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Student Research Report

Addressing Food Insecurity Stigma Through Low-Cost (not free) Food Resources

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Executive Summary

Previous research on food security at UBC finds that close to 40% of the student body classify as food insecure (Rideout & James, 2017). While the University offers food banks and experimental food sharing services, the SEEDS client believes that a stigma surrounding the use of food insecurity resources inhibits their access, most concerningly among the most severe cases of the resource's target population. This research compares models of food distribution designed to be less stigmatizing.

Background research demonstrates the necessity of addressing internalized stigma, not just hiding stigmatized behaviors. We conducted a survey of UBC students to compare their perspectives on different three food distribution models: food banks that distribute food for free, sliding-scale stores, and a grocery store that operates at no profit ("at cost") with a volunteer staff. Participants indicated that an at-cost grocery store is the least stigmatizing, and said they were most likely to use it and most comfortable using it. Based on the statistical significance of our findings, we propose to the client the opening of an at-cost grocery store on the UBC campus to address food insecurity as a less stigmatized program.

Introduction

There is no single face to food insecurity- it is a persistent matter that affects communities of all nature, including an estimated 40% of post-secondary students at UBC (Rideout & James, 2017). Various resources to address food insecurity issues have been instituted through policy, non-profits, and many other organizations. Food banks play a dominant role in attempting to address the food security needs of people in first world countries, including Canada (Loopstra & Tarasuk, 2012; Riches, 2002). Although food banks are a common food insecurity resource, psychological barriers to food banks' use continue to inhibit use for some. People who wish to use food insecurity resources face considerable stigma surrounding their condition and access to resources (Riches, 2002). Middleton et al. (2018) found that users do not want to perceive themselves or be perceived as beggars or charity recipients. Moreover, Middleton and colleagues uncovered that many food insecure people feel undeserving of food insecurity resources, inhibiting their use. Alternative methods of delivering food to the insecure have leveraged novel technologies in making the process more secretive (such as online ordering). Still, these efforts merely hide stigmatized behavior rather than addressing it head-on (Psarikidou et al., 2019). In fact, a secretive ordering process only adds to the internalized stigma that food bank shoppers experience (Psarikidou et al., 2019).

The question on the efficacy of food banks is then as follows: is the stigma significant enough to render them ineffective, or are food banks simply inefficient in alleviating food insecurity in communities? Loopstra and Tarasuk's (2012) research showed that "continued food bank use did not appear to reduce the likelihood of severe food insecurity." Reasons cited by participants for discontinuing the use of food banks included: desired food being unavailable, poor quality of food available, stigma, and accessibility issues (operating hours, eligibility, etc.). In contrast to free food resources, insights from UBC dining options suggest strong student interest in low- or at-cost food resources (Bragg et al., 2020). This research shows particular promise for alternative resources in the face of evidence that food banks cannot solve the long-term food insecurity issue, nor are they working well enough as emergency measures. Additionally, the fraud-prevention design of food banks, particularly at UBC, is inherently stigmatizing and a barrier to access (Dela Cruz et al., 2020; Riches 2002). The charitable format's stigma and the lack of significant improvement from food bank-like resources prompt us to study other ways food insecure communities can access food.

The primary psychological insight targeted in this study was the use of social norms as a nudge intervention. In particular, we looked into how social norms influence a person's behavior by their second-order beliefs surrounding others' normative behavior. For instance, students who are food insecure may perceive free food insecurity resources to be reserved only for those in extreme need. As such, they may choose to pursue alternative food insecurity resources that offer greater agency, such as cafes with tiered pricing and low-cost grocery stores. This study aims to assess whether students will utilize low-cost food insecurity resources to a greater degree than free resources. We predict that students will perceive less stigma surrounding low-cost resources than free ones and will thus be more inclined to access these resources.

Methodology

Participants:

We aimed to recruit at least 72 participants consisting of UBC students in various faculties, as this was the minimum number required for a within-subject design of our research. We determined this number through the use of one-way repeated measures ANOVA tests; statistical analysis combined with subject-area knowledge informed the optimal sample size. The actual sample size consisted of N = 152 valid survey responses. We considered responses 'valid' if the survey was rendered complete. Our survey was conducted using Qualtrics survey software and was thus distributed to students through social media, personal networks, and various online groups associated with UBC. While we geared survey outreach toward UBC students, there was no requirement for proof of enrollment, and therefore we cannot deduce that the survey was completed solely by UBC students. The primary demographics collected included the average age of participants (21 years old) and gender (as follows): 84% female, 14% male, and 2% non-binary or preferred not to say.

