

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Understanding the Landscape of Student Food Insecurity at the UBC Vancouver Campus and Identifying Opportunities to Meet Student Needs

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Prepared for: AMS Student Services & VPS Student Health & Wellbeing

Course Code: LFS 450

University of British Columbia

April 17, 2024

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Practitioners' Summary

Background: Food insecurity is an issue that disproportionately impacts university students across Canada due to a combination of challenges including: the cost of living, tuition fees and a lack of income (Paez-Varas & Hammond, 2022). At the University of British Columbia (UBC), this is especially concerning; with the cost of living being the highest in the country and a 37% rate of food-insecure students (Parr et al., pg.2, 2019; UBC, 2019). In response to this issue, UBC and the student community have established several Food Security Resources (FSRs) that offer low-cost, low-barrier food options. However, the link between students' usage/awareness of the resources and the FSR's capacities to support students is poorly understood (Food Bank Coordinator & Food Hub Market Coordinator, personal communication, January 2024). Working with stakeholders from the AMS Food bank and the Food Hub Market, we distilled these thoughts down to the following research question: How are UBC students addressing their food needs, and what additional needs do the FSRs require to continue to support food insecure students?

Overall Goals: The main purpose of this research is to assess UBC students' interaction patterns with campus FSRs and identify the specific needs of the resources themselves in order to inform future recommendations to enhance the efficacy of these resources; thereby contributing to a more food secure community.

Specific Objectives:

1. To identify UBC students' awareness, navigation patterns, resource dependencies, experience/perception with on-campus FSRs through a campus-wide survey.
2. To identify current capacity, resourcing and other needs among key FSR leaders (i.e. management, staff and volunteers) through exploratory interviews.
3. To recommend improvements towards food security resources to cater to students needs through analysis of campus-wide survey data and exploratory interviews with FSR leaders.

Methods: To carry out our research objectives, we collected primary data by conducting semi-structured interviews with eight individuals from four different FSRs and distributed a campus-wide Qualtrics survey. Additionally, secondary data collection through a literature review was completed to identify food insecurity trends across universities in Canada and which interventions have been implemented in other institutions to help address the issue of food insecurity.

Key Findings & Conclusions: From a survey response of n=229, 76.9% of students were found to be food insecure, which is more than double the value of 37% that UBC reported 5 years earlier (Figure 1) (UBC, 2019). Overall, students' awareness of FSRs was quite low (below 40%) for all FSRs except the AMS Food Bank and Sprouts. Interestingly, the most cited source for becoming aware of FSRs was 'friend networks'. Furthermore, there was a distinct difference in usage patterns between each of the FSRs; most notably, was the very low usage of UBC Financial Aid at 3.5%. This result was supported by the result in Figure 2 that shows a high number of food insecure students are not accessing any financial aid. From the 8 interviews with FSR leaders, the main themes that emerged were 'awareness', 'accessibility', and 'changemaking'. Based on these key findings and on-going discussion with our clients, recommendations for short term action: 1) Financial aid resources promotion, 2) FSR partnerships and expansions and in the long-term: 3) Financial aid resource optimization and 4) Policy development and institutional support. We hope that our study can also inform future research, specifically regarding a re-assessment of UBC Vancouver's student food insecurity rate. By using the principles laid out by CBAR, we collaborated with the UBC student community and key stakeholders to ensure that proposed recommendations were community-generated.

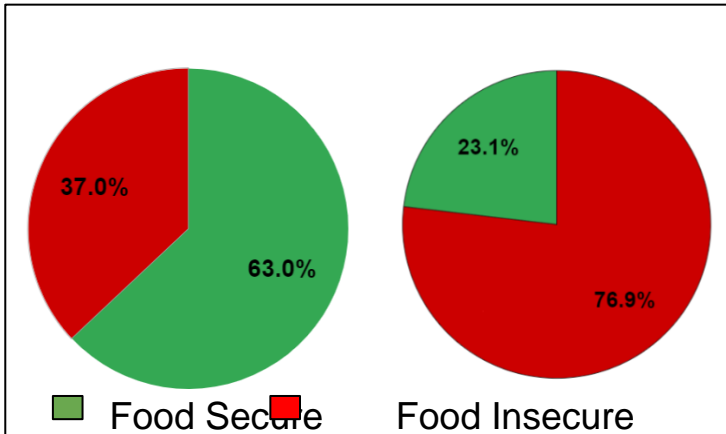


Figure 1: Portion of UBC Students that are Food Secure vs Food Insecure in 2019 and 2024

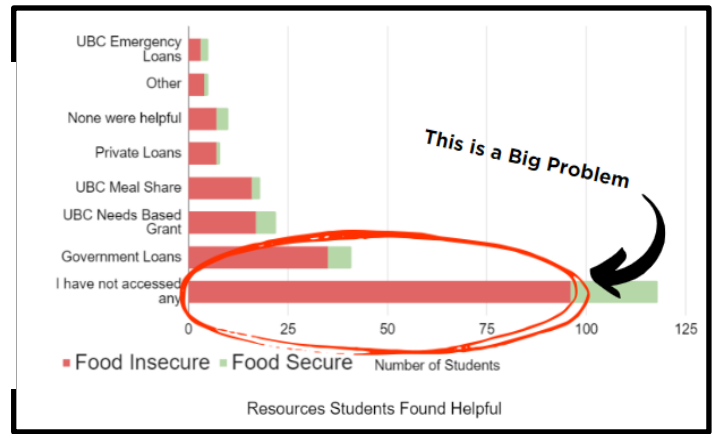


Figure 8: Percentage of students aware of each FSR (blue) with the corresponding percentage of students using that FSR (red)

Executive Summary

The University of British Columbia is located in Vancouver, Canada--a city that is regarded as one of the top 5 most liveable cities in the world (Carey, 2023). However, the city's world-renowned educational institution, The University of British Columbia (UBC) is plagued by a food-insecurity crisis, with its students struggling to meet their food needs at a rate more than twice the National average. The issue of Food Insecurity is not just a UBC specific problem, but a National one, as many other leading Canadian institutions of higher education have reported the same degree of food insecurity; some as high as 46%. Over the last several years, UBC has increasingly placed more resources towards addressing the chronic issue of food insecurity, and this work is the latest in a long line of efforts to solve the student food insecurity crisis on the university's campus.

This Community Based Action Research (CBAR) was conducted alongside the UBC Food Hub, Alma Mater Society (AMS) Food Bank, and UBC's SEEDS Sustainability Research Program in an effort to better understand the food landscape at UBC. Following a mixed-methods approach, we engaged multiple Stakeholders within UBC's Food System through eight interviews with four different Food Security Resources (FSRs) and 299 surveys to assess students' food security status, engagement, and awareness of various FSRs at UBC's Point Grey Campus.

Following the Canadian Household Food Security Module for assessing food insecurity we discovered an alarmingly high rate of food insecurity among 229 student survey responses (76.9%), 64% of which were determined to be moderately food insecure. What made this finding so alarming was the randomness of our sampling as we had professors send out mass email blasts, approached random people at the bus stop, and passed out dozens of surveys at the Storm the Wall event. Another significant discovery in our research was that students were largely finding out about resources from their friends, even UBC Financial Aid was primarily discovered by students from conversations with other students, as opposed to UBC communication channels. UBC's most targeted communication channel for connecting students with Food Security Resources, a digital resource known as the UBC Food Hub was among the least cited resources for discovering Food Security Resources at the campus. The lack of awareness to resources is problematic as our research has found that many severely food insecure students (both domestic and international) are going through their degree without the support of any financial aid / using institutional resources such as the AMS Food Bank / Food Hub Market (UBC's Most Affordable Grocery Store).

In our Interviews, our primary finding was that the student leaders of FSRs have a genuine desire to do more than what they are currently doing to support their fellow students. They want a 'seat at the table' where

valuable discussions around student food security status are taking place. In particular, they long to increase the amount of support their initiatives are offering, and to see UBC become a food secure campus.

This research project has reported the highest rate of food insecurity ever at UBC's Campus, discovered that institutional communication channels are not reaching students, and found that many students are going through their degree hungry and lacking considerable support to alleviate their burden. Thankfully, grassroots initiatives are making a difference to the students using them, and are ready and willing to be a part of more substantial change.

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List of Abbreviations

AMS: Alma Matters Society

CHFSM: Canadian Household Food Security Module

CBAR: Community-Based Action Research

FSI: Food Security Initiative

FSR: Food Security Resource

SEEDS: Social Ecological Economic Development Studies

UBC: University of British Columbia

Introduction

Research Topic

The government of Canada defines *food insecurity* as the "Inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so" (Government of Canada, 2020). The way that food insecurity manifests itself looks different across different contexts but is divided into four categories by the Household Food Security Survey Module: food secure, and marginal, moderate and severe food insecurity with the most severe category indicating reduced food intake and disrupted eating patterns (Government of Canada, 2020). Food security and food insecurity at UBC have been of increased concern, with a 2019 report indicating the rate was around 37% (Parr et al., pg.2, 2019).

There is truth to the trope of the starving student surviving off of ramen, but the detrimental impact of food insecurity cannot be understated. Those who are marginally food insecure are said to be "food insecure without hunger," meaning that they may consider cost over quality and nutrition when making food choices (Stats Canada, 2019). Though this is the lowest grade of food insecurity outside of the food secure designation, the impacts of marginal food insecurity remain and are primarily associated with negative impacts on mental health. Although the designation of marginal food insecurity holds less weight than the moderate or severe designation, research has repeatedly shown that marginal food insecurity status denotes a level of vulnerability and remains a significant determinant of health overall (Parker et al., 2010; Coleman-Jensen, 2010, p. 218). Moderate food insecurity is described as when household food intake is reduced to the point that someone consistently experiences the sensation of hunger; it is assumed that someone who is moderately food insecure is consuming an often low-quality diet and occasionally reduces their food intake (Stats Canada, 2019; Alaimo & Jones, 2020, p. 314). At this level of food insecurity, there is an increased risk of micronutrient malnutrition, the impact of which can manifest itself in many ways, from reduced cognition to compromised immune function depending on the nutrient (Alaimo & Jones, 2020, p. 314). Severe food insecurity is defined by repeated experiences of reducing food intake and disrupted eating patterns (Stats Canada, 2019). Food insecurity of this magnitude is reflected in persistent mental and physical symptoms to a greater extent than

those already noted in previous levels. Now, outlining the experience of food insecurity further, it becomes abundantly clear why the university should investigate this statistic further and address food security as a broad concern.

Specifically, there needs to be more knowledge regarding how students become aware of and access resources to improve their food security. It is crucial to assess whether or not the resources currently in place at UBC are being accessed by those who need them most and how resources can be strategically implemented and operated in the future to ensure optimal reach and usage.

Research Relevance

Students attending Universities all across Canada are experiencing food insecurity at significantly higher rates (25.7% to 46% depending on the campus) than the national average of 18% (Entz et al., 2017; Olauson et al., 2018; Repond, 2018; Blundell & Matthews, 2021; Stats Canada, 2023). The students attending the University of British Columbia (UBC) are no exception to this nationwide problem, as a recent UBC food security assessment found that 37% of the student population was experiencing some form of food insecurity that ranged from skipping the occasional meal for financial reasons to daily struggle in acquiring food (Parr et al., pg.2, 2019; Holmes et al., pg. 63, 2018; Caron & Jacob, 2022).

In response to the 2019 findings, the UBC Strategic Framework set a target to reduce the prevalence of food insecurity for its students by 2025, as food insecurity is associated with poor physical (Pan et al., 2012; To et al., 2014), mental (Leung et al., 2015), and nutritional health (Rose, 1999; Bhattacharya et al., 2004; Olson, 1999). Reducing food insecurity among students is essential as the additional stresses and negative health outcome students endure while experiencing food insecurity diminishes both their sense of well being and the lived value of the education they are pursuing (Shisler et al., 2023).

The Wellbeing Strategic Framework targeted a reduction in food insecurity among UBC community members by 2025 based on the 2019 baseline data (*UBC Wellbeing*, pg. 13, 2019). As the deadline for this goal approaches, the AMS Sustainability Action Plan recently added two new goals to their latest Action Plan, which highlighted priority funding for long-term food security initiatives as well as increased accessibility of healthy choices on campus through the AMS Affordable Meal Program (Wong-Abdul, pg. 12, 28, 2023).

Beyond these policies and plans, many initiatives have started/grown at UBC over the last few years, such as student-led restaurants, food banks, low-cost grocery stores, and childcare services. Now that we have established support systems at UBC, we can benefit from improving institutional clarity and connectivity within the FSR network. By juxtaposing the information gathered through exploratory interviews regarding FSRs capacities/strategies with the strategies students are using to address their food needs we can potentially unlock new insights that can be leveraged in our pursuit of a food secure campus.

Recent policy initiatives, such as those outlined in the AMS Sustainability Action Plan, underscore the university's commitment to tackling this challenge. Moreover, the increase of student-led initiatives aimed at addressing food insecurity reflects a growing awareness and mobilization within the UBC community. Acting like a loom, our project seeks to build upon these initiatives and policies, weaving together the needs and capacities of students, FSRs, and UBC leadership and further fortifying a pre-existing network. By bridging the gap between student needs and available support systems, our project aims to alleviate food insecurity and foster a more resilient network of food security resources at UBC.

