University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Emergency Pantry Purchasing Guide

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SEEDS

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1. Executive Summary

This project is aimed at providing a pantry purchasing guide for UBC students as a resource for nutritional, affordable, and culturally appropriate recommendations. This guide is intended to be used in any form of emergency, whether it be the recent pandemic of COVID-19, a natural disaster, power outage, or any situation which puts UBC students at risk of food insecurity. Our goal for the overall project was to investigate where students are at in terms of emergency preparedness and food literacy, how we can recommend culturally appropriate foods, and whether there are pantry guides out there that fit our criteria. To reach this goal, the methodology chosen was a survey distributed to UBC students regarding these topics as well as a literature review on cultural appropriateness and an environmental scan on pre-existing pantry purchasing guides. The main content of the pantry purchasing guide was created through UBC student's suggestions as the objective of the project was a by-student-for-student guide. We also added more food items to the guide that went beyond the student list, the items we added were to include more cultural foods as well as some healthier options. Findings demonstrated that UBC students' generally come into university with basic levels of food literacy and knowledge but feel low food preparedness levels in the case of an emergency. Results also demonstrated UBC students' food preferences and cultural identification, as well as their opinions on culturally appropriate foods. Finally, by comparing and contrasting current emergency pantry purchasing guides, showed what gaps are present and if there are any areas of opportunities that can be filled for the purpose of this project. Students additionally reported on whether a pantry purchasing guide is an effective or necessary tool for this project or whether another resource may be more effective. With the data, a pantry purchasing guide was created with 17 non-perishable or long lasting items recommended for UBC students. Suggestions were made regarding future research potential for UBC students as well as future actions to be taken, such as programming and workshops on food literacy education, more distributional material, as well as a facilitation of access to culturally appropriate foods by UBC.

2. Introduction

This year, the COVID-19 pandemic highlighted the phenomenon of “panic buying”, where grocery store shelves were completely wiped out due to fear of food insecurity. This phenomenon has also affected UBC students and grocery stores on campus. To support students in these difficult times, one approach is to increase food literacy and food knowledge, therefore creating a sense of comfort and resiliency for students if a future emergency were to arise. When one is more knowledgeable about foods that are healthy, affordable and long lasting, they will likely overcome the lure of panic buying out of fear. This is because they are more confident in their ability to purchase foods that will be satisfactory in an emergency situation. Our approach is to create a nutritious, affordable, and culturally appropriate pantry purchasing guide. For this SEEDS project, we have partnered with Melissa Baker and Sara Kozicky from UBC Food & Housing, and UBC Wellbeing. They, as well as our SEEDS Research Coordinator, Ernielly Leo, have supported us in conducting research to gain insightful content for the pantry guide. As a group, we have collaboratively approached this project with our own individual research questions. We have split this research up into four components: cultural appropriateness, nutritional adequacy, student emergency preparedness & resiliency, and whether there is a gap in knowledge in pre-existing pantry purchasing guides or not. Each of these questions tie in together to determine what a culturally appropriate, nutritious, and affordable pantry purchasing guide truly looks like. To begin, we first explored the concept of cultural appropriateness, what it is and why it matters for the pantry purchasing guide.

2.1 Literature Review: What is Cultural Appropriateness? How Can We Measure and Evaluate it?

Defined by anthropologists, culture is a concept that has many different interconnected factors affecting life, these include “language, food getting, kinship, marriage, and political and social organization”. (Crowther, 2013) One important note about culture is that it is constantly changing and therefore is never static. The changeable nature of the concept means overtime culture has become more complex due to “social factors of status, such as age, gender, rank, class, speciality, sexuality, race and ethnicity.” (Crowther, 2013) This all encompassing definition of culture makes both cultural identification and simple understandings of “culture” difficult.The first portion of the literature review showed that there are multiple definitions of culture Therefore, for the purpose of this paper, a more basic definition of culture is “the characteristics and knowledge of a particular group of people, encompassing language, religion, cuisine, social habits, music and arts." (Zimmerman, 2017) This will ensure that when students

express their cultural identity, they are not deterred by the convoluted nature of the concept. This definition broadly attempts to describe culture and also connects culture to cuisine, which is necessary for this research.

Defining cultural appropriateness becomes even more difficult due to the dynamic notion of culture. Cultural appropriateness is a relatively new term and refers to the proper acknowledgement of different cultures being represented. It can be understood as the opposite of cultural appropriation, which is socially defined as adopting a particular culture in an inappropriate or unacknowledged way(cite?).

2.2 The Importance of Cultural Appropriateness and Food

While it is easily understood that creating culturally appropriate recommendations of food is respectful towards different cultural groups, data shows that it is also incredibly important for students to have access to culturally appropriate foods at University. It is especially prevalent that "a lack of culturally appropriate foods can lead to food insecurity in migrant populations." (Fu, Manitius, Stewart & Tse, 2020) The Canadian government defines food insecurity as "the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways" (Tarasuk, 2005). This food insecurity arises from barriers that are present when attempting to access culturally appropriate foods. (Brinkman, Wu, Sheehan, Yang & Bazza, 2015)

Aside from food insecurity, this lack of access to culturally appropriate food can lead to social and mental health impacts. Students can feel social isolation and financial insecurity resulting from the "absence of familiar foods, the high price of this food, and weight gains and losses associated with eating unfamiliar foods". (Brinkman, Wu, Sheehan, Yang & Bazza, 2015) Additionally, students are affected by feelings "of depression, loneliness, isolation, homesickness and identity loss". (Brinkman, Wu, Sheehan, Yang & Bazza, 2015) It is important to consider cultural appropriateness in the creation of the pantry guide to mitigate feelings of isolation and food insecurity. Another way to mitigate food insecurity is increasing food literacy, a concept explored in the following section.

2.3 Food Literacy

Food literacy is a relatively new topic that describes people's relationship with food and understanding of its importance, and how to properly use food as a tool for health while meeting personal needs. In a study that reviewed many food professionals' personal definition of food literacy to create a working definition of the concept, Cullen et al., (2015) defined food literacy as:

> "[T]he ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan in order to

navigate, engage, and participate within a complex food system. It's the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components." (p. 143).

Food literacy extends past health and wellbeing as it is part of our cultural identification, environmental responsibilities, and part of our everyday lives. (Cullen et al., 2015). Poor food literacy behaviours in all populations can lead to food insecurity, which is described as "the uncertain or limited physical, social and economic access of individuals and households to sufficient, safe, nutritious, and culturally relevant food," (Begley et al., 2015; p.1). Food insecurity can also be an issue due to financial difficulties, lack of knowledge surrounding nutrition, dietary needs and more.

There are certain populations that are found to be more susceptible to food insecurity. Almost instinctively the concept of food insecurity is applied to geographical regions of developing countries, or countries experiencing heavy amounts of political conflict. This fact may generally be true, but there are also populations within developed countries and urban regions who are food insecure and may not have knowledge surrounding food and/or food literacy (Begley et al. 2019). Specifically, university students have been seen in the past to experience many different forms of food insecurity or lack the resources to become food literate. Whether undergraduate or graduate students, many young adults are new to living on their own, facing financial burdens as well as time constraints that may result in less concern around their nutritional health or effort put into food. Eating quickly, conveniently and for low cost is a common mindset between students when school is made to be the top priority.

Because students already are victims of hidden hunger and may lack proper food education, the recent global events concerning the COVID-19 pandemic have raised concerns regarding emergency preparedness and food literacy. An important notion that ties into food literacy is food system resiliency and emergency preparedness, this is especially important due to the emergency context of the pantry guide.

2.4 Food System Resiliency and Emergency Preparedness

Emergencies can occur at times least expected, giving society limited time for preparation. When emergencies do occur, be it a natural disaster, or a pandemic, it is vital to have already taken the necessary precautions to maintain one's well being and prepare for a quick recovery. As seen by the 2020 COVID-19 Pandemic, emergencies can escalate quickly. They can leave citizens stranded in homes, increase hospital waits, and cause the closure of many services. In some cases important services such grocery stores may close or limit hours. Especially for those at greater risk, such as those immune compromised during the COVID-19

pandemic, accessing services such as grocery stores becomes a health risk. It is therefore vital to be properly prepared for emergencies.

