared understandings, targeted knowledge building, and agency enhancing interventions. As these barriers were reported by a small, non-representative sample, future research must use more diverse populations to fully understand the barriers and evaluate approaches that translate elders' experiential knowledge into sustained, justice-oriented participation.

An identified pathway to address this barrier is intergenerational collaboration—where older adults may contribute valuable social and ecological capital to the food justice movement. Cross-generational partnerships serve to strengthen community resilience, reinforce cultural autonomy, and support local food sovereignty (Demientieff et al., 2023; Wehi et al., 2023). Supported by community organizations, these collaborations can also help to mitigate the barriers older adults face in terms of becoming involved in food justice activities. For example, regarding the perceived lack of agency, community food organizations represent spaces where food justice advocacy can be actualized and, through intergenerational connections, older adults can become active citizens, thereby building their agency and food system knowledge (Regnier-Davies, Edge, & Austin, 2022).

Participatory governance research offers another avenue for meaningful engagement. Supported by partnerships with government, academia, and civil society, these models provide platforms for older adults to contribute directly to food systems decision making (Tuckett et al., 2022). The democratization of the advocacy process allows older adults to exercise agency in governance and decision making while fostering a sense of connectedness and purpose (Jull et al., 2017; Levkoe, 2006; Thompson et al., 2020). Collaboration between organizations have been influential in shaping national level policies, including integrating the "right to food" into law in Scotland, as an example (Robinson-Miles et al., 2022). Conversely, "top down" approaches to policy neglect the perspectives of the people they are meant to serve, working counter to food justice principles (Singh et al., 2013).

Together, these pathways highlight the potential for older adults to participate in and shape inclusive and

sustainable food systems. Incorporating their perspectives using a participative approach can serve to empower older adults to act as social change agents and concomitantly contributing towards achieving the long-term goals, strategies, and outcomes of food justice (Loo, 2014; Murray et al., 2023; Regnier-Davies et al., 2022).

Given the prevalence of ageism, participatory approaches that are inclusive of older adults are particularly cogent (Harbison, 2015). The meaningful inclusion of older adults would represent working towards a society that values the diverse perspectives, worldviews and lived experiences of all its members. Both the fields of critical gerontology and food justice point to the value of multidisciplinary collaboration to strengthen each social movement and deepen impact (Gottlieb & Joshi, 2010; Katz, 1996; Loo, 2014; Murray et al., 2023; Phillipson, 2006).

Older adults, with their rich repositories of historical and ancestral knowledge, are positioned to contribute to the re-evaluation of current food systems and the re-establishment of connections to food and land. Acknowledging and investing in their role is essential in realizing transformative change towards a healthier, more just, and sustainable food future—for all.

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Choux questionnaire: Elaine Power

A riff on the well-riffed Proust Questionnaire, the CFS Choux Questionnaire is meant to elicit a tasty and perhaps surprising experience, framed within a seemingly humble exterior. (And yes, some questions have a bit more *craquelin* than others.) Straightforward on their own, the queries combined start to form a celebratory pyramid of extravagance. How that composite croquembouche is assembled and taken apart, however, is up to the respondents and readers to determine. Respondents are invited to answer as many questions as they choose.

The final question posed—*What question would you add to this questionnaire?*—prompts each respondent to incorporate their own inquisitive biome into the mix, feeding a forever renewed starter culture for future participants.

Our Choux Questionnaire respondent for this issue is Elaine Power. One of the founders of the Canadian Association for Food Studies (CAFS), Elaine has spent much of her career researching food insecurity and other issues related to poverty, class, food, and health. She is an advocate for a guaranteed basic income, an income floor that would provide all Canadians with adequate income to meet their basic needs, including food. Her current research is exploring arts-based knowledge mobilization for effective solutions to food insecurity.

What is your idea of a perfect food?

One that is intensely flavourful, produced in a sustainable and just way, and served with love.

Of what food or food context are you afraid?

Place settings with lots of cutlery.

What word or concept describes an admirable food system?

Nourishment

What word or concept prevents many food systems from becoming admirable?

Greed

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Which food person do you most admire?

I have a special place in my heart for the late Joan Dye Gussow, who taught nutrition education at Columbia University. I met Joan a few times at AFHVS/ASFS conferences in the U.S. (before there was CAFS). I loved that she was thinking about the whole food system, and corporate domination in the food system, at a time when other nutritionists and dietitians rarely did. I also loved her commitment to living her values. She was way ahead of her time on so many things. Her 2002 memoir, *This Organic Life: Confessions of a Suburban Homesteader*, is a locavore classic. And her recipe for pear chutney, one of several scattered throughout the book, is fantastic.

What do you consider to be the most overrated food or food context?

The current fad for protein in everything.

What do you most dislike about dinner tables?