Conditions:

Our survey presented participants with three conditions, consisting of three differently priced food insecurity resources. The first condition was a free/no-cost food insecurity resource, described as the currently available UBC food bank. The second condition was a hypothetical tiered-pricing/sliding-scale resource where students can choose how much to pay. In a three-tiered pricing system, some pricing is under market value (lowest tier), other is comparable to a typical grocery store (middle tier) and higher pricing is used at the upper tier, in order to subsidize the lower pricing for students who cannot afford to pay more. The third condition was a hypothetical non-profit, volunteer-operated grocery store where everyone pays the same below-market prices for food items, regardless of food insecurity status. These three conditions constituted the independent variables for this study, chosen for their variations in pricing to better assess whether charity stigma is an oft-cited barrier to accessing food insecurity resources.

Procedure:

The survey was created using Qualtrics and introduced participants to the three conditions described above (ordered randomly on between-subjects design), followed by several questions for assessment (Appendix A.) For each food insecurity resource, we asked participants to note the following on a Likert scale: (1) how stigmatized they believe the use of that resource would be, (2) how frequently they would use it, and (3) how comfortable they would feel using it. A score of 1 corresponded to 'not at all' and a score of 7 corresponded to 'extremely,' with less extreme opinions falling between these values. These questions were the dependent variables in this study, as we expected question responses to vary between conditions. Questions were determined for use in order to gauge how perceived stigma translated to measures of accessibility for each food insecurity resource.

As food insecurity can be a sensitive topic, survey responses were collected both virtually and anonymously. Moreover, all ethical protocols were followed, including a consent form proceeding the survey securing anonymity. The survey circulated online for three weeks and served as the primary data collection tool for this study.

Results

In analysis of survey results, null responses in any of the nine dependent variables were dropped from the data set. Note that each respondent gave answers to all nine questions across

the three conditions. The data was split by dependent variable type (comfort, perceived stigma, and likelihood of use), and one-way repeated measures ANOVA was run in the JASP statistical package to assess the significance of the difference in distributions for each of the three response variables for the three conditions. This procedure yields p-values describing the significance of difference in response for the conditions. All three conditions were found to have statistically significant ($p < 0.01$; see tables 1-3) variation from each other, with comfort, perceived stigma, and use likelihood consistently favoriting the at-cost grocery store over the other two conditions, and the food bank as the most stigmatizing, least comfortable, and least likely to use. Appendix C contains output analysis from JASP. Results were unable to be split by independent factors such as age, gender, or self-rated food security because of the sample size. Future experiments might employ stratified sampling procedures to validate that most food insecure respondents' responses are consistent with the broader trend observed in our research.

Discussion

Our research suggests that paying for food correlates strongly with reduced stigma and a higher inclination for use. These results align with other research that has noted how charitable formats are stigmatizing and often a barrier to accessing food insecurity resources (Middleton et al., 2008; Riches, 2002). Our data suggest that the more stigmatizing, the less likely students are to use it and that there is more stigma associated with free resources. In the UBC context, the data also reiterates Bragg's and colleagues (2020) research that suggested there is high interest among students for low- or at-cost food resources. This being said, a shift in the focus of food insecurity interventions and administrative policy towards low cost, rather than free, resources would be beneficial in easing barriers to accessibility, particularly those implemented by stigma. The format of a low-cost grocery store that is accessible for UBC students regardless of food insecurity level would also render fraud-prevention methods unnecessary. Depending on the method of fraud prevention, students may find these processes to only increase their internalized level of stigma and fail to take the extended steps necessary to receive benefits.

Another major implication of our research is the revelation that food banks do not serve as a high-efficacy resource for many students, despite their prevalence as the main food insecurity resources in many settings. Given the option, food-insecure people prefer to pay an affordable rate to choose food items that they need. Moving away from a charitable lens and instead focusing on access and equity might improve individual's wellbeing beyond having their most basic nutritional needs met for free. In particular, if students are willing to take advantage of low-cost resources to a greater extent than food banks, their daily food consumption may consist of a wider and healthier variety.

It is essential that the nutritional needs of university students are met as food insecurity has been linked to a decline in both physical/mental wellbeing and academic performance (Maynard et al., 2018). Prior studies have shown, for example, that students with consistent worries surrounding food accessibility tend to demonstrate a decline in the quality of school assignments and performance on exams (Maynard et al., 2018).

Several factors have been identified that may account for weakening the validity of our results. To start, the study did not have enough information about survey participants'

demographics to draw an adequate conclusion regarding the relationship between identification with a marginalized group and food insecurity level; multiple marginalized communities may show different attitudes towards barriers to food insecurity resources, where stigma is stronger (e.g., BIPOC, disabled students, etc.) Survey participants are also majority women because of the snowball sampling method we used. In the future, we may use better sampling techniques to make sure that a more diverse demographic is represented in our research.