Being prepared can be extremely difficult for college students as they are often in short term housing with limited storage space for supplies Additionally, students are often in transition points where they do not live with parents and therefore may not have their own emergency procedures and plans (Claborn, 2010). Therefore, it is even more important for student's emergency preparedness to be examined. This report will discuss the preparation and food resiliency of students at the University of British Columbia (UBC), showcasing student's emergency preparedness, their actions as a result of current emergencies such as the COVID-19 Pandemic, and their ability and preferences when accessing food both prior to and during an emergency.

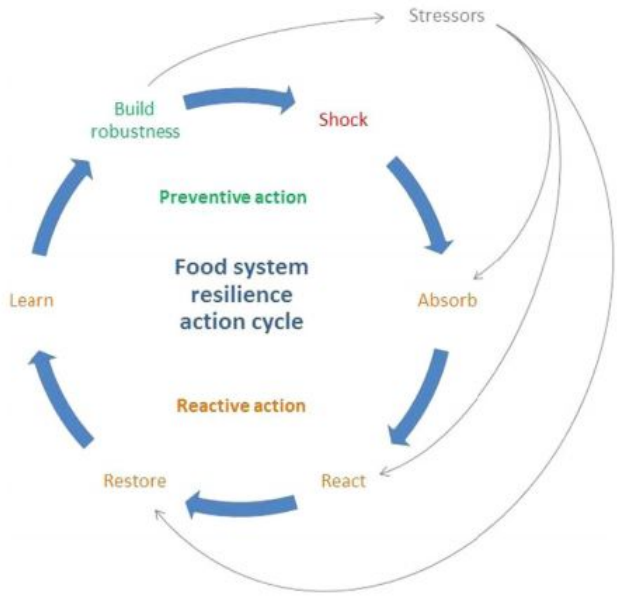


Figure 1: Food Systems Resilience Action Cycle. (Tendall, 2015)

Food System Resiliency is defined as "capacity over time of a food system and its units at multiple levels, to provide sufficient, appropriate and accessible food to all, in the face of various and even unforeseen disturbances" (Tendall, 2015). Food system resilience showcases one's preparedness as well as their ability to be prepared for an emergency, their ability to absorb the shock and finally readjust and adapt following the shock.

Figure 1 showcases the food system resilience action cycle as discussed by Tendall, (2015). It showcases the steps to absorb the shock, react to the shock, restore the system and finally learn from the experience. These steps are the reactive actions. Additionally, it highlights the preventative actions which Tendall refers to as "building robustness". As shown by the cycle, food system resilience is not a static state but always developing and adapting (Tendall, 2015). Food system resilience can occur at various levels from the global food system to each individual (Tendall, 2015). Some of resiliency is up to the individual to prepare and educate themselves, however, food resiliency can also heavily depend upon one's ability to access food and food education. This report will focus mostly on the individual's food system resilience while also looking into the University of British Columbia's food system resilience. The concepts of cultural appropriateness, food literacy, and food system resiliency & emergency preparedness are important to navigate the effective creation of a pantry guide for UBC students.

2.5 Project Context

Amidst the COVID-19 pandemic, as many had to self-isolate at home and work or go to school remotely, it became evident that students may need an online food resource for future emergencies. This project was intended to be part of a Digital Food Hub for UBC students where any content that is food related would be easily accessible and available at all times. The creation of the pantry purchasing guide would be one content piece for this versatile Digital Food Hub.

Our objectives for this project are:

1. To conduct a literature review on cultural appropriateness.

2. To conduct an environmental scan of existing pantry purchasing guides and identify areas of opportunities that meet the diverse needs of UBC's student population.

3. To develop a for student by student guide to purchase nutritious, affordable, and culturally appropriate pantry items in preparation of future emergency responses which will contribute to the Digital Food Hub.

3. Methods

To filter our research the initial step was to organize a meeting with the stakeholders of this project. Following the meeting the team constructed these research questions in order to achieve the specific objectives for this research project.

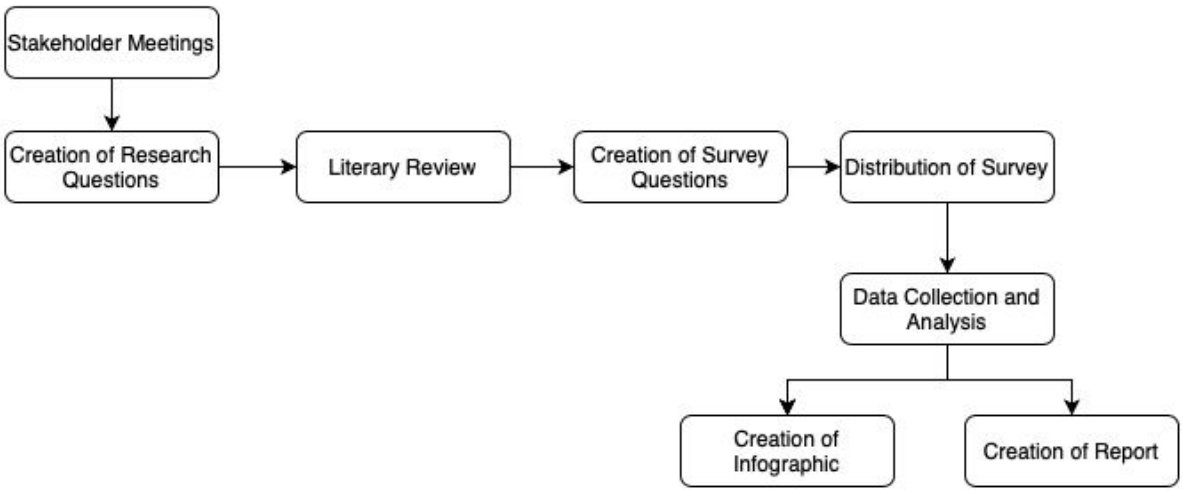
1. What is cultural appropriateness? How do we measure and evaluate it?
2. What gaps exist in cultural appropriateness, nutrition and affordability in current pantry purchasing guides? What are the strengths and limitations of these guides?
3. What is the current state of UBC students' food literacy? How does this translate into their preparedness and resilience in terms of food security, specifically in emergency situations?
4. How can we create a guide that takes the student's understanding and needs into consideration and improves upon them?

These research questions were divided amongst group members and used to conduct a literature review to evaluate current knowledge surrounding these topics and apply them to the UBC population and context. The review looked into how students currently prepare for an emergency, definitions of culture and cultural appropriateness, and a general environmental scan

of current pantry purchasing guides that exist. This general evaluation led to the creation of 31 survey questions on Qualtrics that were then distributed online via Facebook and Instagram as well as through sharing the survey link through text. Various campus organizations were able to further the reach by sharing the survey through social media posts and email blasts. Completion of the survey was completely optional as students were able to discontinue participation at any time.

The survey was separated into one section for each research question.

Criteria for all analysis included being a UBC student, both undergraduate or graduate degree, or a recent graduate. The survey was closed after 19 days and the data was analyzed qualitatively and quantitatively individually by the researchers. Following the analysis of the data, the team utilized the information to create a Pantry Purchasing Guide in the form of an infographic, catered to UBC students. The data was further used to create reports to showcase the findings.



3.1 Cultural Appropriateness

3.1.1 Primary Data Collection: Literature Review

The primary data collection method was a cultural appropriateness literature review, as this is one of the project objectives. The media used for this literature review consisted of peer-reviewed scholarly articles, an anthropology University textbook named “Eating Culture”, as well as research reports from past projects conducted by LFS students either for the LFS 450 course or for SEEDS.

The purpose of this literature review is to understand whether there is a universal definition of culture and cultural appropriateness and whether the latter has been measured and

evaluated successfully. For more specificity, many of these articles discuss the relationship between cultural appropriateness and food, as well as cultural appropriateness in different health interventions. The literature review consists of three components, and these can be regarded as the "what, why and how?" of cultural appropriateness. The first section discusses the definition of culture and cultural appropriateness. The second section discusses why cultural appropriateness is important in relationship to food and why this should be an important factor in a pantry purchasing guide. Finally, the third section discusses how we can effectively measure and evaluate cultural appropriateness and whether it is even possible to do so.