How they organize dinner guests, making it difficult to have conversation with those who are not close by, and, conversely, making it impossible to escape conversation with the person in the neighbouring chair.

What is the quality you most like in a fruit?

Juiciness!

What kinds of gardens make you happiest?

Contemplating this question brings me happiness! Gardens inherently make me happy. Vegetable gardens, flower gardens, herb gardens. Formal gardens, English cottage gardens, wild gardens, backyard gardens (though I suppose they can be a bit sad if completely overgrown or suffering from drought). Nothing makes me happier than picking vegetables, flowers, and herbs from my backyard gardens—especially those few weeks in August when I can make Ottolenghi recipes without buying anything extra. I also love everything about growing garlic—I love planting it in the fall (a radical act of hope that spring will come), harvesting the scapes and making pesto, and then digging up and drying those beautiful bulbs, to last through the winter.

If you could change one thing about nutrition, what would it be?

I wish we didn't think about nutrition. I wish food was just nutritious and nourishing, and everyone had adequate access. I remember years ago having a conversation with an Inuit woman who told me about an elder who had grown up on the land. He said that when he was growing up, it was inconceivable that food could be harmful to health. All his food, from Nature, was healthy. I wish we lived in a world more like that.

What do you consider your greatest edible achievement?

I don't know if this is an "achievement" *per se,* but when I lived in southwest Newfoundland in the late 1980s, I overcame extreme hesitation about eating cod intestines to discover that they were melt-in-your-mouth delicious. I've never forgotten my delight, and I'm very sorry I only once got to eat this unusual regional speciality.

If you were to die and come back as an (edible) animal, vegetable, or mineral, what would you like it to be?

I'd like to come back as a fruit tree, like the beautiful old pear tree in my backyard. Of course, the tree itself is not

edible, but it produces annual edible abundance for humans, birds, butterflies, insects, mould, and bacteria. I also love hanging bird feeders in it in the winter and watching the birds bring the dormant tree alive with their movements.

Where (and/or when) would you most like to dine?

I thought about this question for a long time, perhaps because I don't have any particular yearning for a dining experience. I decided I would like a locally harvested (Canadian) meal while sitting somewhere with a view of the ocean. This led me down an internet rabbit hole of looking up restaurants on the East and West Coasts, including some that are very expensive. I realized that I feel uncomfortable in these exclusive spaces! And then I remembered picnics on ocean beaches with homemade food and friends on warm summer evenings, and that seems just about right. But one summer, I would also love to check out Michael Smith's farm-to-fire-to-fork Fireworks Feast in Fortune, PEI.

When do you have no appetite?

After eating!

What is your most treasured kitchen implement?

My Kitchen-Aid frozen dessert maker. Homemade ice cream and frozen treats have brought a lot of pleasure to many friends and family members, and that makes me happy.

What do you consider to be the most processed kind of food?

When pondering this question, I realized that I have moral judgements about "processed food" even though I know that not all processing is "bad". The processed food I really despise is sugary breakfast cereal. I dislike how it looks and tastes, the vast sums of money spent on advertising, and the corporate manipulation of children's tastes. I never bought sugary breakfast cereal for my kid and whenever they would try it elsewhere, they would leave it after a few spoonfuls. This made me happy. Oh, and there were some other "children's foods" that I didn't buy either. Lunchables. Sugary, flavoured yogurt. Maybe it was luck that my kid always loved strong flavours (raw kale, olives, beer) and never really liked sweet things.

What is your favourite aroma?

Cinnamon, especially with apple. Freshly ground and brewed coffee. Homemade bread.

What do you most value in your friends?

I most value friends who can help me see things in a new light or (gently) challenge my perceptions of things.

Who are your favourite food scholars?

Oh! I love the Canadian Food Studies community!

What are your favourite agricultural, culinary, or gastronomic words?

I love that garden plants "volunteer" from year to year! They are not exactly a weed because the parents of volunteers were deliberately planted at one point.

What is it about composting that you most dislike?

What's not to love about composting?

What would you eat as your last meal?

What I would eat as my last meal would depend on the season. If it were mid-late summer, it would be tomatoes from the backyard with basil, buffalo mozzarella, some good olive oil, bread, and a bowl of fresh strawberries, juicy mango, and homemade vanilla ice cream for dessert. If it were fall, it would be curried butternut soup, some good bread, blue cheese, and a perfectly ripe pear. Winter might be some variation of the fall menu or maybe homemade pizza. Or shakshuka. Always good bread. Apple crisp. I hope my last meal is not in spring, unless it is already time for sugar snap peas. And the rhubarb is ready for upside-down cake.

What foodish epitaph would you assign to yourself?

She shared bountifully.

What question would you add to this questionnaire?

What food from your childhood do you now eschew?

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