Project Context

There is a wealth of resources and research regarding food security on UBC's Point Grey campus. The UBC Food Security Initiative was formalized in 2020 as a governance structure to advocate for and implement initiatives regarding food system sustainability and security on campus (Food Security Initiative, 2020). Previous Social Economic Ecological Development Studies (SEEDS) reports regarding food security initiatives on campus have highlighted gaps in knowledge and resources. For example, the 2018 report regarding Mapping UBC Food Assets highlighted how, despite a reasonably solid policy base, there was a gap when it came to ensuring affordable food was available on campus, and proposed the idea of a virtual food hub, which has since been implemented (Lang, 2020). Despite available resources, research has consistently shown that between 30 and 40% of students face food insecurity (UBC Food Hub, 2021). One of our clients, The AMS Food Bank, recently released an information sheet in January 2024 describing a 112% increase in student usage in the fall semester since the same period in the 2022 to 2023 academic year (AMS Food bank, 2024). This document also highlighted that while more than 70% of users identified as being food insecure, students' use of additional

FSRs other than the food bank was limited. While the AMS is experiencing record high usage, the Food Hub Market has described the opposite issue, they have the capacity to support many more people each day, and often have food waste from not being busy enough (Food Hub Coordinator, personal communication, January 2024).

With students using the Food Bank experiencing such high levels of hardship, their lack of use of other initiatives that share a similar mandate to the Food Bank has raised some important questions. Are these students unaware of these initiatives, or do they choose to not use them? With the FSR network support including \$5 lunches, low-cost groceries, free dinners multiple nights of the week, free pantries, child care, and more, the support offered by various FSRs at UBC is expansive. Nevertheless, are many students who need these resources unaware of them, or is it possible that these resources are being utilized but still are not enough to support those in need? There is also an entirely other reason why students remain food insecure despite the resources UBC has to offer.

While numerous resources and policies at UBC are aimed at promoting food security, there remains a gap in effectively reaching students with these resources. By investigating the strategies used by students to address their food needs and assessing their awareness of various initiatives, we can then compare these findings to the capacities of FSRs on campus. In doing so, our study aims to establish clear connections between students' needs and initiatives that are able to support them, thereby providing actionable insights to enhance support for students' food needs.

Purpose

To address and help alleviate the issue of food insecurity among the students at the University of British Columbia's Vancouver campus through equitable knowledge sharing between UBC students, FSR stakeholders and UBC leadership.

Goals

To assess UBC students' current interaction patterns with on-campus FSRs and identify their experiences engaging with and navigating these resources to inform FSR stakeholders and UBC leadership of future recommendations to enhance the efficacy of these resources, thereby contributing to a more food-secure community.

Objectives

Based off of our goals to promote community food security, tailored to the needs of the UBC student community and FSR leadership, our main objectives are:

1. To identify UBC students' awareness, navigation patterns, resource dependencies, experience/perception with on-campus FSRs through a campus-wide survey.
2. To identify current capacity, resourcing and other needs among key FSR operators (i.e. management, staff and volunteers) through exploratory interviews.
3. To recommend improvements in food security resources for students, analyze campus-wide survey data and conduct exploratory interviews using mixed methods.

Research Methodology & Methods

Research Methodology

Community-Based Action Research (CBAR) is a collaborative research approach where community members actively participate in the research process to address local issues and effect positive change within their community. This methodology was used to guide the purpose of our project and was particularly relevant

when recruiting participants and delivering research outcomes. CBAR can be practiced by establishing continuous communication channels between participants and researchers, ensuring ongoing and informed consent, and facilitating a two-way channel of knowledge-sharing instead of knowledge extraction (Gullion & Tilton, pg. 53, 68, 2020). We established this knowledge-sharing channel by maintaining open communication with our primary clients and informing them of our project progress. Regular, weekly emails were sent to our clients containing project updates and requesting feedback upon completion of project milestones. In conducting our primary research using the CBAR framework, we were able to engage with the UBC community in a way that amplified the student voice and gave them an opportunity to share their experiences and needs – informing the recommendations made to UBC Leadership to help enhance community food security.

To conduct our primary research we conducted semi-structured interviews and distributed a campus-wide Qualtrics survey. For both the interviews and the survey, CBAR principles played an instrumental role in guiding the data collection process. By interviewing FSR leaders using a series of exploratory questions and probes, we gained a baseline understanding of the current operating capacities and needs of each resource. We were then able to transfer this knowledge and experience to our clients, through on-going meetings and discussion, in order to inform the final recommendations that spawned from the project. Conducting a campus-wide Qualtrics survey provided us with a baseline understanding of students' awareness, usage and navigation patterns associated with FSRs. The inclusion of open-ended questions in the survey gave students the opportunity to voice their opinions on campus food security as well as their needs when it comes to accessing FSRs.

Research Methods

We used a mixed methods approach to conduct our research in order to achieve the main goal of our project and provide robust, well-informed recommendations. Secondary research was conducted through a literature review to inform the design of our survey and interview questionnaires. Primary research was conducted in the form of semi-structured interviews with operational leaders and a campus-wide survey, accumulating as diverse of a sample as possible. Both primary research methods consisted of collaborating with the UBC student community in order to involve them with the main purpose of this research - to enhance community food security.

Secondary Data Research Methods

Our secondary research methods consisted of conducting an in-depth literature review that relied on previous existing literature related to food insecurity among students at post-secondary institutions. We also relied on the literature to design and formulate the questions for both our interviews and surveys (University of California, 2015). We will review the general trends of food insecurity experienced by university students across Canada and compare the average rates with UBC's food insecurity rate ([Figure 1](#)). Throughout this review we will also dive into strategies and interventions used by academic institutions in order to draw inspiration for further empowering UBC's current FSRs.

Primary Data Research Methods - Interview & Survey

Our primary research was carried out by firstly, conducting semi-structured interviews with members of FSR leadership teams. We chose to interview individuals who held a leadership role in each FSR so that their knowledge and experience in operating these spaces could help improve their efficacy. The objective of these interviews was to gain an understanding of the capacity for growth and room for improvement within FSRs; beyond what quantitative evidence of use may indicate. In particular, the interview questions were designed to better understand participants' experiences with and opinions of student food insecurity within their role at the specific FSR. Interviews were conducted both in-person and on Zoom, each lasting between 20-30 minutes in length. At the beginning of each interview, an informed consent process was conducted with participants including their permission to audio record the interview for data analysis purposes later on. Written consent was obtained before proceeding to questions (Appendix 4). We interviewed a total of 8 individuals that were involved in the operation of four different on-campus FSRs: Sprouts (2), the Acadia Food Hub (1), the AMS Food Bank (2) and the Food Hub Market (3). The interview was designed to be open-ended and consisted of a series of exploratory questions and probes that started broadly and became increasingly more specific. Initially, interviewees were asked generally about food on campus, followed by campus food security and lastly, questions regarding the specific initiative that they were involved with.

The second component of our primary research was the distribution of a campus-wide survey that we hoped would reach students across various faculties and backgrounds, to represent the diversity amongst the UBC community. The survey allowed us to assess the food security status of UBC students and identify how

they become aware of and engage with campus FSRs. At the beginning of the survey, informed consent was provided in an attached document and participants were prompted to confirm their consent before continuing the survey. Through preliminary survey design, we developed a questionnaire that was divided into four main sections: 1) Canadian Household Food Security Module (CHFSM) (Health Canada, 2008), 2) Financial aid resources 3) Awareness, perception and interaction patterns with campus FSRs, and 3) Demographic questions. Through short answer responses, survey participants were also given the opportunity to share their perceptions of campus FSRs and provide feedback on UBC’s effort in addressing food insecurity on campus. The final sample size from the survey was n = 299 responses, however, 70 responses were removed since the survey was left incomplete; therefore the overall sample size of the Qualtrics survey was n = 229 responses.

Methods of Administration

For interview recruitment, we directly contacted management teams from five different FSRs via email to ask them to participate. The FSRs we reached out to included: the Food Hub Market, the AMS Food Bank, Agora Cafe, Sprouts and the Acadia Food Hub. The interviewees were chosen through a convenience sampling method, as there were a limited number of initiatives, managers, and time to execute the interviews. Interviews were conducted one-on-one with each individual FSR leader to allow us to ask specific questions pertaining to each resource. Below is a list of interviews conducted and the respective dates:

Table 1. FSR Leadership Interviews

Food Security Resource	Interview Date		
Acadia Park Food Hub	March 14th	Food Hub Market	March 19th
Sprouts	March 6th	Food Hub Market	March 19th
Sprouts	March 18th	AMS Food Bank	March 6th
Food Hub Market	March 7th	AMS Food Bank	March 13th

Survey recruitment followed a cluster sampling method to accurately represent the diversity within the student population. Our recruitment strategies included: in-person booting, email blasts through faculty and clients’ messaging systems and sharing within our own personal networks. To accompany our recruitment strategies, an eye-catching flyer was designed that included a QR Code linked to the survey and an incentive to win 1 of 5 \$25 grocery gift cards (Appendix 3). Survey recruitment was nondiscriminatory and we strived to be

as transparent as possible to ensure informed consent was acquired. Upon invitation, potential participants were made aware of who we were, why we were requesting information from them and what the research purpose and goals of the survey were. Questions were straightforward to answer, ensuring inclusive language was maintained at all stages of recruitment and participation. After taking the survey, participants were prompted to opt into a follow-up if they would like to receive our public-facing summary. The survey was open for a total of two weeks from March 20th until April 3rd.

We analyzed the interviews with stakeholders by performing thematic analysis to identify trends with regards to challenges, and successes among the FSR network. To analyze the survey data, simple statistics were used on excel and various coding mechanisms were also applied to organize data so that visual representation was concise. Disseminating these statistical results with the communities we are conducting this research with can help them in achieving a greater understanding of the current FSR network, and the opportunities and challenges that are contained within it.

Results

Literature Review

Food (In)Security at Canadian Universities

Campus	Food Insecurity Rate	Author(s)
University of Manitoba	35%	(Entz et al. 2017)
Memorial University	39.90%	(Blundell & Matthews, 2021)
University of Saskatchewan	39.50%	(Olauson et al. 2018)
University of Calgary	25.70%	(Olauson et al. 2018)
Dalhousie University	46%	(Silverthorn et al. 2016)
University of British Columbia	37%	(Parr et al. 2019)
St. Francis Xavier University	37.20%	(Reynolds, 2019)
Acadia University	38.10%	(Frank, 2018)
Average	37%	

Figure 1. Food Insecurity Rates at Canadian Universities

Campus	Upper End, 8-Month Academic Year Tuition, <i>International Undergraduate</i>	Upper End, 8-Month Academic Year Tuition, <i>Domestic Undergraduate</i>	Monthly Cost of Living	8 Months Living Cost	Upper End, 8-Month Academic Year Cost, <i>Domestic Undergraduate</i>	Upper End, 8-Month Academic Year Cost, <i>International Undergraduate</i>
University of Manitoba	\$20,168.00	\$5,242	\$2,339	\$18,712	\$18,712	\$38,880
Memorial University	\$20,790.00	\$6,240	\$2,418	\$19,344	\$19,344	\$40,134
University of Saskatchewan	\$31,218.00	\$7,433	\$2,534	\$20,272	\$20,272	\$51,490
University of Calgary	\$26,849.00	\$6,961	\$2,869	\$22,952	\$22,952	\$49,801
Dalhousie University	\$31,900.00	\$8,853	\$2,933	\$23,464	\$23,464	\$55,364
University of British Columbia	\$44,942.00	\$7,777	\$3,485	\$27,880	\$27,880	\$72,822
St. Francis Xavier University	\$19,876.00	\$9,938	N/A	N/A	N/A	N/A
Acadia University	\$20,947.00	\$10,054	N/A	N/A	N/A	N/A
Average	\$27,086.25	\$7,812	\$2,763	\$22,104	\$22,104	\$51,415

Figure 2. Cost of Living, Tuition, and Total Academic Year Costs for Domestic & International Students at Canadian Universities

[Figure 2](#) highlights that UBC is by far the most expensive University to attend for an academic year of the six Universities that were compared. The cost for a standard 8-month Academic Year at UBC for domestic students was \$5,776 more than average despite charging average tuition rates. For international students this number balloons to \$21,407. To better visualize this preliminary data, we created a graph for both domestic ([Figure 3](#)) and international ([Figure 4](#)) students' academic costs, compared them to the campus food security rates, and checked the Pearson Correlation Coefficients of each, which were -0.027 (domestic), and 0.111 (international) indicating that there are negligible correlations between annual cost of school and food insecurity rates. Ie. As costs go up, food security rates stay the same.