3.1.2 Secondary Data Collection: Qualtrics Survey

The purpose of this survey was to gauge the different cultural groups prevalent at UBC and understand their food habits and food preferences. The survey was designed in a way to provide a lot of room for UBC students to express what culture means to them. The questions each had a specific purpose in understanding the complexity of cultural identity and its relationship to food. A paper on the "development of culturally competent food-frequency questionnaires" was studied to ensure that the survey was itself culturally sensitive. This paper brought to light how Euro-American food groups can be constricting in allowing respondents to answer questions about their food habits. A recommendation stated was to provide blank boxes for respondents to fill out their food habits rather than a list of common Euro-American food groups as categories, so questions surrounding food habits had an open entry box for an answer. To evaluate our food recommendations we will draw a comparison to the pantry purchasing guide provided in our survey and evaluate whether students thought it was culturally appropriate and analyze this data. In total, we had 203 responses to our survey, however, for this section, unanswered questions regarding culture and nationality were deleted due to the necessity of this information for data analysis. After deletion, 148 survey responses (n=148) were remaining for the cultural component of data analysis.

Cultural appropriateness is a concept that requires a qualitative research approach to effectively measure and evaluate it in particular interventions. This section focuses on the second part of the main research question, which is, how do we measure and evaluate cultural appropriateness?

Investigating whether students can afford and find culturally appropriate options is one effective way to measure whether a university is providing support for culturally appropriate diets. In the same paper, a crucial suggestion was made to UBC, which was to "clearly indicate 'who's culture' their use of the term is aiming at, because this will lead to different measures in the provision of cultural foods." (Fu, Manitius, Stewart & Tse, 2020) In a paper regarding achieving cultural appropriateness in health programs, discussion about the difficulty of evaluating cultural appropriateness becomes evident. Many nuances arise, such as the fact that "multiple cultures may be relevant to any given person, it may be difficult to discern which

culture should be emphasized in seeking cultural appropriateness for a given behavior". (Kreuter et. al., 2003, pg 134) Additionally, "Would it be feasible, for example, to make every health promotion program culturally appropriate for every possible subgroup to which it might be delivered?". (Kreuter et. al., 2003, pg 134) These nuances describe the difficulty of tailoring a pantry purchasing guide towards UBC's culturally diverse student population. For the most effective evaluation, this paper recommends a middle-way, suggesting that we "might settle for a slightly deeper, albeit imperfect, understanding of culture that is practical enough to be easily applied yet still potent enough to enhance health education efforts." (Kreuter et. al., 2003, pg 135) To achieve this middle-way approach four factors will be explored in the results to measure cultural appropriateness:

1. **Cultural identification: What kinds of cultures are present at UBC?**
    - Qualitative data collected in the form of student quotes
2. **Staple foods: What non-perishable foods do students have in their households?**
    - Students were asked to create a list of top 5 non-perishable foods
3. **Food Habits & Cultural Identity: Do students feel their food habits align with their cultural identity?**
    - Students were asked whether they agree or disagree that their food habits align with their cultural identity
4. **Access: Do students have access to culturally appropriate foods?**
    - Students were asked if they felt they had access to culturally appropriate foods, if yes, where? If no, why not?

3.2 Food Literacy and Emergency Preparedness

Due to the interdependency of food literacy and food resilience as well as the goals of cross-analyzing data from the two sections, only surveys that were 100% complete were selected to be analyzed for this section. This reduced selection biased, maintained consistency, and allowed for complete analysis of the two sections together. Of the 203 survey responses, 135 were completed (n=135) and 69 were partially completed (n=69). Food literacy levels were assessed based on students' food education history and compared to the entire survey population to gauge where students are today in terms of food knowledge. Food resiliency was analyzed by asking students about their current emergency food preparedness. This report and assessment focused on student's preparedness as this showcases their ability to absorb and adapt to a shock. A greater level of emergency preparedness would allow one to be better able to absorb a shock

and therefore be more resilient. As this is mainly preliminary research for a larger project, quantitative data analysis was done within Google Sheets to quantify and categorize the results of the survey.

3.3 Analyzing Gaps in Pre-Existing Guides

Another section of the project was to do an environmental scan of current emergency pantry purchasing guides to identify any gaps and areas of opportunity for the creation and development of a universal pantry purchasing guide for the context of the UBC community. Seven emergency pantry guides were gathered, collected, and analyzed for potential gaps by comparing and contrasting the guides along with the Chi Square statistical tests and calculations.

Pantry Guide Number	Organization	Name
One	Canadian Red Cross	Food Friday: How to stock your disaster pantry
Two	The New York Times	Stocking your pantry, the right way
Three	Canned Food Alliance	What should your emergency pantry look like
Four	US Homeland Security	Ready - Suggested Emergency Food Supplies
Five	City of Vancouver	Make an Emergency Kit
Six	Health Canada	Food for Emergencies
Seven	HealthLink BC	Preparing for an Emergency

Figure 2: Table showcases the seven emergency pantry guides found through an environmental scan and used when identifying and measuring for gaps and areas of opportunity.

To identify any accessibility gaps an environmental scan of close and local grocery stores was done on the UBC campus and investigated three locations; Save-On-Foods (UBC Location), H-Mart, and the AMS Grocery Store. Price calculations were done using products from Save-On-Foods as examples. Save-On-Foods was used due to the fact that (1) it is close in

proximity to the UBC Vancouver campus and does not pose a spatial accessibility barrier, (2) it has more variety to its products compared to the other spatially close grocery stores on campus, H-Mart and the AMS Grocery Store.

6. Results

6.1 Cultural Identification:

The data revealed that the majority of the survey demographic held Canadian citizenship. However, 37% (n=42) of Canadian respondents identified as Canadian and another nationality. Figure 3 shows the different nationalities represented in the survey, and provides an idea of the ratio of Canadians to non-Canadians that partook in the survey. While this provides adequate data, students' cultural identification is more relevant to cultural appropriateness because it exemplifies the difference between nationality and culture. It is identifiable that even within a large group of people who hold Canadian citizenship and who identify with Canadian culture, a large number of subcultures are also present. As an example, below are some quotes from respondents who culturally identified as Canadian in one way or another. The question asked was: how do you identify culturally?

"I think I would say Canadian-British, but more generally, Western? Just because of where I grew up and where my parents grew up."

"I have a bit of a cultural crisis at times. I don't fully identify with Canadian, nor Korean culture, but rather a mix of both. This leaves me in a weird blended spot- where I take some traditional values from Korean culture while also immersing myself in radical viewpoints associated with young Canadian culture."

"I am of both Métis and Scottish Gaelic descent. I identify with both of these cultures because they are both significant parts of my ancestry."

"Mostly White Canadian but also Indo-Canadian, because I'm biracial but mostly raised in a very typical "Western" way culturally, but I still have some ties to my Indian background through my grandparents and so have little bits of Indian culture that are a part of my life"

"As a Canadian single christian"

"Even though neither of my parents were born in Canada, I identify as Canadian because I follow most of the traditions and have great knowledge of the history and culture of Canada."

Nationalities	**Number of Respondents**	Notes
Brazil	1	*note: The total is 196 which is larger than the number of respondents (n=148) due to the fact that many respondents have more than one nationality and therefore selected more than one option. Of the 113 Canadians, 42 identified asCanadian **as well as one or more other nationalities.** These are the nationalities listed from the 24 respondents that selected the "other" option. Pakistan Colombia Sri Lanka Italy South Africa Argentina Egypt Netherlands
Canada	113	
China	13	
Germany	2	
Hong Kong	4	
India	4	
Indonesia	1	
Iran	5	
Japan	2	
Malaysia	1	
Mexico	1	
Nigeria	0	
South Korea	5	

UK	8	Vietnam Kenya Bermuda Taiwan Denmark Madagascar Portugal Thailand Ireland
USA	14	
Other	22	
Total:	**196**	

Figure 3: Demographic of Nationalities

The quotes below are by students who identified as non-Canadian, these are their responses when asked how they identify culturally.

"I identify with the Indian culture despite having been born and grown up in Africa because my family and close community and school was predominantly South Asian and my most usual points of contact and socializing throughout my life."

"Bermudian, and as an islander. The ocean has always been an integral part of my identity. The reefs protect our island, and in return I try to protect them. I've spent my whole life breathing salt air, and using the ocean to heal cuts. Not all Bermudians view the ocean like this, but every time I've moved I'm moved to a place by the ocean."

"I don't have a strong cultural identity, having been raised in multiple countries across Asia and the Middle East. My identity is muddled between my UK background and these influences."

6.2 Staple Foods

Students were asked what 5 non-perishable foods they always have in their households. The data revealed that there was consistency throughout the responses resulting in an ordered list of the 10 most prominent non-perishable foods that students had in their households.

Non-Perishable Food	Percentage of Students (n=148)
Pasta/Noodles	85%
Rice	59%
Beans	40%
Soup	28%
Chickpeas	17%
Canned Tomato	16%
Canned Tuna	15%
Peanut Butter	14%
Corn	12%
Flour	12%

Figure 4: Non-perishable Foods Listed by Students

6.3 Food Habits & Cultural Identity

It may be the case that while students are culturally diverse, their food habits might not align with their culture identification. This was an important point to investigate, as it informed us whether students felt that the items they listed in the survey are foods that they associate with their culture or not. The statement was *"I believe that my food habits align with my cultural identity"* and students were given the option on a scale of 1-7. These options were strongly agree, somewhat agree, agree, neither agree nor disagree, disagree, somewhat disagree, and strongly disagree. Eighty-two percent (n= 105) of the respondents who answered this question agreed that their food habits aligned with cultural identity, 9% (n= 12) of participants neither agreed or disagreed, and 9% (n=11) either disagreed or strongly disagreed.

6.4 Access

Students were asked whether they have access to culturally appropriate foods or not. Eighty-five percent (n= 123) of students stated that they do have access while 15% (n= 21) of students stated they did not. Students who responded "no" were asked to describe why they did not have access. Seven students stated that culturally appropriate stores were "too expensive". While eight students stated that these stores were "too far". Finally, some students expressed that their specific dietary needs were not met by Vancouver's stores. For example, one student stated that "Kosher options are limited" and that they were "very surprised to see no holiday specific foods during the holidays here". Another student stated that they have to go to speciality stores in order to find ingredients for "common African dishes" which are too far or expensive.

6.5 Cultural Appropriateness

Students were asked whether they found nine generic pantry purchasing guide items culturally appropriate or not. This question was accompanied by a graphic our research team made of these nine pantry items (see Appendix Image 1). 84% (n= 112) of students deemed these pantry items culturally appropriate. 16% (n= 21) of students deemed the guide as culturally inappropriate. Those who expressed that the guide was culturally appropriate explained that it met "halal, vegetarian, pescetarian, and celiac" needs. One student expressed that it is "easy to blend different ingredients to make culturally appropriate foods". Another student mentioned the "items listed are fairly general and can be diversified." Interestingly, one student stated that "in an emergency, eating cultural foods is not [their] priority". For those who disagreed with the appropriateness of the guide, they mentioned that "all the foods seem quite Western" and that they "could not make authentic meals" as many of their cultures relied on "fresh produce and meat".

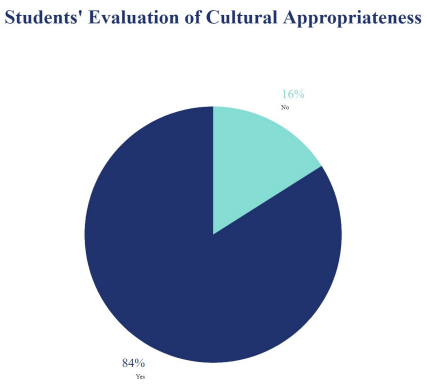
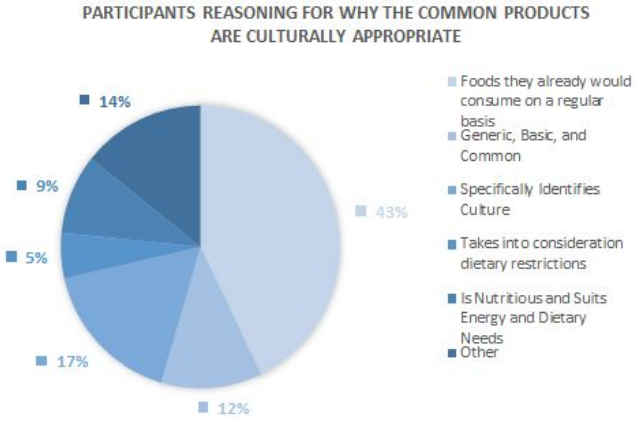


Figure 5: Students' Evaluation of Cultural Appropriateness

Using a Chi Squared test, we found that there is no correlation between students' national identities and their opinions on the cultural appropriateness of this pantry purchasing guide. Among the 133 respondents who answered this question, 51 identified as Canadia, 34 identified as



Canadian and another nationality, and 27 did not identify as Canadian. After completing the calculation, there was no statistical significance between students' national identity and their opinion on the cultural appropriateness of the 9 items on the pantry guide shown in the survey.

Figure 6: Describes participants reasonings for finding common pantry guide products culturally appropriate

Reasons expressed as to why the nine common pantry guide products varied and can be displayed in figure 6, but 43% (n=33) of individuals found the common pantry guide products to be foods that they already consumed on a daily basis, only 17% (n=13) of individuals directly referenced the foods as being culturally appropriate for their culture, and 5% (n=4) perceive the products take into consideration their dietary restrictions.

6.6 Food Literacy

Students were asked to indicate their level of food literacy through a series of questions that reflected habits of food literate individuals. First, students were asked to indicate how often they cook for themselves each week. When asked "Have you ever learned about Food, Nutrition and Cooking or been part of a food literacy workshop?", 73.33% of respondents reported they had (n=99). A followup question of where students had learned this, 40.0% (n=54) reported previously learning about nutrition in highschool or from family, 17.78% (n=24) expressed learning through online platforms, and 12.59% (n=17) mentioned learning about food literacy, cooking, or nutrition through UBC. Of the 17 students who reported learning through UBC, 13 identified as being in the Faculty of Land and Food Systems.

Figure 7. Distribution for question "How many days a week do you cook for yourself?"

When asked "Typically after I cook for myself, I am full/satisfied", 70.37% of students reported "Strongly Agree" (n=12) or "Agree". Students were then asked how often they cook for themselves during the week which provided an almost even distribution of results as shown in Figure 7.

6.7 Student Food Resiliency

6.7. 1 Preparedness

Students were questioned about various aspects relating to their emergency preparedness and resiliency. To begin respondents were asked about their confidence with their current food

supplies. When asked, 86.13% (n=118) of students believe they could sustain themselves for three days with just the food in their home at this moment; however, when asked about one week instead of three days this number changed to 50.36% (n=69) of students believing they could sustain themselves with the food they have in their cupboards. Furthermore, when asked about sustaining oneself for three days then one week the response rate for those unsure increased from 7.30% (n=10) to 19.71% (n=27) and for those responding no from 5.84% (n=8) to 29.20% (n=40). The survey then continued to ask those that answered they had enough food to sustain themselves for one week how healthy they would consider those food options. Students responded with 0% choosing Very Unhealthy, 16.79% (n=23) Unhealthy, 7.30% (n=10) Unsure, 24.09% (n=33) Healthy and finally 2.19% (n=3) Very Healthy. Finally, the survey questioned students about how prepared they feel, with the food in their house at this time for an emergency situation. Those that responded Not Prepared made up 4.38% (n=6) of the sample size, 36.50%(n=50) chose Somewhat Unprepared, 31.39% (n=44) chose Somewhat Prepared, and 16.79% (n=23) chose Prepared. These numbers showcase students' current position with their emergency food preparedness.