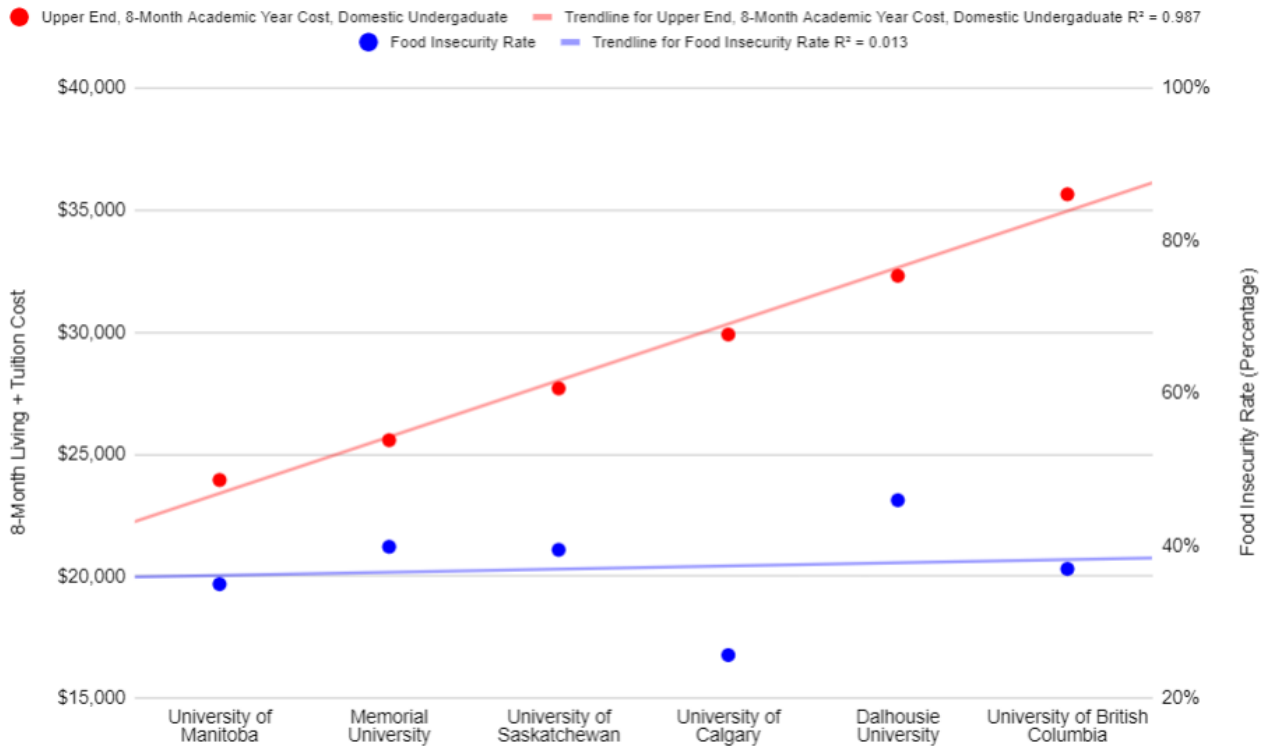


Figure 3. 8-Month Cost of Living for Domestic Students Compared to Campus Food Insecurity Rates at Six Canadian Universities

This preliminary analysis demonstrates that cost of living may have no influence on the food security rates of students. One thing to note from this analysis is that the food insecurity rates are 4-6 years old, and may be out of date. As we move into our survey findings we will keep this statistic in mind as we found it quite strange that the cost of an academic year was not connected to food insecurity rates.

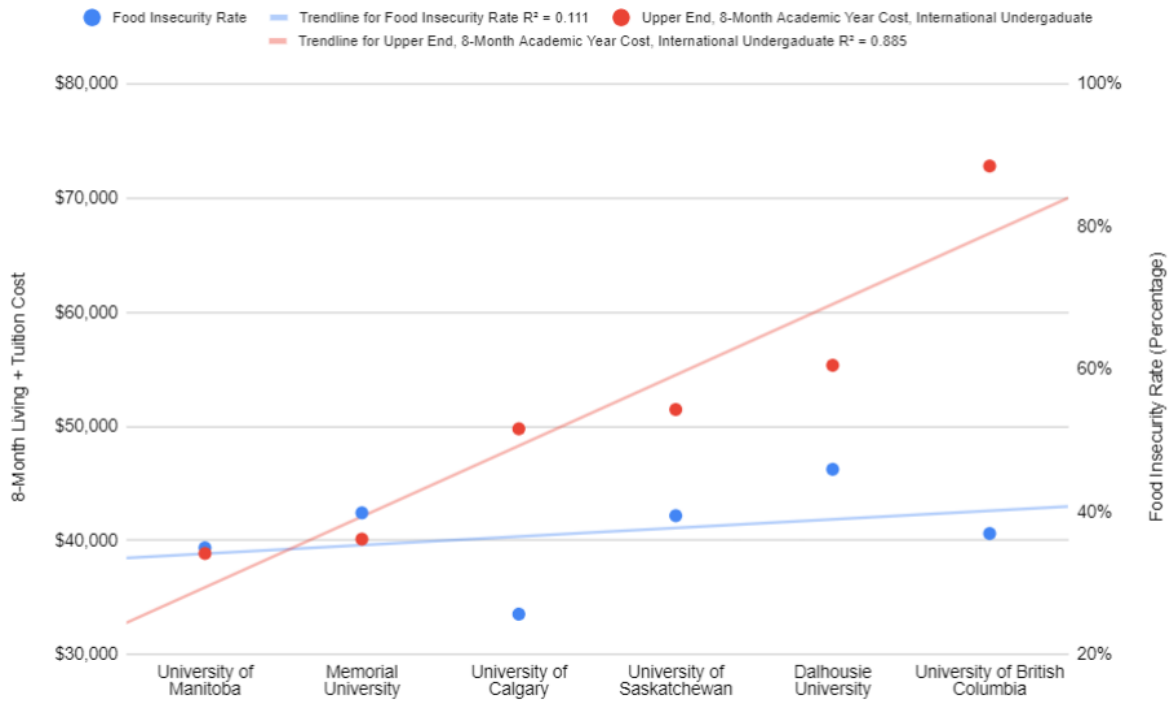


Figure 4. 8-Month Cost of Living for Domestic Students Compared to Campus Food Insecurity Rates at Six Canadian Universities

Survey

Food Security Status of Respondents (n = 229)

Figure 5. Ratio of survey respondents identified as food secure (green) to food insecure (red) based on the CHFSM

[Figure 5](#) indicates that 76.9% of the survey respondents are classified as food insecure and only 23.1% can be classified as food secure (176 and 53 students respectively).

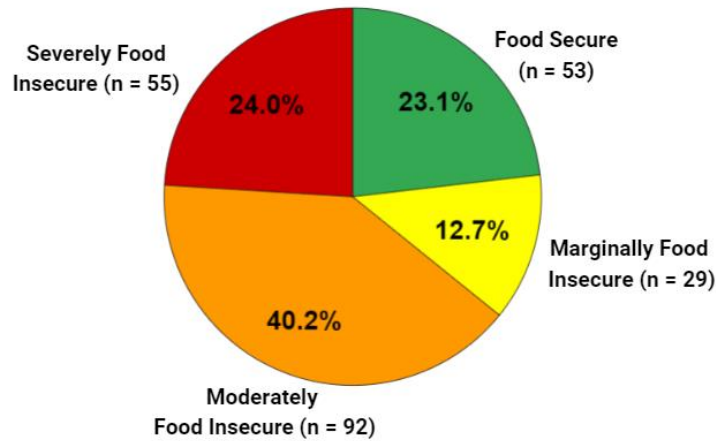


Figure 6. Food Security Status Severity of Respondents (n = 229)

Student food insecurity status can further be broken down into 3 categories, as seen in [figure 6](#). Of the 76.9% food insecure respondents, 12.7% can be classified as marginally food secure, 40.2% as moderately food insecure and 24.0% as severely food insecure (29, 92 and 55 students respectively).

Student Usage & Awareness of FSRs

■ Percentage of Students Aware of FSRs ■ Percentage of Students Using / Used FSRs

Figure 7. Percentage of students aware of each FSR (blue) with the corresponding percentage of students using that FSR (red)

[Figure 7](#) shows the percentage of survey respondents that were aware of the various FSRs on the UBC Vancouver campus. The most well known resource is the AMS food bank, with 78.6% of respondents indicating that they were aware of its existence on campus. The second most popular resource is Sprouts (59.0% of the students). The remaining FSRs were known by less than half of the respondents (39.3% for the Food Hub Market, 37.1% for Agora Cafe, 20.1% for UBC Financial Aid and 10.5% for Acadia Park Food Hub).

■ Food Insecure ■ Food Secure ■ Number of Students

Figure 8. Financial Aid Resources Respondents Found Helpful

■ Food Insecure ■ Food Secure ■ Number of Students

Figure 9. FSRs Respondents are or have used

Student Experience at FSRs

Disagree ————— Nor Disagree

Figure 10: Food Hub Market (n = 36)

Figure 10 shows students’ opinions of the Food Hub Market in terms of its ability to meet their dietary, financial, cultural/religious needs and contribution to their mental wellbeing. The consensus is skewed towards ‘somewhat agree’ and ‘strongly agree’ and in the opposite direction from ‘somewhat disagree’ and ‘strongly disagree.’



Figure 11 shows students’ opinions of the Food Bank in terms of its ability to meet their dietary, financial, cultural/religious needs and contribution to their mental wellbeing. The consensus is skewed towards ‘somewhat agree’ with some tendency to move towards ‘neither agree nor disagree’ and ‘somewhat disagree.’



Figure 12: Food Hub Market (n = 36) Food Bank (n = 60)

Figure 12 is a rendering of Figure 10 and Figure 11 and indicates that over 75% of the survey respondents are in agreement with the AMS Food Bank meeting their financial needs. Over 50% are in agreement of it meeting their dietary needs and contributing to their mental wellbeing. Less than 50% are in agreement of it meeting their dietary/religious needs. Looking at the Food Hub Market, over 70% say it meets their financial needs and contributes to their mental wellbeing. More than 50% say it meets their dietary and cultural/religious needs.

Survey Qualitative Question Findings:

Table B: Thematic summary of topics broached in response to the open ended question: What do you think is needed to improve food security on campus? Is there a missing resource?

Theme:	definition	Frequency n=126	quotes
Affordability	Mentions of cost, and access to food regarding individual finances.	45	<ul style="list-style-type: none"> ☐ “More affordable healthy fresh food fruit vegetables” ☐ “More subsidies for financially insecure students to help offset food costs” ☐ “cheaper food for restaurants on campus” ☐ “more affordable grocery stores on campus” ☐ “Lowering the cost of food on campus - every place in the bus loop is such expensive places” ☐ “Having more affordable food in the nest.” ☐ “Grocery stores! That have food for the same price as the rest of the city.” ☐ “Student only grocery stores”
Funding and support	Discussion of financial support directed at	27	<ul style="list-style-type: none"> ☐ “More needs based bursaries.” ☐ “More financial support for students” ☐ “larger food bank funding as I often see lots of people at the food bank.” ☐ “Easily accessible information on how to apply for funding or access food security”

	individuals and resources.		<ul style="list-style-type: none"> ☐ “Lower tuition, have regulated housing fees, allow the students without private support to live out here and be able to focus on studying.” ☐ “more grants and funding available for those struggling with food insecurity.” ☐ “Better funding and resources to existing initiatives so they can better meet student needs.”
Stigma and Accessibility	Discussion of access generally regarding barriers surrounding awareness and assumptions.	34	<ul style="list-style-type: none"> ☐ “Awareness and accessibility due to long wait time.” ☐ “I don't think people are really aware of the resources available to protect food security on campus, hence the UBC social media can explicitly advertise more about food resources.”
Availability and Convenience	Mention of the spatial and temporal aspects of food access and availability	16	<ul style="list-style-type: none"> ☐ “Food Hub could have longer hours of working, often I can not get there due to time conflict.” ☐ “More food bank hours potentially, or more days” ☐ “A grocery store like food hub market but bigger and more central to campus” ☐ “The campus is really big, so it would be nice to have these resources “repeated” in 2-3 different areas” ☐ “to-go style meals for ease and convenience” ☐ “YES! Missing resource. As I explained, opportunities should be increased (whenever I check sprout's fridge it is empty, when I apply for meal share (\$200), it was rejected etc.”
Practical solutions	General suggestions and ideas regarding how resources could improve	12	<ul style="list-style-type: none"> ☐ “how to avoid dining hall food waste for UBC students dealing with food insecurity ... allow them to enter at 10pm at the dining halls and get the left food” ☐ “anonymous way to access food so no one knows your food scarce.” ☐ “Make sure the food are not expired before too long, as many students take and consume them even if the food are expired.” ☐ “an online booking system”
Diversity and inclusion	Highlighting restrictive dietary needs and access on campus.	11	<ul style="list-style-type: none"> ☐ “...does not meet my religious dietary needs, ... little cooked meals for students who don't have access to a kitchen” ☐ “Allergy resources and more options” ☐ “There should be more food items included in Acadia Food Hub” ☐ “as ... international student, I face difficulty for culturally sensitive food. I never get chicken or meats from AMS as I need halal option. Besides, sometimes the schedule of AMS are overlapped with my class schedule, so I can't go. ...”
Quality and nutrition	Mention of quality and kinds of food, regarding nutritional value.	11	<ul style="list-style-type: none"> ☐ “More affordable healthy fresh food fruit vegetables” ☐ “more healthy food options open past 9-10pm ” ☐ “Cheaper restaurants, healthier options for food, even food hub had protein like meat” ☐ “simple/basic, healthy, inexpensive ready food outlets on campus” ☐ “more nutritious food items such as brown rice, vegetables, tofu' etc.”