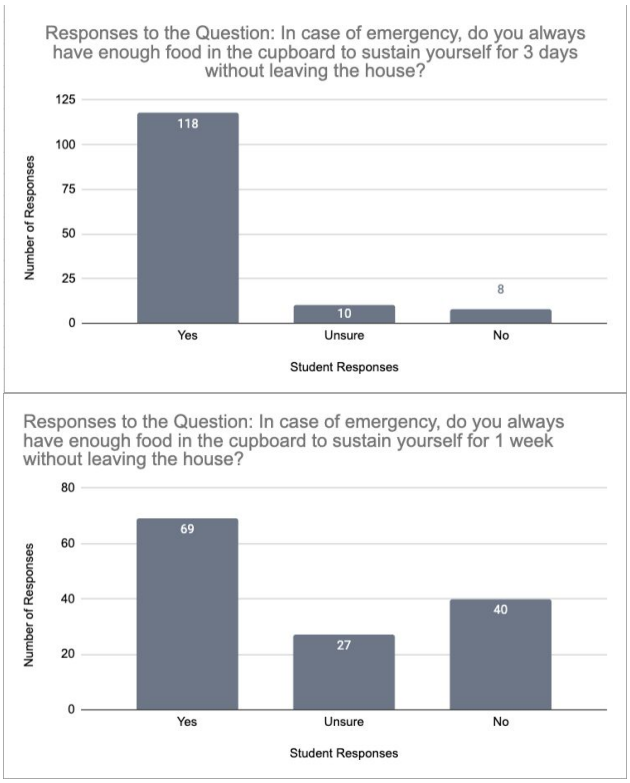
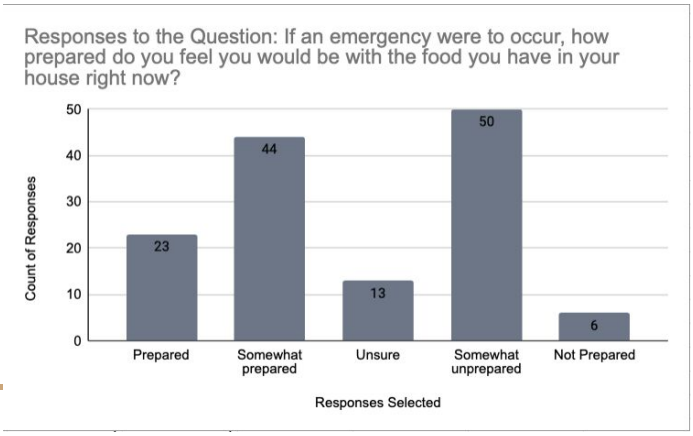


Figure 8: Two graphs showcasing the change in students ability to sustain themselves for 3 days and one week.

6.8 Access Options

Students were asked to select all options they would likely utilize to access food in case of emergency. Of the 135 responses, there were 326 votes, with 68.6% (n=94) of respondents selecting more than one option. Accessing their own emergency food supply received 27.61% (n=90) of the choices. Reaching out to family received 12.88% (n=42) of responses, while reaching out to friends received 11.66% (n=38) and reaching out to roommates received 8.59%



(n=28) of responses. The most selected option was adjusting one's diet with 31.28% (n=102) of responses. This could mean adjusting how much one eats, as well as adjusting to eat food they may not usually consume. Finally, only 7.98% (n=26) responders would consider accessing food banks.

Figure 9: A graph showing student's responses to how prepared they feel for an emergency.

After we learned where student's would access food in case of an emergency without grocery stores, they were asked to select where they had been accessing food during the COVID-19 Pandemic. The most popular response was Grocery Stores with 91.24% (n=125) of votes, followed by Independent Grocers or Farmers Markets with 5.11% (n=7), Online Shopping (through store or on food delivery) receiving 2.92% (n=4).

When asked why they decided to shop there during COVID-19, 47.45% (n=65) responded with "convenience" being their number one factor with responses such as "Convenient and has asian food". Distance being the second most important with 20.44% (n=28) of total responses with responses such as "Close proximity to home". Price showed to be important for 13.14% (n=18) of students with responses such as "They have food in bulks and it's cheaper " and familiarity and safety both received 2.92% (n=4) of total responses with responses such as "Consistency: I always accessed these same grocery stories before the pandemic" and "Safety because I live with someone immuno-comprimised". These data points showcase student's access and preferred options for access during emergency situations.

6.9 The Gaps in Pantry Purchasing Guides

When comparing and contrasting the seven emergency pantry purchasing guides, all were observed to be text heavy and had little to no visual component to describe or represent the various pantry products. In the context of the food products and nutrition, pantry guides provided the same common foods with not much variation or nuance and nine common foods among the seven pantry guides could be distinguished and is used throughout for analysis in the survey, however, the pantry guides provided examples for each food group and one of the pantry guides directly showcased and listed foods through categorizing them into the different foods groups.

In the context of finding gaps in affordability, it was found that 33% of UBC students spent more than 55$ CAD per week on groceries. A study conducted in the United States found individuals on average visit the grocery store 1.5 times per week (Wilkinson, 2017). The following nine common pantry guide products were picked and their price and amount is tabulated to calculate a price range in order to measure for gaps in affordability.

Product	Price	Amount
Catelli Healthy Harvest Grain Rotini Pasta	$3.49	375 g

Western Family Long Grain Brown Rice	$5.49	1.81 kg
Western Family Mixed Veggies, Canned	$1.49	398 mL
Western Family Chopped Mixed Nuts	$3.29	125 g
Del Monte Fruit Cocktail in Fruit Juice	$3.19	398 mL
Adams Creamy Peanut Butter	$4.99	500 g
Quaker Oats Regular Instant Oatmeal	$3.99	280 mL
Campbell's Tomato Soup	$1.09	284 mL
Made Good Granola Bars Sweet and Salty	$4.99	5 Pack

Figure 10: This table showcases the representative nine common products found on seven different pantry purchasing guides and their prices, in CAD, and amount found at the UBC Save-On-Foods location

If students were to buy all nine of the common products on each weekly visit (1 – 2 visits for an average of 1.5) the price range of all the items summed would be $32.01 CAD - $64.02 CAD. It can be observed in figure 9 that a combined 90% (n=121) of participants would fall into that price range when buying food products at grocery stores, results indicate that common pantry purchasing products are generally affordable.

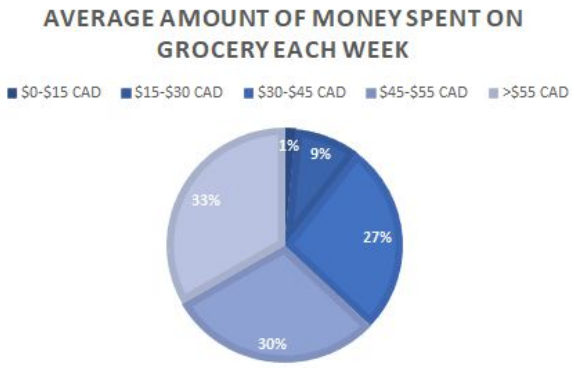


Figure 11: Describes participants average weekly spending on grocery

There were an additional three criteria to assess the overall usefulness and areas of gaps that pantry purchasing guides may have had; pantry guide is universal in the sense that it can used in a multitude of state of emergencies, pantry guide takes into consideration and provides advice on how to prepare/ use foods when fuel source and energy is not available, and pantry guide provides information on how to best utilize food products to ensure individuals are consuming meals. There was high variability among the seven pantry guides in these specific criteria as only one pantry guide met all three points which is tabulated below.

	Pantry Guide 1	Pantry Guide 2	Pantry Guide 3	Pantry Guide 4	Pantry Guide 5	Pantry Guide 6	Pantry Guide 7

Universality	Yes	No	Yes	Yes	Yes	Yes	Yes
Fuel Source Consideration	Yes	No	Yes	Yes	No	Yes	Yes
Meal Planning	No	Yes	No	No	No	Yes	No

Figure 12: Table describing the seven pantry guides and the gaps in three different criteria; universality, fuel source consideration, and meal planning.

Majority of the emergency pantry guides used are universal and its products were tailored and listed to fit most emergencies as stated by the pantry guides themselves. Majority of pantry guides also provide alternatives and considerations when fuel source is not available. However, there is a gap of providing information of utilizing products to make a meal as only two pantry guides satisfy this criteria.

A larger gap found from the survey is the knowledge and perception of pantry purchasing guides themselves. Only 8% (n=11) of participants knew what a pantry purchasing guide was and had heard of them before participating in the survey. Participants were also asked if they thought a pantry purchasing guide is a useful tool that you would use and 24% (n=32) found pantry purchasing guides to not be useful citing a multitude of reasons that cannot directly be grouped into common themes.

7. Discussion

7.1 Cultural Identification, Staple Foods, Identity & Access

To be able to accurately measure and evaluate our food suggestions, we must know who's culture we are representing and recommend foods in which we can ensure access and affordability. In order to do this, we must gain insight from UBC students on four crucial points: how they culturally identify, what emergency foods they have in their households, whether their food habits identify with their cultural identity, and whether they have access to these foods.

Our results revealed many subcultures within each culture, as shown with the examples of students identifying as Canadian. An oversimplification would be to recommend generic Canadian foods for a Canadian identifying group of students. However, Canadian culture includes Métis, Scottish, Korean, Baha'i, Christian, and many other individuals. Due to this cultural complexity, we must allow students to decipher for themselves what culturally appropriate foods mean to them. This requires an understanding of what food preferences students have and whether they identify these food habits with their cultural identity.

Students do feel that their cultural identity aligns with their food habits, due to the fact that 82% (n= 105) of students agreed to this claim, while 9% (n=12) students neither agreed nor disagreed and 9% (n=11) of students disagreed. We can conclude that most students feel that their food habits are representative of their cultural identity. However, it is not clear whether the list of 10 non-perishable foods listed by students are culturally accurate food preferences. However, we must acknowledge that our survey demographic may have not been an accurate representation of UBC's cultural diversity and therefore we recommended some cultural foods that went beyond the students' top 10 recommendations. Other items listed by students we considered were cereal, oats, lentils, nuts, chocolate, coffee, sugar, seaweed, granola, garlic, olive oil, chips, popcorn, bread, quinoa, soy sauce, quail eggs, and grass jelly. Aside from asking students what their food preferences are, we must understand their accessibility. While 84% (n=112) of students had access, 16% (n= 21) of students indicated that they do not have access to culturally appropriate foods mainly due to a far location or because foods are too expensive. Recommending foods for those who do not have access becomes a more difficult endeavour. This raises an important note that was mentioned in a previous SEEDS report, on whether "the university should be actively providing culturally appropriate food, or instead, should simply facilitate the access to culturally appropriate food". (Brinkman, Wu, Sheehan, Yang & Bazza, 2015). This discussion point leads to a recommendation for potential future action UBC can take, which is discussed below.

Based on the results, it is evident that cultural appropriateness is a topic that requires continuous study of a demographic to ensure an understanding of its cultural depth. The literature review indicates that creating culturally appropriate food recommendations and access to these foods are vital to students' social, financial, and mental wellbeing. In an emergency situation, mental, social, and financial health is already in jeopardy as we have witnessed with COVID-19; therefore, it is crucial to help mitigate the added effects that students of varying cultural groups will face due to the lack of culturally appropriate foods. However, one important result was from a student who deemed that their priority would not be seeking out culturally appropriate food in an emergency situation. For the context of this project, this is an important note to consider and could lead to a larger emphasis on nutritional adequacy as well as affordability rather than cultural appropriateness.

7.2 Food Literacy & Emergency Preparedness

The COVID-19 Pandemic has shown students how quickly an emergency can occur. It also gave students the opportunity to check their emergency preparedness and food system resilience as they had to take reactive actions as described by Tendall (2015). With 78% (n=107) of students rating their preparedness between somewhat prepared, somewhat unprepared and unsure, it is clear there is a lack of confidence in emergency preparedness, or simply a lack of understanding. As described by Tendall (2015), a resilient food system is one with the ability to

absorb the shock and react to the shock. If students are not prepared for an emergency, they will be less able to absorb and react; therefore, making their individual food system less resilient. These reactive actions largely rely on one's ability to adapt following a shock. However, one's adaptive capacity can be linked to various factors such as income or knowledge (Toth, 2015). According to the data collected regarding food storage, the majority of students (n= 118) have food in their home to sustain themselves for 3 days, yet the majority of students did not identify as prepared for an emergency. Though they have food available they may not feel the ability to adapt in case of emergency and absorb the shock. When students were asked to sustain themselves one week, 69 felt they could sustain themselves with the food they have, yet only 23 students identified as prepared. These students show there may be a disconnect about how to utilize food in the case of an emergency or they may not be keeping food that is suitable for full nutritious meals.

One's ability to adapt to an emergency greatly depends on their knowledge of nutrition and food (Toth, 2015). As argued by Toth (2015), a large indicator of one's capacity to adapt to shocks is the ability to change one's diet. Our results showed 70.37% (n=95) of respondents have changed their diet as a result of an emergency situation. This ability and knowledge to adapt one's diet shows students have a capacity to adapt to emergencies, strengthening their food system resilience. Additionally, as shown by the data only 24.09% of respondents with food for one week referred to it as healthy food. This shows there may be a knowledge gap for students in regards to the type of food that can be stored for emergencies. If students are mainly storing unhealthy food items to access during an emergency, this will likely lower one's confidence to sustain themselves through an emergency. Furthermore, if students are only storing food that is not nutritious, their ability to restore their food system will change. Food literacy and a knowledge of food will strengthen one's individual food system resilience (Truman, 2017). It is clear students can still strengthen their food system resilience by becoming better prepared and taking more preventative action. The results show the majority of students are interested in becoming better prepared as 60.59% (n=83) of respondents stated they would be somewhat likely or extremely likely to create their own emergency food supply following COVID-19.

Based on our results, it is clear that most university students at the University of British Columbia start university with some level of food literacy knowledge. This result was further proven as 70.37% of students stated that they were often satisfied after preparing meals for themselves. Food preparations and eating habits are indicators of food literacy and security and proper food intake is integral to optimally living a healthy lifestyle. There is however still improvement as 30% of students do not agree that they are satisfied after they cook for themselves. Comparably, very few students reported that they continued to learn about food literacy, nutrition, cooking etc. at UBC throughout their degree (n=17). Additionally, 13 of these 17 students were members of the Faculty of Land and Food systems which requires food systems education as part of degree requirements. As few students in other faculties had accessed food literacy education at UBC, it can be seen there is a gap in food systems education through UBC

resources outside of class settings. It is important to note that as many university students are living independently or cooking for themselves for the first time, food education and intervention should be a top priority to enforce proper well being among university students. Furthermore, food literacy intervention within the wider population of UBC could supplement food resiliency to ensure preparedness in uncertain situations. As the COVID-19 pandemic has demonstrated, people are subject to adjust their regular behaviour in times of emergency. With 70.37% (n=95) students surveyed saying they had to change the way they eat, and 61.48% (n= 83) saying they changed the way they did their grocery shopping, it is clear that the majority of students faces large lifestyle changes in response to the pandemic. Future preparation and education on how to adjust to similar events or future emergencies can protect students from distress.

7.3 The Effectiveness of Pantry Purchasing Guides

From the results it is concluded that participants found the common nine products on current pantry purchasing guides to be culturally appropriate as observed from the results in figure 5. There are a multitude of reasons as to why that is the case, including, the fact that the current seven pantry guides observed do not provide specific products and are described as common, general, and basic which potentially allows readers to interpret pantry purchasing guides to suit their dietary habits, restrictions and needs as seen in the data from figure 6.

A larger issue arises with the perception and knowledge of what pantry purchasing guides are and whether or not students at the UBC Vancouver campus find such guides useful. A pantry guide created should be much more nuanced and fill in the gaps and areas of opportunity by providing information about actually utilizing the food products.

7.4 Areas of improvement within the Study

Possible weaknesses of this study was the potential for a bias sample within the Faculty of Land and Food systems. As all of the researchers are members of the Global Resources program, outreach was centred mainly around that faculty and major. However, the final demographic represented in the sample resembles a similar distribution of faculties across UBC and we are therefore confident that this has no direct effect on results. Contrarily, as this project is aimed at all UBC students, there was a significant lack of graduate student representation as 3 completed the survey. This could be due to all researchers being undergraduate students and utilizing undergraduate resources for outreach. Furthermore, questions included on the survey were not labeled as mandatory to answer in order to continue, leaving some responses with gaps and therefore excluding some responses from being analyzed for different sections of the overall project. This led to different responses being analyzed for each section of the project which may cause potential inconsistencies with results.