Interviews

Thematic Analysis Findings

Eight interviews were conducted, each about 20 minutes long. Three were with work-learning students and volunteers working with the Food Market Hub, two were with staff from the AMS Food Bank, two were with board members at Sprouts, and one was conducted with a pastor who is also the coordinator for the Acadia Food Hub. The most prominent themes are described through figures 13, 14, and 15 identifying the ways in which the themes and sub themes align with one another. **Also see:** [Appendix 7](#) for FSR specific summary tables.

Theme 1: Awareness

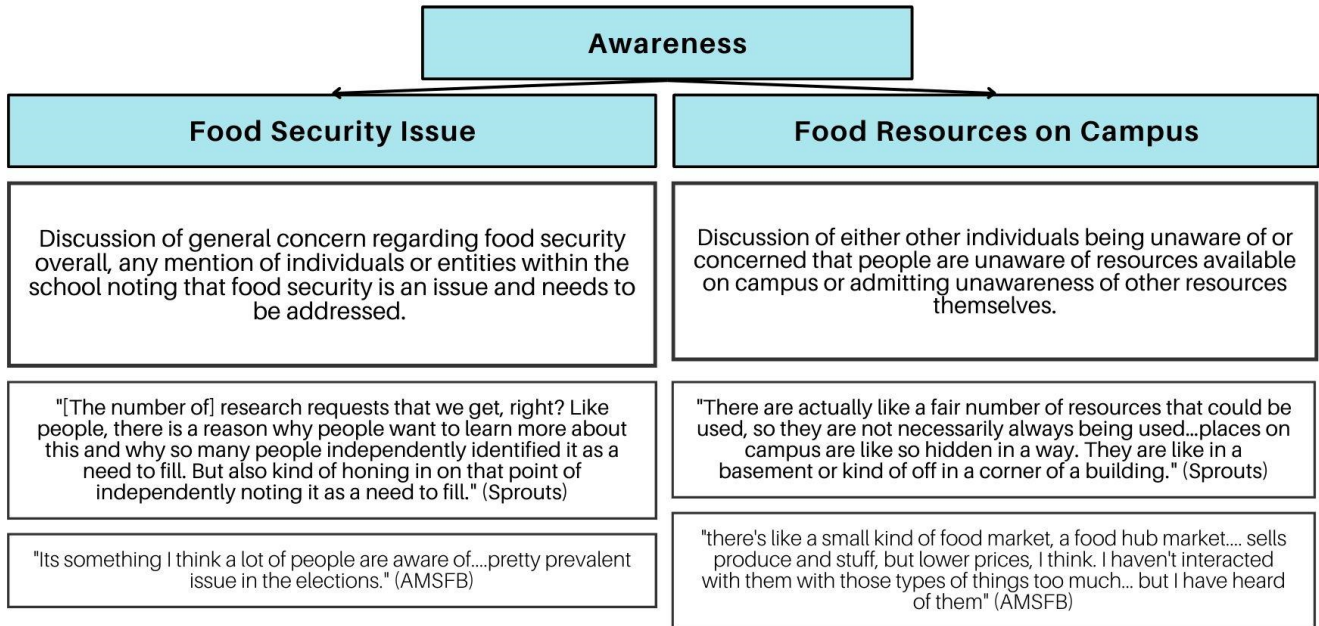


Figure 13: Sub-themes, definitions and quotes within the 'Awareness' theme identified in interviews

Interviewees highlighted an increasing awareness that food security is an ongoing concern for students on campus, with 5/8 bringing up the topical nature of our research. One interviewee at Sprouts discussed research requests and noted that many independent entities on campus are clearly concerned about food security. An interviewee from the AMS Food Bank also mentioned how the issue has become an increasingly popular topic of discussion, especially when it comes to AMS elections. These quotes demonstrate that the interviewees have noticed multiple streams of increased concern surrounding food security, whether through academics and research or the Alma Mater Society, which is the leading provider of student resources on campus. Interviewees also highlighted a perceived need for more awareness regarding food security resources on campus. Multiple interviewees expressed that awareness of resources, whether due to location or outreach, was limited. Every interviewee was able to name at least two FSRs other than their own, but the variety and extent of At most, interviewees recalled seven resources they would recommend using, volunteering with, or applying to during times of need.

Theme 2: Accessibility

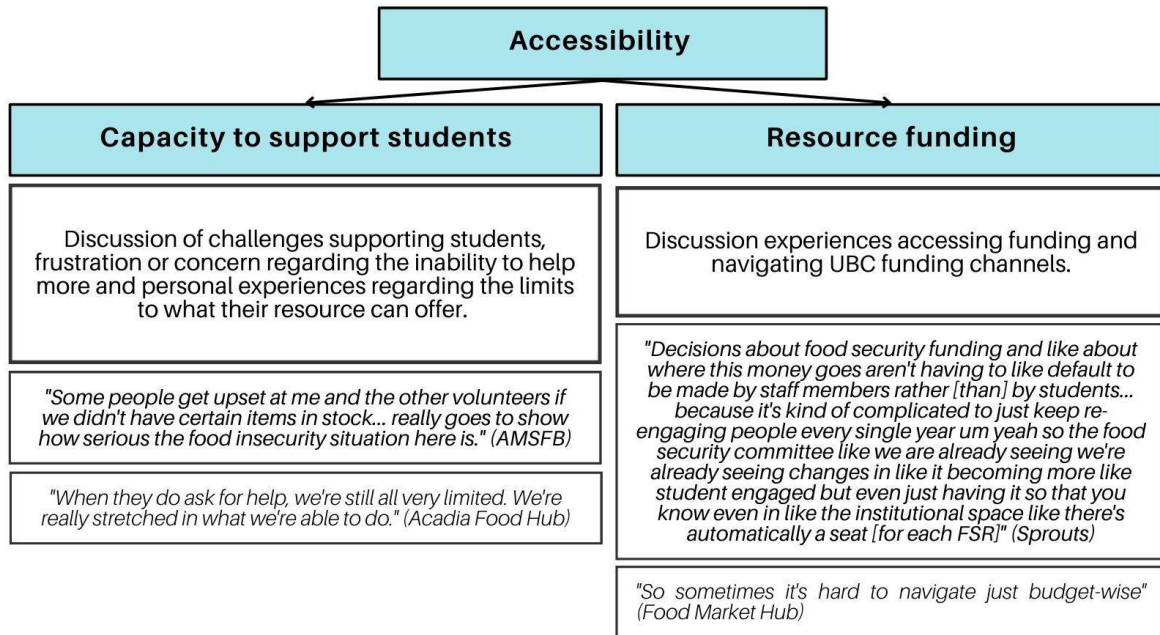


Figure 14: Sub-themes, definitions and quotes within the 'Accessibility' theme identified in interviews
Interviewees discussed concerns regarding the accessibility of both resources and access to donations

and decision-making conversations regarding funding for each FSR. Interviewees highlighted, in particular, the challenges of student life with food security. In particular, the AMS Food Bank and the Acadia Food Hub highlighted challenges in providing students with everything they need. Another challenge interviewee highlighted was difficulty figuring out the funding landscape for food security at UBC. Interviewees noted that the challenge comes not only from acquiring grand money but also from getting included and advocating for more funding in the first place instead of all fighting for the same money.

Theme 3: Changemaking

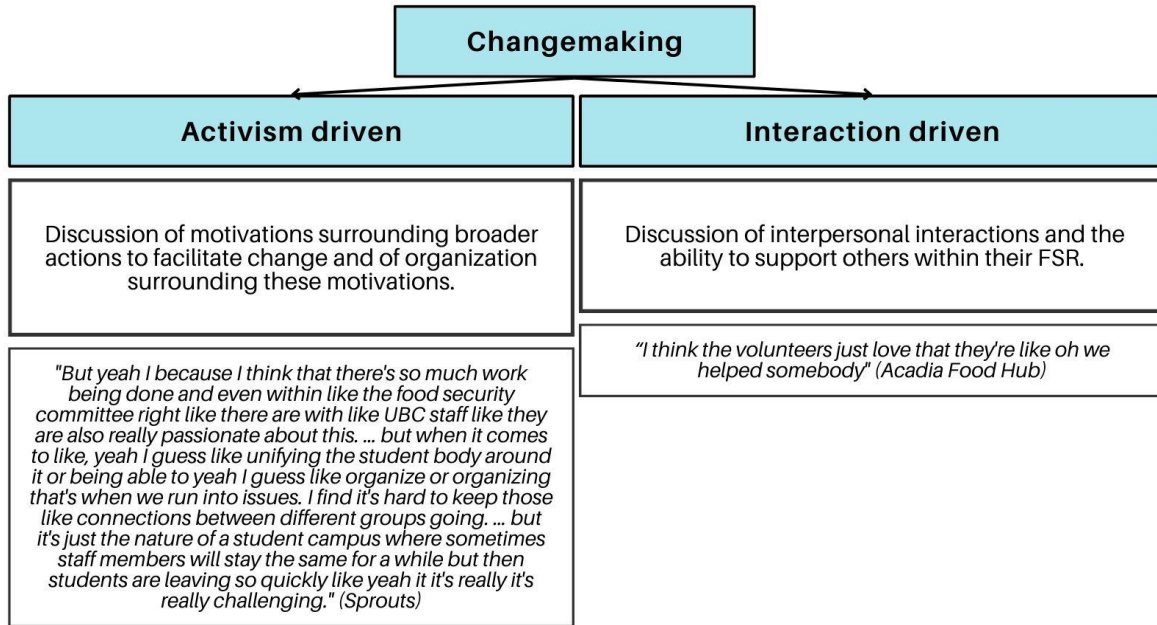


Figure 15: Sub-themes, definitions and quotes within the 'Changemaking' theme identified in interviews

When asked about their favorite aspects of working with their respective FSR, an overwhelming majority of interviewees noted enjoying being able to help support other students. The second most common theme was the ability to have a sense of purpose within their community, such as having an outlet to engage in activism and social justice.

Discussion

Food Security Status

One of our goals was to first understand the breadth of food insecurity on campus and draw clarity on the challenges students face regarding their ability to meet their dietary needs. Based on the users who filled out the food security module of our survey, 76.9% of respondents were classified as food insecure (Fig. 5), which is unprecedentedly high compared to recent reports at eight universities across Canada, which average out to a 37% food insecurity rate (Blundell & Matthews, 2021; Entz et al, 2017; Frank, 2018; Olauson et al., 2018; Reynolds, 2019; Silverthorn et al., 2016) (Fig. 1), including UBCs own 'official' rate, at 37% (Parr et al., 2019). To effectively address food insecurity, it is necessary to delve deeper into the nuances of this food insecurity statistic.

Of the 76.9%, 12.7% are classified as marginally food insecure, 40.2% as moderately, and 24% as severely food insecure (fig. 6). Of the food insecure students, 85% reported not being able to afford a balanced diet over the last year, 30% indicated that they skipped meals because they were unable to afford food and 18% reported their financial situation resulted in them losing weight in the past 12 months. All of these findings shed light on the fact that food insecurity can encompass other forms of insecurities, such as financial. This is a major factor in determining food security status, especially among university students who are faced with the financial burdens of tuition fees, lack of income and cost of living (Paez-Varas & Hammond, 2022). While inflation rates continue to cause an increase in the cost of groceries and tuition among other necessities, financial aid programs and loans/grants have not been adequate solutions to addressing food insecurity (Meal Exchange, 2023). Therefore, there is an opportunity to implement more robust, effective financial support systems within post-secondary institutions to combat one of the leading causes of food insecurity - unaffordability.

Beyond the surface layer of simple statistics, there is a need to better understand the consequences of being food insecure. When individuals lack access to food, they resort to extreme measures such as skipping meals or reducing portion sizes, which can have long-term metabolic impacts and jeopardize health. Research shows that malnutrition can have devastating impacts that result in increased susceptibility to heart disease and diabetes, growth complications and numerous other health issues (Alaimo & Jones, 2020, p. 313). The high rates of food insecurity among students in a first-world country, like Canada, raises questions about the adequacy of current support systems and highlights gaps in existing policy measures. While this data provides valuable insights, it leaves us with questions about how leadership committees like the FSI can implement “scalable campus-based solutions to further policy practices, and advocacy to promote food insecurity” (Food Security Initiative, 2023), while meeting their proposed goal of alleviating food insecurity pressures on campus.

Student Usage of Financial Aid Resources

This section aims to describe student usage of financial aid resources, discuss how users perceive these resources in terms of helpfulness, and understand the challenges and financial barriers students are facing with regards to their food needs, in an effort to help alleviate student food insecurity at UBC. Financial Aid Resources were defined as: UBC Emergency Loans, Private Loans, UBC Meal Share, UBC Needs Based Grants, and Government Loans. The most striking observation from our survey data was the sheer number of

food insecure students not using any financial aid resources. During the COVID-19 pandemic, UBC allocated a large sum of \$700,000 in financial aid and a total of \$325,000 to food security initiatives, including Sprouts, Agora Cafe, the Acadia Food Hub, and the Food Hub Market (Turner, 2022). Additionally, in the fall of 2023, UBC responded to student-led protests with a non-renewable fund of \$500,000 for financial support between both of their campuses (Thorkelson, 2023). With these large sums of money being directly allocated to financial aid resources, we would expect to see a higher access rate of these resources, yet as discussed, over half of our respondents haven't accessed any financial resources at all. The reasons behind the low access rate may in part have to do with accessibility and awareness concerns, but it's highly likely that there is a need for more long-term funding solutions to accommodate the increasingly large student population size at UBC, which has surpassed 72,000 students.

Among the specific financial aid resources listed in the survey, government loans emerged as the most accessed option, with 50 respondents using this option. This is followed by UBC Meal Share and UBC Needs-Based Grants, each accessed by 23 respondents, while UBC Emergency Loans and Private Loans were accessed by a smaller proportion of students, with 9 and 11 respondents, respectively ([Appendix 9](#)). It's important to note that the UBC Meal Share Program has been discontinued due to a lack of funds being available, which could have direct negative consequences on its users, including furthering the severity of food insecurity among those who relied upon it. Parental assistance emerged as a valuable financial resource used by many students based on the open-ended responses to our survey, underscoring family as an important financial support option for students in addition to UBC financial aid resources. Lower access rates of certain financial aid resources could be correlated with, firstly, the baseline financial requirements needed to access these resources, and secondly, how prevalent the campus awareness of these resources is. A greater understanding of how and why students engage with these financial resources would further the ability of resource stakeholders to provide more effective and tailored solutions.

However, merely utilizing financial aid resources only partially correlates with their perceived effectiveness. When we examine the responses regarding the helpfulness of these resources, a nuanced picture comes into play. While the majority of the users of UBC Meal Share, Private Loans, Government Loans, and UBC Needs-Based Grants found these resources helpful, 78%, 72%, 82%, and 95%, respectively, UBC Emergency Loans only received 55% helpfulness rate among users ([Appendix 9](#)). Although these findings

indicate that once accessed, the majority of financial aid resources available to UBC students are helpful, it also indicates the need for a more holistic assessment of resource effectiveness. Moreover, the discrepancy between resource access and perceived effectiveness, although small in some cases, signals the importance of tailoring financial aid programs to meet student's diverse needs, particularly those grappling with food insecurity.

Understanding the factors influencing students' choices of financial aid and their subsequent evaluation of effectiveness could provide valuable insights into how to design more tailored and impactful resources.

Examining the decision-making processes that lead students to choose one form of financial aid over another, could uncover underlying motivations and barriers and shed light on areas where current offerings may be falling short. A SEEDS report on this topic could serve as a catalyst for further investigation and inform future policy decisions, which would also further our goal of describing the current and sometimes unique financial challenges students face with regard to their food needs.

Student Usage & Awareness of FSRs

Our survey results showed that the digital resource for food and financial support called the UBC Food Hub, was among the least cited sources regarding how students primarily learn about other FSRs on campus. Student awareness surrounding on-campus FSRs primarily originates from friend networks on campus. Most responses from users of Agora Cafe, Sprouts, Acadia Park Food Hub, UBC Financial Aid, and the Food Hub Market cited friend networks as their primary source for learning about FSRs on campus. The AMS Nest was the most highly cited source for where students became aware of The AMS Food Bank, followed closely by friends networks. The fact that UBC's digital resource isn't connecting with most food-insecure individuals is not a localized problem. A study conducted at the University of Florida identified social networks (student social media and peer-to-peer communications) as the prominent means for information dissemination regarding available FSRs on their campus, despite their institutionalized efforts to disseminate information to their students (Ortiz et al., 2020). With the UBC Food Hub not meeting the expected outcomes of its creation, a plan to engage with more students through a more significant presence at both first-year and general-student events, such as Jumpstart and Clubs Day, would be a step in the direction of broader student awareness of this essential resource and by extension awareness of campus-wide FSRs. UBC's apparent lack of informational reach in regard to their capacity for connecting with students is supported by our interview responses from FSR stakeholders, which confirm that student FSR awareness is limited due to factors such as outreach and resource

location. In fact, many of our interview respondents were unable to name more than a couple of FSRs at UBC, other than the one they are engaged with, therefore, looking for more productive and efficient means of disseminating information could be a step forward in fostering widespread awareness of key FSRs on campus.

Based on our survey responses, there is a significant difference between the number of students who are aware of UBC FSRs and the number of students that have used or are using those FSRs. For the AMS Food Bank, awareness of the resource from our survey pool is almost three times greater than the number of respondents that have accessed it. The Food Bank has one of the most considerable contrasts between awareness and usage, which may be partly due to the resource being a part of The AMS, which is highly recognizable among the student population. Respondents from Sprouts, the Food Hub Market, Agora cafe, and Acadia Park Food Hub each provided, on average, a two times greater awareness-to-usage ratio ([Fig. 7](#)), suggesting that only about half of food-insecure UBC students who are aware of these resources ever end up engaging with them.

These survey findings highlight a significant awareness gap among students regarding FSRs at UBC, emphasizing an urgent need for targeted interventions. This disparity between awareness and usage rates highlights the importance of optimizing outreach efforts to ensure students in need have access to essential support services. The consequences of this gap on food insecure students could be profound, potentially worsening their food insecurity situation and compromising their health and academic performance. With such a high proportion (76.9%) of our survey respondents indicating they are food insecure, UBC urgently needs to understand the causes for the extreme disparity between awareness and utilization rates and engage in interventions that significantly reduce it. By addressing this gap, UBC can enhance the effectiveness of these resources and mitigate the consequences of food insecurity across campus.

Student Experience at FSRs

Our survey asked four different questions surrounding the theme of students' needs. First, the ability of FSRs to meet users' dietary needs; second, the ability of FSRs to meet their financial needs; third, the ability of FSRs to meet their cultural/religious needs; and finally, the ability of FSRs to contribute to their mental well-being. In a comparative discussion of the results, we will be analyzing the responses from these questions by comparing responses from the low-cost restaurants Sprouts and Agora Cafe with each other, comparing

responses from the AMS Food Bank with the UBC Food Hub, and discussing the responses from The Acadia Park Food Hub by itself.

Responses showed that the majority of Agora Cafe users either strongly- or somewhat-agree that this FSR is meeting their dietary needs; the responses from Sprouts mirrored this. Regarding meeting users' financial needs, respondents from Agora Cafe strongly agree with a clear majority, indicating that their price point is highly beneficial to their user base. In slight contrast, the majority of users from Sprouts also strongly agree with this question, but a high proportion of respondents also somewhat agree. Comparatively, both Sprouts and Agora Cafe meet the financial capacities of their users, which is an essential aspect in addressing food security on campus ([Appendix 8](#)).

Interestingly, responses regarding Agora Cafe meeting users' cultural/religious needs were by the majority either strongly agree or neither agree nor disagree, with very few users responding somewhat agree. This could indicate that Agora Cafe meets their users' religious/cultural needs, yet many users may have felt that this question does not apply to them. Most respondents from Sprouts indicated that they neither agree nor disagree that this FSR is meeting their cultural/religious needs, likely due to the same reason suggested for Agora Cafe. Finally, users of Agora cafe strongly agreed that this FSR contributed to their mental well-being, while users of Sprouts tended to agree somewhat that their mental well-being is being contributed to, followed by a similar number of respondents selecting either strongly agree or neither agree nor disagree ([Appendix 8](#)). The positive responses regarding dietary adequacy and affordability highlight the critical role that Agora Cafe and Sprouts play in ensuring students have access to nutritious food without financial strain. Additionally, the variation in responses regarding cultural/religious needs underscores the importance of accommodating the diverse backgrounds and preferences of the student population. Furthermore, the positive impact on mental well-being emphasizes the broader range of benefits these FSRs provide outside mere sustenance.

Both the AMS Food Bank and the Food Hub Market received positive responses, with a clear majority indicating that they meet the dietary needs of students. However, the AMS Food Bank had a more diverse range of responses, including somewhat agree, neither agree nor disagree, and strongly agree. In contrast, the Food Hub Market primarily received agreed-upon responses ([Fig. 10](#), [Fig. 11](#)). This suggests that while both resources are adequate to some extent, the Food Hub Market may have a more consistent performance in meeting dietary needs. Similar to meeting dietary needs, both resources received predominantly positive

responses, with a clear majority indicating that they somewhat or strongly meet the financial needs of students ([Fig. 10](#), [Fig. 11](#)). This consistency suggests that the AMS Food Bank and the Food Hub Market play a crucial role in alleviating financial constraints related to food among UBC students. Again, both resources received overwhelmingly positive feedback regarding their contribution to mental well-being, with a clear majority indicating that they somewhat or strongly contribute to students' mental health ([Fig. 10](#), [Fig. 11](#)). These findings underscore the importance of FSRs in providing food-related assistance and a supportive environment that promotes overall well-being. Regarding meeting cultural/religious needs, we observed a divergence in responses between the AMS Food Bank and the Food Hub Market. While the AMS Food Bank received mixed responses, indicating that it may not fully meet all its users' cultural or religious needs, the Food Hub Market received primarily positive responses, suggesting a better alignment with these needs ([Fig. 10](#), [Fig. 11](#)). This finding was corroborated by the interviews conducted with FSRs in which workers at the AMS Food Bank noted they were an ingredient forward food resource meaning they often do not have access to the wide variety of staple ingredients people may need to cook based on their cultural or religious needs (See [Table B](#) and [Appendix 7](#)). An interviewee from the Acadia Food Hub, which is a fellow food bank like resource, highlighted the lack of cultural diversity in food on campus and also noted that they work with different religious and cultural organizations in Metro Vancouver to be able to provide things like vegetarian and vegan food to those with specific needs (See [Table G in Appendix 7](#)).

Users of The Acadia Food Hub indicated that this FSR positively contributes to their dietary and financial needs, and most responses of both questions agreed. This indicates that Acadia Park is crucial in providing dietary requirements for families within most of their price ranges. Most users either somewhat agree or neither agree nor disagree that Acadia Park contributes to their mental wellbeing, with very few users disagreeing. This is a positive result as food insecurity is directly correlated with decreased mental health; therefore, in contributing to wellbeing, this FSR is not only helping to alleviate food insecurity but is helping to minimize the psychological impacts that come with it. Finally, respondents indicated by the majority that they neither agree nor disagree that this FSR is meeting their cultural/religious needs, which could once again indicate that this question does not resonate with users of this FSR.

Applications of Our Findings

Understanding the extent of food insecurity among UBC students reveals a pressing need for immediate action. With 76.9% of students experiencing some form of food insecurity, a comprehensive approach is imperative. This involves delving into the root causes and understanding how food insecurity impacts students' lives, in terms of mental health, academic performance, as well as other implications. Urgent measures are required to address financial constraints and remove access barriers. Simultaneously, efforts to raise FSR awareness and destigmatize seeking help for food insecurity are crucial. By gaining insights into the underlying issues, UBC can develop targeted interventions that both provide immediate relief and long-term solutions.

The discrepancy between the high rates of food insecurity and the underutilization of financial aid resources points to the need for specific interventions and comprehensive evaluations of existing programs. Tailored resources addressing diverse needs should be designed based on an understanding of students' preferences and barriers to accessing financial aid. Enhancing outreach efforts and promoting awareness of available resources can help alleviate financial constraints and improve access to essential support services. By optimizing financial aid programs and increasing utilization rates, UBC can better support food-insecure students and enhance their academic success and well-being.

The gap between awareness and utilization rates of FSRs on campus, emphasizes the importance of generating strategic solutions to improve outreach and access to essential food related services. Efforts to optimize awareness and utilization rates of FSRs can mitigate the consequences of food insecurity and enhance the lives of UBC students across campus. Initiatives such as campus-wide events and the optimization of digital platforms can enhance the visibility and accessibility of FSRs, ensuring that students in need have access to necessary resources. Regular assessments and adjustments to outreach strategies are vital to continually improving student awareness and utilization rates.

The mostly positive feedback we received regarding the effectiveness of FSRs in meeting dietary needs, affordability, and contributing to mental well-being underscores the critical role of these resources in addressing food insecurity and promoting student well-being. Furthermore, it underscores how the diverse landscape of food resources on campus is incredibly valuable to the student population and it is essential to enhance the effectiveness of FSRs and ensure they cater to all students in need. Collaboration between

stakeholders to develop initiatives addressing specific challenges faced by students accessing FSRs can further enhance their impact and effectiveness.

Limitations

Our study surrounding food security status, financial aid resource usage, awareness of resources, and student experiences at UBC FSRs has provided valuable insights, but it's important to acknowledge several limitations. First, the absence of an interview with Agora Cafe representatives is a significant gap in our data, as insights from this resource could have enriched our understanding of student food insecurity and the overall effectiveness of FSRs. Additionally, our study was conducted within a specific time frame, which may have constrained our depth of data collection and analysis. Despite efforts to reach a diverse student population, our survey data may not fully represent the demographic diversity of UBC students, potentially impacting the generalizability of our findings. Moreover, relying on self-reported data introduces the possibility of bias or inaccuracies, which could have an effect on the reliability of our results. Furthermore, our study identified a significant gap between student awareness of FSRs and actual usage, but there is a need for further investigation into the reasons behind this disparity to gain a clearer understanding of root causes. Lastly, while we focused on many financial aid resources directly related to food security, there is a need to explore broader financial aid programs or alternative sources of financial support available to students in order to broaden the scope of our analysis. Addressing these limitations in future research or SEEDS projects will contribute to a more comprehensive understanding of student food security issues, facilitate the development of effective interventions, and bolster the strength of FSRs across campus.