8. Recommendations

8.1 Recommendations for future research

This report gives general information and preliminary data on the current level of food literacy and food resiliency among UBC students. Further in depth research surrounding the correlations between student faculty/major and food literacy education should be done to determine the strengths of associations. We further suggest one-on-one interviews in order to receive a better understanding of students' experiences with food education as well as to better evaluate their food resiliency. Additionally, further research should be conducted to see where the gaps are between student's food literacy and their emergency preparedness. As we have recognized, some students have the food available for an emergency yet still feel unprepared, we recommend further research to see what is causing this feeling of unpreparedness. We also recommend this research is conducted from students at different levels of their education at UBC, ranging from first year to graduate students. As graduate students were not widely represented in this data, we highly suggest emphasizing future research on their needs as all As well, further research could be done to examine if a pantry purchasing guide is an effective method of disseminating information about culturally appropriate, healthy, and affordable foods which increase food resiliency and literacy.

8.2 Recommendations for Future Action

From this research we have been able to locate some potential knowledge gaps for UBC students. These gaps could be filled through various programming, workshops or distributional material. Most importantly this work must be preventative, it is vital for any education to be proactive in nature and occur prior to another emergency. As a limited number of students have access to food literacy education at UBC, we suggest new programming is implemented for students from each discipline. These interventions could occur for all first year residence students as part of a mandatory course. Having these programs be included in first year curriculum will ensure students consider the possibility of emergencies and their options throughout their undergrad and not only when they are in the midst of an emergency. Additionally, we suggest the usage of distributional material. The research team has created a Pantry Purchasing Guide that can be utilized by UBC students to recognize food options that are suitable to store in their homes in case of emergencies; the guide includes foods with long shelf lives, proper nutrition, affordably priced and items that are culturally appropriate to the UBC community. Material such as a pantry purchasing guide can be widely available to students and made easily accessible to students. Our largest recommendation is to further educate students about emergency preparedness and filling the gap between food literacy and food resiliency by providing education within residences, clubs and other communication methods that does not

rely on the segregation between faculties. Additionally, it is positive that the majority of respondents felt they have access to culturally appropriate foods. However, for those who did not, UBC must decide whether they will begin to facilitate access to these stores or if they will decide to directly provide this culturally appropriate food on campus. This detail needs investigation in order for proper evaluation of culturally appropriate food on campus.

9. Conclusion

In summary, the results show that UBC students have a general knowledge surrounding food literacy and recognize the need for emergency preparedness, however, most respondents recognized they did not feel prepared for an emergency which indicated the need to connect food literacy and food resiliency among students.The current state of emergency due to COVID-19 has highlighted the importance and need for students to be prepared and educated in order to sustain oneself in unprecedented times.UBC is a vital tool and resource in student's food literacy and food resiliency education. Through active programming, UBC has the opportunity to create a wide range of interventions with the goal to enhance student food literacy and therefore building individual food system resilience in times of emergency.

Overall, with cultural and cultural appropriateness being difficult concepts to define, it is best that UBC offers food recommendations by specifying and researching which cultural demographics they are attempting to tailor their recommendations to. UBC should also be asking these demographics what food they consider culturally appropriate, in order to avoid generalization and accurately provide foods that students deem culturally appropriate. UBC is a vital tool and resource in student's food literacy and food resiliency education.

Additionally, this study finds that the emergency pantry guides observed do not have a gap in the context of cultural appropriateness, nutrition and affordability, but in the development of new emergency pantry purchasing guides, they need to be more nuanced and take into consideration the needs and current understanding and knowledge of the target demographic

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Appendices

Survey Questions

Are you currently at UBC or have recently graduated in the year 2020?

- O Yes
- O No

What year are you in?

- O 1
- O 2
- O 3
- O 4
- O 5+
- O Graduate Student
- O Recent Graduate

What is your Faculty?

- O Arts
- O Sciences
- O Engineering
- O Land and Food Systems
- O Kinesiology
- O Business
- O Forestry
- O Medicine
- O Law
- O Other

What is your nationality/citizenship? Select all that apply.

- ☐ Brazil
- ☐ Canada
- ☐ China
- ☐ Germany
- ☐ Hong Kong
- ☐ India
- ☐ Indonesia
- ☐ Iran
- ☐ Japan
- ☐ Malaysia
- ☐ Mexico
- ☐ Nigeria
- ☐ South Korea
- ☐ UK
- ☐ USA
- ☐ Other

How do you identify culturally? Why?

I believe my eating habits align with my cultural identity.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Disagree
- ○ Strongly disagree

What 5 non-perishable food items that are always in your household?

(Non-perishable foods are those with a much longer shelf life and don't require refrigeration.)

1
2
3
4
5

What are 3 examples of dishes you frequently eat (breakfast, lunch & dinner) and their main ingredients?

Example:
1. Oatmeal: oat, milk, bananas
2. Stir Fry: tofu, noodles, veggie mix
3. Curry: chickpeas, coconut milk, turmeric, rice

Breakfast
Lunch
Dinner

Do you have access to culturally appropriate food at grocery stores? If so, where? If not, why? (example: Yes, Persia foods. No: everything is too expensive, too far, inauthentic etc)

- ○ Yes
- ○ No

During the 2019-2020 academic year, what was your living situation?

- ☐ Lived on campus in student housing
- ☐ Lived on campus not in student housing
- ☐ Lived off campus in the Lower Mainland
- ☐ Lived off campus in another area of Canada
- ☐ Lived off campus internationally

During the 2019-2020 academic year, what best describes your living situation?

- ☐ I lived alone
- ☐ I lived with my parents and/or siblings
- ☐ I lived with my partner
- ☐ I lived with children
- ☐ I lived with roommates (if so how many) _____
- ☐ Other (please specify) _____

Did your living situation change due to the COVID-19 Pandemic? If yes, please explain how.

- ○ Yes _____
- ○ No

How many days a week do you cook dinner for yourself?

- ○ 0-1
- ○ 2-3
- ○ 4-5
- ○ 6-7

Do you cook for others in your household?

- ○ Yes always
- ○ Yes sometimes
- ○ Rarely
- ○ No
- ○ I live alone

Have you ever learned about food, nutrition and/or cooking? If yes, where?

- ○ Yes _____
- ○ No

Typically, after I cook my own meal, I am full/satisfied.

- O Agree
- O Somewhat agree
- O Neutral
- O Somewhere Disagree
- O Disagree
- O I do not cook

When you go grocery shopping, you shop for specific ingredients to make meals rather than doing a general shop and choosing your meals later on.

- O Strongly Agree
- O Agree
- O Undecided
- O Disagree
- O Strongly Disagree

When I want to cook dinner, I often have all the ingredients I need to do so:

- O Strongly Agree
- O Agree
- O Undecided
- O Disagree
- O Strongly Disagree

I often try new recipes and will rarely eat the same meal multiple times a week.

- O Strongly Agree
- O Agree
- O Undecided
- O Disagree
- O Strongly Disagree

Please give reasoning for your answer given to the last question.

Have you changed the way you eat since the beginning of the Covid-19 Pandemic? If yes, please specify (ex. eat out less often, meal plan more, feel less inclined to cook, order for delivery more often, etc).

- O Yes
- O No

Have you changed the way you grocery shop since the start of the Covid-19 Pandemic? If yes please specify. (ex. I do larger loads at one time, I get my groceries delivered, I make a list now whereas I never used to before, etc.)

- O Yes
- O No

In case of emergency, do you always have enough food in the cupboard to sustain yourself for 3 days without leaving the house?

- ○ Yes
- ○ No
- ○ Unsure

In case of emergency, do you always have enough food in the cupboard to sustain yourself for 1 week without leaving the house?

- ○ Yes
- ○ No
- ○ Unsure

If an emergency were to occur, how prepared do you feel you would be with the food you have in your house right now?