Recommendations

Summary of Recommendations:

Action recommendations:

Immediate: beginning of next winter session or sooner

1. Enhanced Outreach and Awareness Campaigns for available Financial FSRs: UBC Administration
2. Expansion of Food Security Resources: All UBC FSRs
3. FSR Partnerships: All UBC FSRs

Mid to Long-term: beyond next winter session

1. Financial Aid Resource Optimization: UBC Financial Aid Office
2. Policy Development and Institutional Support: UBC Administration and UBC AMS

Opportunities for future research

1. Reassessment of Student Food Insecurity Status
2. Studies on Food Insecurity Trends

Recommendations for Action

Immediate Actions

Enhanced Outreach and Awareness Campaigns for available Financial FSRs: UBC Administration

UBC should spearhead enhanced outreach and awareness campaigns to address the disparity between student awareness and utilization of financial FSRs like meal share or UBC financial aid in particular, as they are the most readily available option for students. The UBC Food Hub was the least cited source for students' discovery of campus FSRs, which defeats the purpose of its creation and suggests that creating a resource to direct students towards all the FSRs on campus is more than likely to be ineffective. Furthermore, our findings reveal that most FSRs on the UBC Vancouver campus are at full capacity in terms of the clients they are able to serve which implies that driving more students towards these resources could lead to a disastrous gap in supply and demand. If such a resource is to be created and promoted, we recommend that it be distributed among spaces where the most at-risk student groups are likely to find them. Therefore, accessing financial aid is likely the best option most food-insecure students have.

Expansion of Food Security Resources: All UBC FSRs

UBC FSRs should begin making plans for expansion of their outlets to improve access for students in need. This entails increasing the number and/or size of physical FSR locations (for instance, utilising older buildings or underutilised buildings to serve as permanent homes for multiple FSRs). The AMS Food Bank, as the most widely recognized FSR on campus, should enhance its offerings to include a wider range of culturally and religiously appropriate food options. This expansion will cater to the diverse dietary preferences and needs of the student population, thereby increasing the accessibility and inclusivity of the AMS Food Bank. Immediate

action is required to address the pressing demand for expanded resources and ensure equitable access for all students.

Expansion could potentially include new forms of FSRs on campus. A recent survey at UBC Okanagan revealed that around 42 percent of undergraduate students experience food insecurity on campus (Emmerick, 2024). Graduate students' situation might be even worse. To address this issue, the student union launched a \$5 smart meal program in partnership with on-campus restaurants. This program offers subsidized meals twice a week to alleviate financial strain on students. Since its launch in September 2023, the \$5 smart meal program has provided over 3,500 subsidized meals to students in need (Emmerick, 2024).

FSR Partnerships: All UBC FSRs

It is alarming that the various campus FSRs lack coordination, given that they are all targeting the same goal of improving student food security. The Food Hub Market, which is seeking to increase its clientele, should actively promote its services to students who currently utilize the AMS Food Bank (as the Food Bank cannot meet the needs of all its clients). By working together to complement each other's services, both FSRs can better serve the food security needs of UBC students. Similarly, the other FSRs should consider such partnerships with one another, including holding joint events through which students can learn of other FSRs. Our interview results highlight the need for developing institutional memory to ensure continuity, knowledge retention, and effective communication within FSR initiatives and the AMS. Institutional memory can be referred to as the collective knowledge, experience, and history of an organization or institution, particularly in the context of student-run initiatives and the AMS (Lin et al, 2021). A previous SEEDS report highlights the challenges caused by high turnover rates in executive positions, which can lead to a loss of knowledge and information (Lin et al, 2021). This lack of institutional memory can strain communication, cause delays, and result in low student awareness of the Sustainable Food Access Fund (SFAF) (Lin et al, 2021).

Mid to Long-Term Actions

Financial Aid Resource Optimization: UBC Financial Aid Office

The UBC Financial Aid Office should conduct an internal audit of resource allocation and optimize the utilization of financial aid programs to better support food-insecure students. By identifying gaps in access and

usage rates among students, the Financial Aid Office can tailor its services to meet the specific needs of those experiencing food insecurity. Additionally, targeted outreach efforts should be implemented to raise awareness of available financial aid resources and reduce barriers to access. These initiatives should be prioritized in the mid-term to ensure that financial aid programs effectively address the financial needs of food-insecure students and contribute to their overall well-being.

Policy Development and Institutional Support: UBC Administration and UBC AMS

Addressing other factors that cause student food insecurity while ignoring the unfavorable financial policies in regards to tuition and financial aid is not likely to alleviate the problem at hand. This underscores the need for UBC to reconsider tuition rates and funding systems to better align with students' financial realities and ensure equitable access to higher education. Some provinces, like Newfoundland and Labrador and Alberta, have frozen tuition fees (Statistics Canada, 2016), while others, such as Ontario, have implemented programs like the Ontario Student Grant to provide free tuition for students from low-income families (Government of Ontario Ministry of Advanced Education and Skills Development, 2017). UBC should create its own internal policies surrounding tuition rates and/or food vendor pricing rather than holding off until the provincial government passes new laws.

Research done by McMaster University highlights the significance of reshaping payment models for student expenses to address financial stress and improve food choices. This involves introducing more flexible payment plans for tuition and residence fees, allowing students to pay in installments rather than upfront. The aim is to provide students with financial flexibility, particularly those in financially precarious situations, who may otherwise sacrifice food when resources are low due to fixed upfront payments for other student costs.

Recommendations for Future Research

Immediate Actions

Reassessment of Student Food Insecurity Status: UBC Research Offices and Policy Institutes UBC Research Offices and policy institutes should prioritize an urgent reassessment of student food insecurity status to accurately gauge the extent of the issue and inform evidence-based interventions. Given the significant disparity between previous food insecurity rates and our survey findings, a comprehensive reassessment using

updated methodologies is warranted. The research should reflect the diverse demographics of the UBC student population and incorporate qualitative insights to contextualize quantitative data. Immediate action is necessary to address the pressing need for up-to-date information and guide targeted interventions to support food-insecure students effectively.

Mid to Long-Term Actions

Studies on Food Insecurity Trends: UBC Research Offices and all FSRs

UBC research offices and individual FSRs should prioritize longitudinal studies on food insecurity trends to track changes over time and evaluate the effectiveness of interventions. Longitudinal research will provide valuable insights into the evolving nature of food insecurity among UBC students and inform evidence-based policymaking for sustainable solutions. The McMaster findings advocate for the establishment of a monitoring and evaluation strategy to gather data on the prevalence and severity of food security among students. It includes setting strategic targets for student food security and nutrition, increasing opportunities for student engagement in the development of campus food-security initiatives, and publishing annual report cards on the impact of existing initiatives. By collecting longitudinal data, researchers can identify underlying factors contributing to food insecurity and assess the impact of interventions on student well-being. These studies should be funded and supported in the mid to long term to generate actionable insights and guide future food security initiatives.

Conclusion

UBC is one the leading Canadian institutions when it comes to food security policy and has several frameworks and strategic plans to implement actionable interventions. The university has taken initiative to create several policy frameworks including the UBC Action Framework for a Nutritionally Sound Campus and the AMS Sustainability Action Plan 2026. Both of these documents outline a number of goals related to ensuring a food secure campus and emphasizing the need for student advocacy on the issue of food security (UBC Wellbeing, 2017; Wong-Abdul et al., 2023) To help UBC meet these goals, our project aimed to assess students'

patterns of interaction with UBC FSRs including their awareness, usage and experience with them through a Qualtrics survey and analyze the main findings (Figure 1 - 15). By collaborating with the UBC student community following CBAR principles, we were able to gain clear insight into how effective each FSR is at addressing their specific food needs. Furthermore, we met with several key FSR leaders to hear about their experiences related to campus food security and their own needs from an operational standpoint. By working with this community of FSR stakeholders, we were able to cater our final recommendations to their specific capacity and resourcing needs. In the short-term, we recommend that UBC takes an initiative to promote and enhance the accessibility of financial aid resources for students. As well, we strongly recommend that immediate partnership and expansion amongst current FSRs takes place to share the burden of clients and accommodate diverse student needs. In the long-term, we recommend that UBC leadership continues to optimize their financial aid resources in order to reach out and support food-insecure students that are not aware of these resources. In addition to these actionable items, immediate research attention should be given to re-assessing the UBC Vancouver food insecurity rate followed by a more long-term study on how food insecurity trends change over time to evaluate the effectiveness of interventions.

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Appendices

Appendix 1: Initial Interview Contact Email

Hello _____,

My name is _____, and I am emailing on behalf of my LFS 450 (“Land, Food and Community III”)/SEEDS research group conducting a course-based research study on the sustainability of the UBC food system entitled ‘Understanding the Landscape of Student Food Insecurity at the UBC Vancouver Campus & Identifying

Opportunities to Meet Students Needs’.

We are reaching out to see if any of your student leaders would be open to participating in a brief exploratory interview regarding the food security resources on campus. We would like to interview two to three leaders from __name resource__ as a part of our project. If you are open to this, please share this email with some individuals you think might be interested, and we can discuss scheduling!

We are working with a relatively brief timeline and hope to complete the interviews between Wednesday and Friday. If you need more time, please let us know if other times may work for us to meet with leaders. We can conduct the interview on Zoom or in-person.

I have attached the consent form for the interview process to this email. Anybody open to anyone who is participating will be required to sign it briefly before we conduct the interview. Also, the interviews we conduct will ideally be recorded. However, everything will be anonymized, and the recordings will be shared with everyone completing the interviews.

Thank you for taking the time to consider our request. If you have any questions, please feel free to contact one of us or our **Course Instructor** at:

Email: liska.richer@ubc.ca

Tel: 604.822.3270

Appendix 2: Follow Up Email

Hello (insert name of interviewee),

I hope this email finds you well and you are enjoying the start of spring. Our team wanted to reach out and thank you for your time and thoughtful participation during the interview for our project on understanding campus food security. Your perspectives and experiences through your involvement with _____ have been very insightful for our project and we really appreciate being able to connect with you.

As we approach the end of the semester, we are wrapping up our data analysis and working on piecing together our project to tell a story of what we found and our recommendations moving forward. We would love to share this work with you when it is complete (April 17th) and will send our final report as well as some interesting results about ____ from our surveys that will hopefully offer some useful feedback.

We also wanted to follow-up with the \$30 gift card we had promised as a way to show our appreciation. These cards will be ready to be picked up before the end of the semester and our SEEDs representative, Juan will reach out via email with further details.

Thank you for your patience as we work away and weave all of our findings and insights together. We are excited to share the final product with you!

Kind regards,

Emilia Durfeld, and the rest of the LFS 450 Group (Cody Rector, Natasha Stekl, Trevor Hartland and Jonanda Kisingiri)

Kind regards,

Appendix 3: Survey Recruitment Flyer



Appendix 4: Interview Consent Form

Campus Food System Sustainability Project: INFORMED CONSENT

STUDY TEAM: *Emi Durfeld, Cody Rector, Natasha Stekl, Trevor Hartland and Jonanda Kisingiri*

Principal Investigator:

Liska Richer, Instructor, Land & Food Systems (LFS) 450 class, Faculty of Land & Food Systems
Email: liska.richer@ubc.ca |Tel: 604.822.3270

INVITATION & STUDY PURPOSE

You are being invited to take part in this research study because you are affiliated with the UBC food system. We want to learn more about the sustainability of the campus of the food system and this study will help advance our knowledge and learn more about ways to enhance its sustainability.

STUDY PROCEDURES: *How is the study done?*

This study is being carried out by students within their course on “Land, Food and Community III” (LFS 450) in the Faculty of Land and Food Systems. If you agree to participate, you are being asked to participate in either an interview or focus group (online, phone or in-person), or questionnaire (electronic or in-person). It is estimated that your time commitment will range from 5 minutes to 1 hour, depending on what you are participating in. You will be given either an electronic form to answer or be asked verbally a set a questions in-person or by phone. For online interviews or focus groups, you will be sent a link to a Zoom meeting. Please log in using a nickname or a substitute name or research code which will be given ahead of time by the research team. You can participate with your camera on or off, and can mute your microphone (if cases where it is not needed).

STUDY RESULTS

The results of this study will be reported in course based undergraduate reports and will be published in the

SEEDS Sustainability Library and UBC cIRcle Digital repository.

SAFETY & RISK PROTOCOLS FOR IN-PERSON RESEARCH

Researchers in this study will follow [UBC's Communicable Disease Prevention Framework](#) and take precautions against infectious diseases. Precautions that will be taken are outlined below:

Health Checks:

On the day of any in-person research activity, the researcher(s) will do health checks and ask participants do health checks. If they answer in a manner that appears to demonstrate symptoms of a communicable disease, the research event will be postponed and rescheduled at a later date, or alternatively the format will be changed to a remote event (online or phone).

Behavioural Considerations:

Masks and hand sanitizers will be made available to use by researchers and for use by research participants.

Duty to Accommodate:

All researchers will accommodate participant requests for increased infectious disease protections. Please let the researcher know if you require modifications to the research procedures to enable your participation. The researcher is obligated to accommodate reasonable requests and can discuss your situation with you. Examples of reasonable changes include increasing infectious disease protections by providing masks or improving ventilation, changing a meeting location to improve access and navigation, or providing the services of an interpreter.