- ○ Not Prepared
- ○ Somewhat unprepared
- ○ Unsure
- ○ Somewhat prepared
- ○ Prepared

In the case of an emergency and the grocery stores were to close tomorrow for one week, which of the following options would you consider to maintain your diet? Select all that apply.

- ☐ Access your own emergency food supply
- ☐ Ask for food from friends
- ☐ Ask for food from family
- ☐ Ask for food from roommates
- ☐ Access Food Banks
- ☐ I would decrease the amount and type of food I consumed for a week to ensure I could eat everyday (change in your diet)

Which of the following foods would you most likely include in emergency food storage? Select your top 3 choices.

- ☐ Lentils
- ☐ Granola Bars (energy bars, snack bars etc)
- ☐ Rice
- ☐ Quinoa
- ☐ Pasta (instant noodles included)
- ☐ Chickpeas
- ☐ Canned Fruit
- ☐ Dried Fruit
- ☐ Canned Vegetables
- ☐ Beans (Black, pinto etc)
- ☐ Nuts or Peanut Butter
- ☐ Canned Milk (Non-perishable, pasteurized)
- ☐ Canned Coconut Milk
- ☐ Oatmeal
- ☐ Spices
- ☐ Other (please specify) _____

Where have you been accessing the majority of your food during the COVID-19 pandemic?

- ○ Grocery stores (large scale - Save On, Costco etc)
- ○ Independent Grocers or Farmers Markets
- ○ Online Shopping (through store or on food delivery)
- ○ Food Banks or other subsidized options
- ○ Campus dining halls

On average, how much do you spend on groceries each week?

- $0.00 - $15.00 CAD
- $15.00 - $30.00 CAD
- $30.00 - $45.00 CAD
- $45.00 - $55.00 CAD
- > $55.00 CAD

Following the COVID-19 Pandemic, how likely are you to create your own emergency food supply?

- Extremely likely
- Somewhat likely
- Neither likely nor unlikely
- Somewhat unlikely
- Extremely unlikely

Have you heard of an emergency pantry purchasing guide before?

- Yes
- No

Image 1

Do you think the products on the pantry guide above are culturally appropriate for you, given the definition provided before, why?

- O Yes
- O No

Do you think a pantry purchasing guide is a useful tool that you would use? Why?

- O Yes
- O No

Calculations:

Comparing categorical data of students' national identity and its correlation to their interpretation of how culturally appropriate the guide demonstrated is.

Null Hypothesis: **There is no relationship between national identity and finding the nine common pantry products culturally appropriate**

Alternative Hypothesis: There is a relationship between national identity and finding the nine common pantry product culturally appropriate

	Identified as Canadian	Identified as Canadian and Another Nationality	Did not Identify as Canadian	Total
Found the Products Culturally Appropriate	51	34	27	112
Did not find the Products Culturally Appropriate	9	5	7	21
Total	**60**	**39**	**34**	**133**

$$Test\ Statistic = x^2 = \Sigma\left(\frac{observed\ value - expected\ value}{expected\ value}\right)^2 = \left(\frac{51-50.52}{50.52}\right)^2 + \left(\frac{34-32.84}{32.84}\right)^2 + \ldots + \left(\frac{7-5.36}{5.36}\right)^2 = 0.876$$

Critical Value is at degrees of freedom 2 *and alpha level of* 5% = 5.991 *on the Chi Square Table*

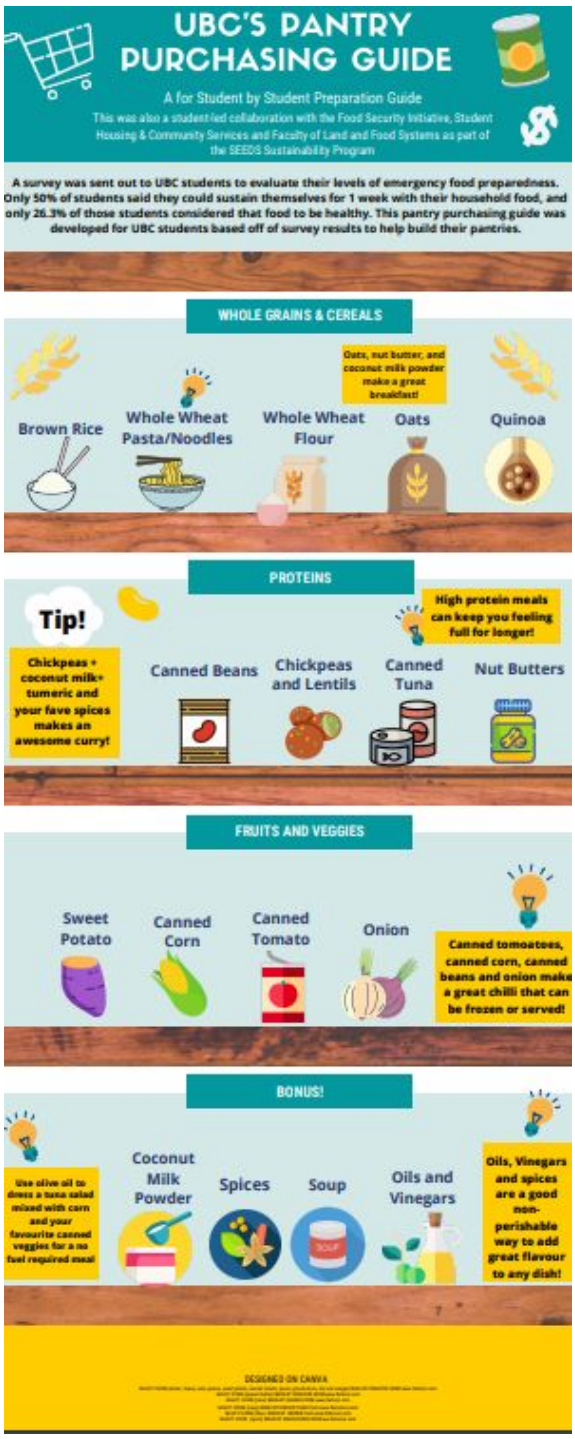
Critical Value is greater than the Test Statistic, therefore, our null hypothesis is true

Promotional Material and Survey Advertisement

Image 2


EMERGENCY PANTRY PURCHASING SURVEY
HELP US CREATE AN EMERGENCY GROCERY GUIDE BY STUDENTS FOR STUDENTS IN PARTNERSHIP WITH UBC SEEDS SUSTAINABILITY PROGRAM
ENTER TO WIN ONE OF THREE $20 UBC BOOKSTOREORE GIFT CARDS*
*UBC STUDENTS ONLY

Image 3


UBC'S PANTRY PURCHASING GUIDE
A for Student by Student Preparation Guide
This was also a student-led collaboration with the Food Security Initiative, Student Housing & Community Services and Faculty of Land and Food Systems as part of the SEEDS Sustainability Program
A survey was sent out to UBC students to evaluate their levels of emergency food preparedness. Only 50% of students said they could sustain themselves for 1 week with their household food, and only 26.3% of those students considered that food to be healthy. This pantry purchasing guide was developed for UBC students based off of survey results to help build their pantries.
WHOLE GRAINS & CEREALS
Oats, nut butter, and coconut milk powder make a great breakfast!
Brown Rice
Whole Wheat Pasta/Noodles
Whole Wheat Flour
Oats
Quinoa
PROTEINS
Tip!
Chickpeas + coconut milk+ tumeric and your fave spices makes an awesome curry!
High protein meals can keep you feeling full for longer!
Canned Beans
Chickpeas and Lentils
Canned Tuna
Nut Butters
FRUITS AND VEGGIES
Sweet Potato
Canned Corn
Canned Tomato
Onion
Canned tomoatoes, canned corn, canned beans and onion make a great chilli that can be frozen or served!
BONUS!
Use olive oil to dress a tuna salad mixed with corn and your favourite canned veggies for a no fuel required meal
Coconut Milk Powder
Spices
Soup
Oils and Vinegars
Oils, Vinegars and spices are a good non-perishable way to add great flavour to any dish!
DESIGNED ON CANVA

Final Exam