Other Risks:

Some of the questions asked may seem sensitive or personal. Please let one of the research staff know if you have any concerns. You do not have to answer any question if you do not want to.

POTENTIAL BENEFITS OF THE STUDY

You may be helped in this study by findings contributing to the advancement of a more sustainable food system. In the future, others may benefit from what we learn in this study.

CONFIDENTIALITY

Your answers will remain anonymous unless you provide written permission (below) to the UBC student conducting the interview or survey, to disclose your name, working position or any other information revealing your identity in any possible future use of the information you provide. If you are participating in a focus group, please note that only limited confidentiality can be offered and we encourage participants not to discuss the content of the focus group to people outside the group; however, we can't control what participants do with the information discussed. All documents will be identified only by code number and kept in a locked cabinet. Participants will not be identified by name in any reports of the completed study.

PAYMENT

We will not pay you for the time you take to be in this study.

CONTACT FOR INFORMATION ABOUT THE STUDY

If you have any questions or concerns about the study, please contact the Principal Investigator.

Principal Investigator:

Liska Richer, Instructor, Land and Food Systems 450 class, Faculty of Land and Food Systems
E-mail: liska.richer@ubc.ca Tel: 604.822.3270



Liska Richer

Principal Investigator, January 2024

CONTACT FOR COMPLAINTS: *Who can you contact if you have complaints or concerns about the study?*

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research

Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1- 877-822-8598

PARTICIPANT CONSENT AND SIGNATURE PAGE

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your employment, or class standing. Your signature below indicates that you have received a copy of this consent form and that you consent to participate in this study.

Participant Signature Date

Printed Name of the Participant signing above

Appendix 5: Interview Script

Welcome and Purpose:

1. Greet students warmly
2. Briefly explain the purpose of the interview: understanding their experience with the university food security resource and gaining insights into the broader food security situation on campus.
3. Reminder about confidentiality and informed consent.

Background Questions:

1. What year and program are you in?
2. Do you have any involvement with any other campus activities?

Section 1: Food security

1. What three words come to mind when you think of food on campus?
2. What comes to mind when you think of food security on campus?

Section 2: Individual FSR experience

1. How long have you worked with [FSR name]?
2. How did you hear about it?
3. Please tell us about your most recent shift working with [FSR name].
4. Could you describe any of the biggest challenges you have experienced volunteering/working here?
5. Could you describe any of the biggest rewards you have experienced volunteering/working here?
6. How would you describe [FSR name] to someone who had never heard of it?
7. Are you aware of other food security resources on campus other than [FSR name]?

Closing:

1. Is there anything else you would like to share with us?
2. If not...Thank you so much for your time
3. To express our gratitude for your time and insights, we would like to offer you a gift card to either UBC Food Services or the UBC bookstore.

Optional Contact Information:

1. If they are willing, ask if they would be open to follow-up questions or clarification via email. Emphasize that participation is voluntary.

Appendix 6: Data Splitter Python Script

```

new_sheet.cell(row=1, column=current_column_index).value = f"Column
{column_index}"
for index, value in enumerate(unique_values, start=1):
new_sheet.cell(row=1, column=current_column_index + index).value =
value.strip()
# Write data into appropriate columns
for row_index, data in enumerate(input_column, start=2):
if data:
values = set(data.split(','))
for col_index, value in enumerate(unique_values,
start=current_column_index + 1):
new_sheet.cell(row=row_index, column=col_index).value = 1 if
value.strip() in values else 0
# Move to the next column
current_column_index += len(unique_values) + 1
# Save the new Excel file
new_file_path = 'output.xlsx'
new_wb.save(new_file_path)
print(f"Excel file successfully saved as '{new_file_path}' with data
distributed into multiple columns.")
Excel file successfully saved as 'output.xlsx' with data distributed into

```

Appendix 7: FSR Specific Findings

Table C: AMS Food Bank

Question	Response themes	Quotes
Food on campus	Expensive	<i>"expensive, limited and... low quality"</i>
Food security on campus	Increasingly common discussion	<i>"[a] lot of people are aware of [it]...pretty prevalent issue in the elections that are talking to people. I've seen it mentioned even for people whose portfolios it wouldn't necessarily concern."</i>
Daily experience	working with suppliers, administration and clients	<i>"every decision we make, we talk about it collaboratively" "mesh pickups... a partnership with local grocery stores" "talking to campus stakeholders or other food initiatives stakeholders"</i>
Challenges	Accessing resources, increased usage	<i>"issues with the purchasers...we had to stretch things a bit thinner or kind of look elsewhere for food at the time." "lot longer and longer lineups and wait times at the food bank"</i>
Rewards and benefits	Positive feedback, impactful assistance	<i>"making their days easier and helping them out there" "we get general feedback from clients that is positive"</i>
Description of FSR	Low barrier resource	<i>"food resource for if you're in AMS and a student, you can come whenever you need" "low barrier student service... we try to be as welcoming as possible to any students"</i>
Awareness of other FSRs	Primarily aware through cross donation, collaboration, food security committee	<i>"I am part of a food security committee at the moment. So we have been working with other campus groups, such as like student -led Sprouts, Agora, Food Market [hub]."</i>

Table E: UBC Food Hub Market

Question	Response themes	Quotes
Food on campus	Expensive	"pretty expensive" "more expensive on campus than off-campus"
Food security on campus	limited awareness of resources, inaction by university	"I think there are a lot of green initiatives on campus." "most of the food security initiatives are very tiny" "could use more funding or like a bigger push."
Daily experience	just like a grocery store	"I would say it's for the average like working at a regular grocery store"
Challenges	minor challenges figuring out funding	"So sometimes it's hard to navigate just budget wise" "I don't know if there's a lot of challenges,"
Rewards and benefits	social connection	"good environment." "everyone's pretty friendly"
Description of FSR	just like a grocery store	"almost like a convenience store" "at cost grocery store near cost grocery store"
Awareness of other FSRs	Awareness of:	Agora, Sprouts, AMS food bank, Acadia Food Hub, Meal Share, the UBC Sikh Association

Table F: Sprouts

Question	Response themes	Quotes
Food on campus	inaccessible	"disconnected... lack of unity"
Food security on campus	inaction by administration, limited awareness of resources	"lack of awareness... fair number of resources.. not necessarily always being used" "food insecurity of course is not like utilized or like you know is not equally applied.. people are experiencing it in different ways"
Daily experience	social working space, diversity of experience	"the vibe of the shift really does depend just on like whatever the volunteers are... [sometimes] its super social... we have themed days... [sometimes volunteers] kind of hangout and like zone into their work"
Challenges	distribution of power, ensuring inclusivity	"kind of interpersonal relations between board members and volunteers sometimes" "just getting like communication across... we are not a consistent space... staffing ... is all volunteers"
Rewards and benefits	community, social justice, activism space	"watching [hungry for change] be planned and then like sort of their award of seeing how many people turned out" "food systems work within the cafe like is inherently political... I believe a lot in like fractals of change and its really neat to have conversations with people"
Description of FSR	student run cafe, emphasis on the community	"we're trying to make it cheap so it's accessible and affordable" "it's a community space it's a little bit of everything" "take more of a food justice approach" "lot of different initiatives going on in the space"
Awareness of other FSRs	Awareness of; Collaboration with	Graduate Student Society, Acadia Park, Enrollment Services, Meal Share, Food Hub Market; Agora, AMS Food Bank

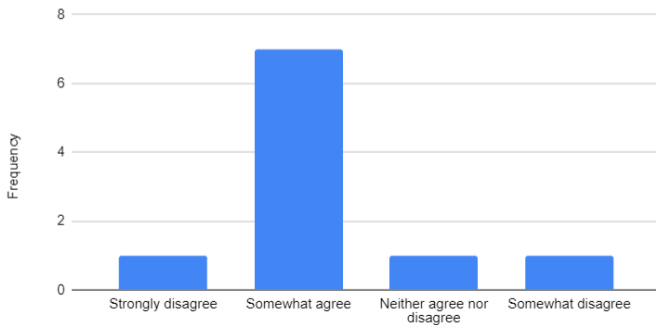
Table G: Acadia Park Food Hub

Question	Response themes	Quotes
Food on campus	expensive, lacking diversity	"...if you have the money, your're going to do okay..." "...not much cultural diversity in the food." [Acadia Park Food Hub] supply is very basic...we don't do spices...we don't do a wide range of fruits and vegetables."

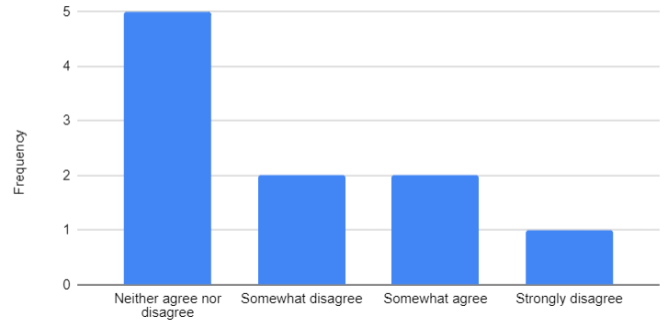
Food security on campus	unanticipated concern	"most students did not anticipate food being an issue." "a little bit of shame... inability to ask for help... they're still maybe not asking for help."
Daily experience	external outreach, finding donors	"UBC funds the baby supplies" "the normal food security resources like even the Greater Vancouver Food Bank" "Tutsi Buddhist Foundation, They're paying for that so that if a vegan vegetarian comes through." "And so we're looking for some more partners."
Challenges	Covid	"getting past the COVID safety plan." "But I think of the four years, that was just such a challenge,"
Rewards and benefits	helping others	"I think the volunteers just love that they're like oh we helped somebody" "going somewhere and we help them through that I think the volunteers love it when that happens."
Description of FSR	low barrier	"this is a friendly, low barrier place to get a little bit of help and some hope to make it through."
Awareness of other FSRs	Awareness and collaboration	Agora (if LFS student), Sprouts, Roots on the Roof, AMS Food Bank, Food Hub Market (Gift cards)

Appendix 8: How FSRs & Financial Resources Meet Student Needs

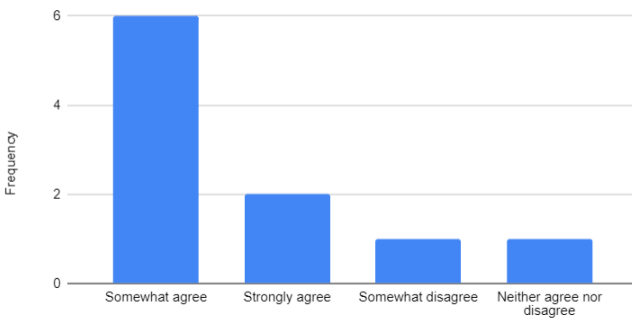
The Acadia Park Food Hub... - Meets my dietary needs



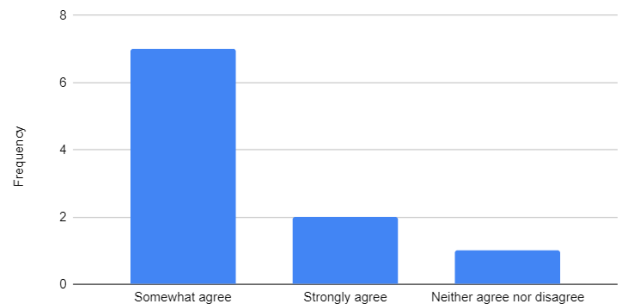
The Acadia Park Food Hub... - Meets my cultural/religious needs



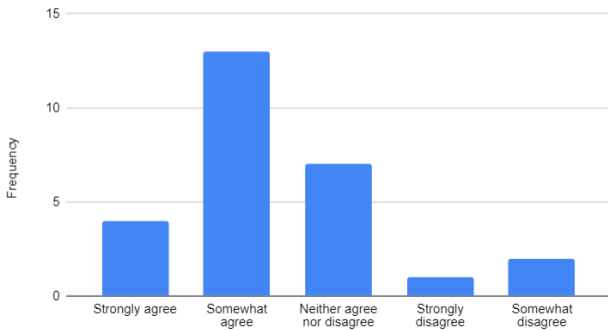
The Acadia Park Food Hub... - Contributes to my mental wellbeing



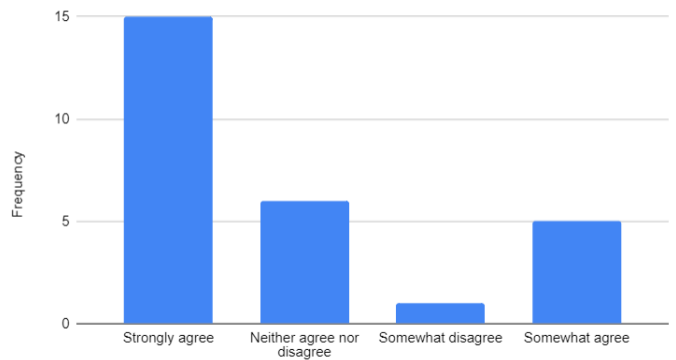
The Acadia Park Food Hub... - Meets my financial needs



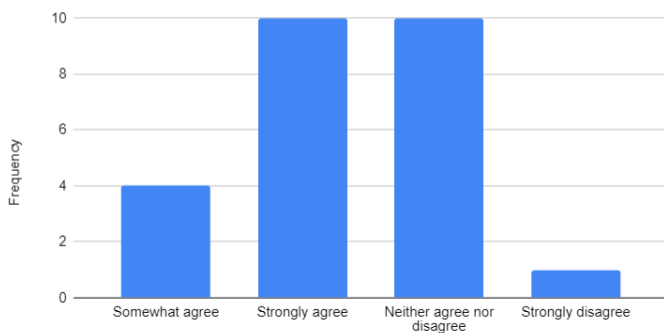
The Food Hub Market... - Meets my dietary needs



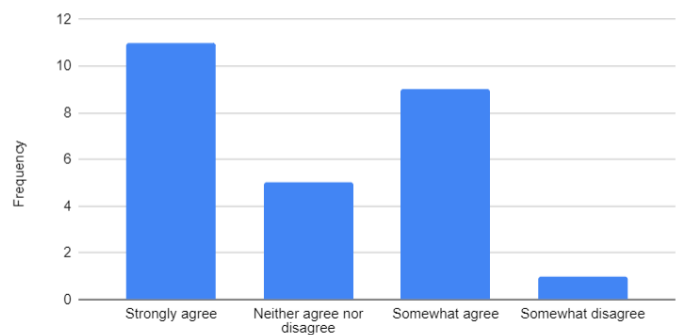
The Food Hub Market... - Meets my financial needs



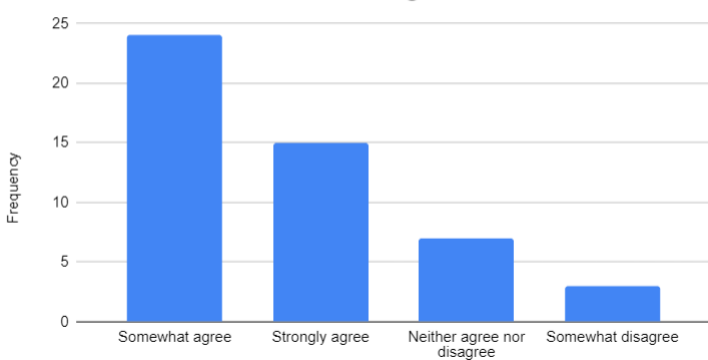
The Food Hub Market... - Meets my cultural/religious needs



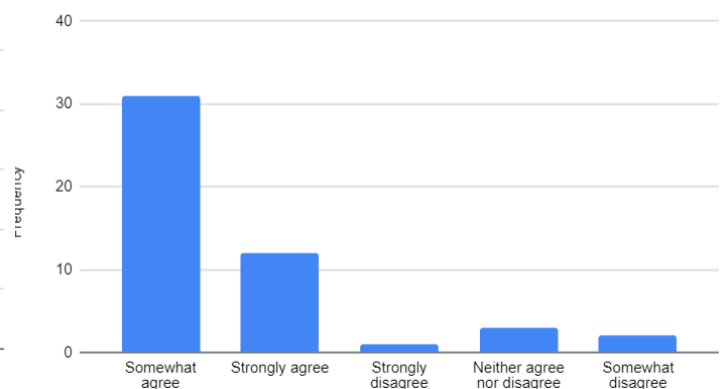
The Food Hub Market... - Contributes to my mental wellbeing



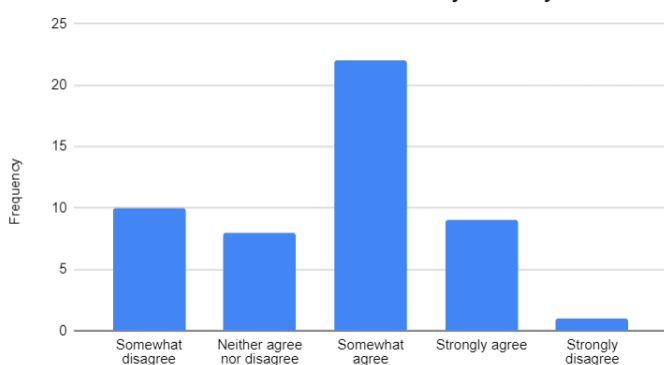
The AMS Food Bank... - Contributes to my mental wellbeing



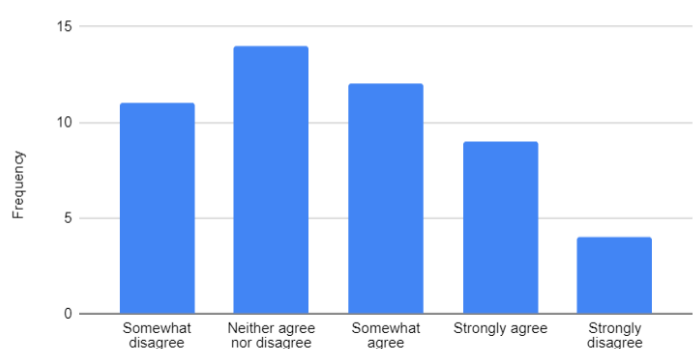
The AMS Food Bank... - Meets my financial needs



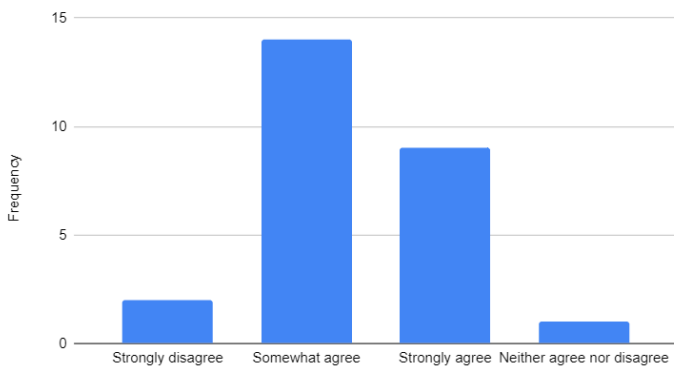
The AMS Food Bank... - Meets my dietary needs



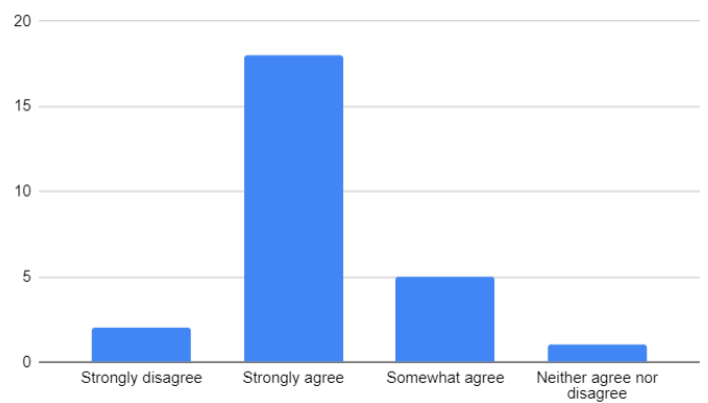
The AMS Food Bank... - Meets my cultural/religious needs



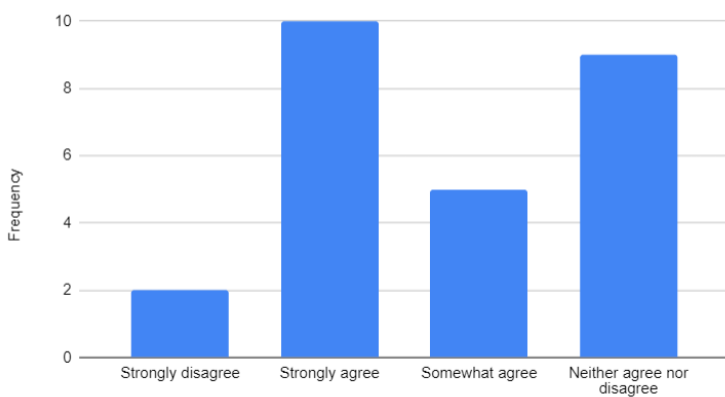
Agora Cafe... - Meets my dietary needs



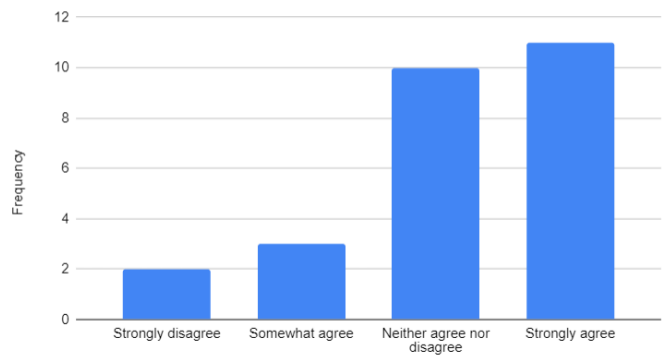
Agora Cafe... - Meets my financial needs



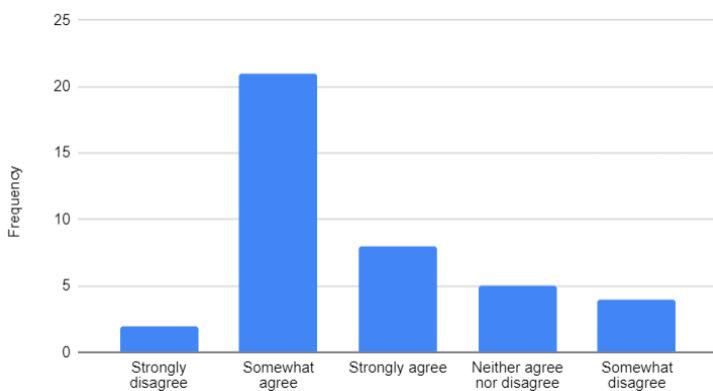
Agora Cafe... - Contributes to my mental wellbeing



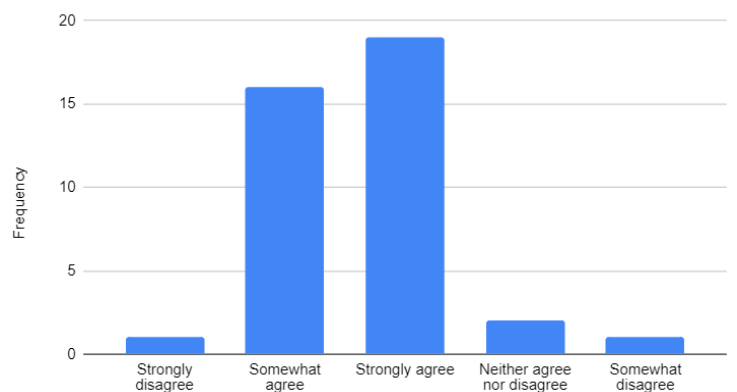
Agora Cafe... - Meets my cultural/religious needs

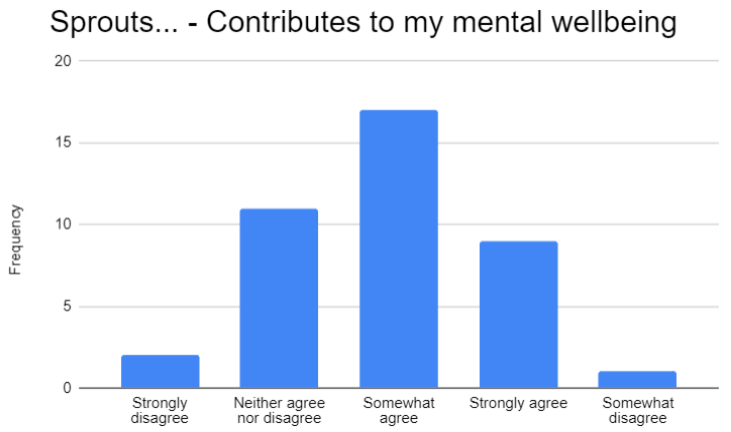
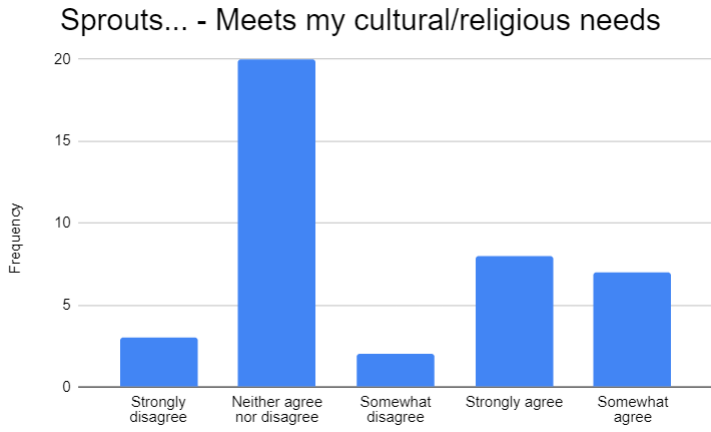


Sprouts... - Meets my dietary needs



Sprouts... - Meets my financial needs





Appendix 9: Other Referenced Survey Statistics

Question	Strongly disagree	Neither agree nor disagree	Somewhat disagree	Strongly agree	Somewhat agree
Other (please specify)	0.70	1.5			
Other (please specify)	0.00	0.00			