An additional significant limitation to our research is that it was conducted during the COVID-19 pandemic. Many students may be even more food insecure, considering the challenges to retain work during the pandemic, lockdowns, and desire to commute only when absolutely necessary (Owens et al., 2020). Many volunteer - run cafes, among other food resources, were not in operation for an extended period of time, which may have also contributed to an increased number of self identified food-insecure individuals. These limitations are noteworthy as they may have significantly changed students' behaviour or their perceptions surrounding this survey; although a clear relationship is present between perceived stigma and usage it would not be logical to assume these findings extend to all university students.

Recommendations

Our research project has built upon previous SEEDS research on the topic of food banks and other food insecurity resources on the UBC campus. The results are consistent with previous research; students show more interest in having a low-cost food security resource accessible to everyone rather than utilizing the food bank. An extensive body of research has suggested that food banks aren't influential, both long-term and as an emergency measure. Considering the additional hardships surrounding food security that students have experienced due to the COVID-19 pandemic (Owens et al., 2020) it is imperative that UBC considers implementing a food insecurity resource accessible to the whole student body that prioritizes meeting students' nutritional needs and well-being.

We suggest UBC to open a non-profit grocery store on campus in a central, accessible space that operates without gate-keeping students based on their assumed or reported food insecurity. To effectively address food insecurity, this grocery store would need to stock nutritious, grocery store staples, not solely the typical food bank fare of frozen or canned items. Participants of this study ranked this resource as the least stigmatizing, the most likely to be used, and the one they are most comfortable using, illuminating their strong preference for this resource over the alternative options. We propose that this grocery store be volunteer-operated, selling groceries at a price lower-than market value and at no profit to the store itself. Such a business model has already demonstrated promise at the university in volunteer-run restaurants such as Sprouts and Seedlings. These cafés offer students access to quality, nutritious food at a cost much lower than for-profit campus vendors. Knowing that there are students interested in volunteering at campus establishments suggests UBC could easily implement a volunteer-operated grocery store at little cost to itself.

To procure grocery items to sell, we believe UBC can leverage its existing grocery procurement contracts that feed dining hall patrons, scaling up its orders and selling the unused

margin back to students at a cost. Such an approach would reduce the grocery store's operational costs by expanding UBC's established contract, using the same shipping and coordination staff. Moreover, this strategy would minimize the cost paid by shoppers at the grocery store, better nourishing the university's most food insecure. Ultimately, we hope the development of a non-profit grocery store would provide food insecure students with an alternative to the UBC food bank that is able to better sustain their nutritional needs while also being economically feasible for the campus.

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Appendix

Appendix A: Qualtrics Survey

The following are three characterizations of food (or food insecurity) resources that could hypothetically be available on the UBC Vancouver or Okanagan campus. Imagine that the hours and location of these resources are conducive to your schedule.
Please do not continue if you are not a student (graduate or undergraduate) of a UBC campus.

Food banks are a resource where individuals in need of groceries but unable to afford them can procure pantry staples and grocery essentials at no cost. Some food banks require identification and proof of need, but not all. This particular food bank would only require a UBC ID. Food banks are typically funded by individual or institutional benefactors. In this case, it would be funded by the university. In summary: a food bank is a free grocery store.

	1 = Not at all	2	3	4	5	6	7 = Extremely
How stigmatized do you believe the use of these resources is?	O	O	O	O	O	O	O
How likely do you think you would use such a resource?	O	O	O	O	O	O	O
How comfortable would you feel using the resource?	O	O	O	O	O	O	O

Some food resources use sliding-scale pricing to determine the amount owed for acquired groceries. Imagine this food resource has a three-tiered pricing structure: at the lowest tier, customers pay under market value for groceries, in the middle, prices comparable to a grocery store, and in the upper tier, higher prices to help subsidize the lost revenue of those who make use of the lowest pricing. In summary: sliding scale food resources let you choose how much to pay.

	1 = Not at all	2	3	4	5	6	7 = Extremely
How stigmatized do you believe the use of these resources is?	O	O	O	O	O	O	O
How likely do you think you would use such a resource?	O	O	O	O	O	O	O
How comfortable would you feel using the resource?	O	O	O	O	O	O	O

Imagine a campus grocery store whose prices for groceries are below what is found at grocery stores. Like all the other imagined resources, it is available exclusively to UBC students. In summary: this resource would offer groceries at cost: less expensive than publicly available stores, but not free.

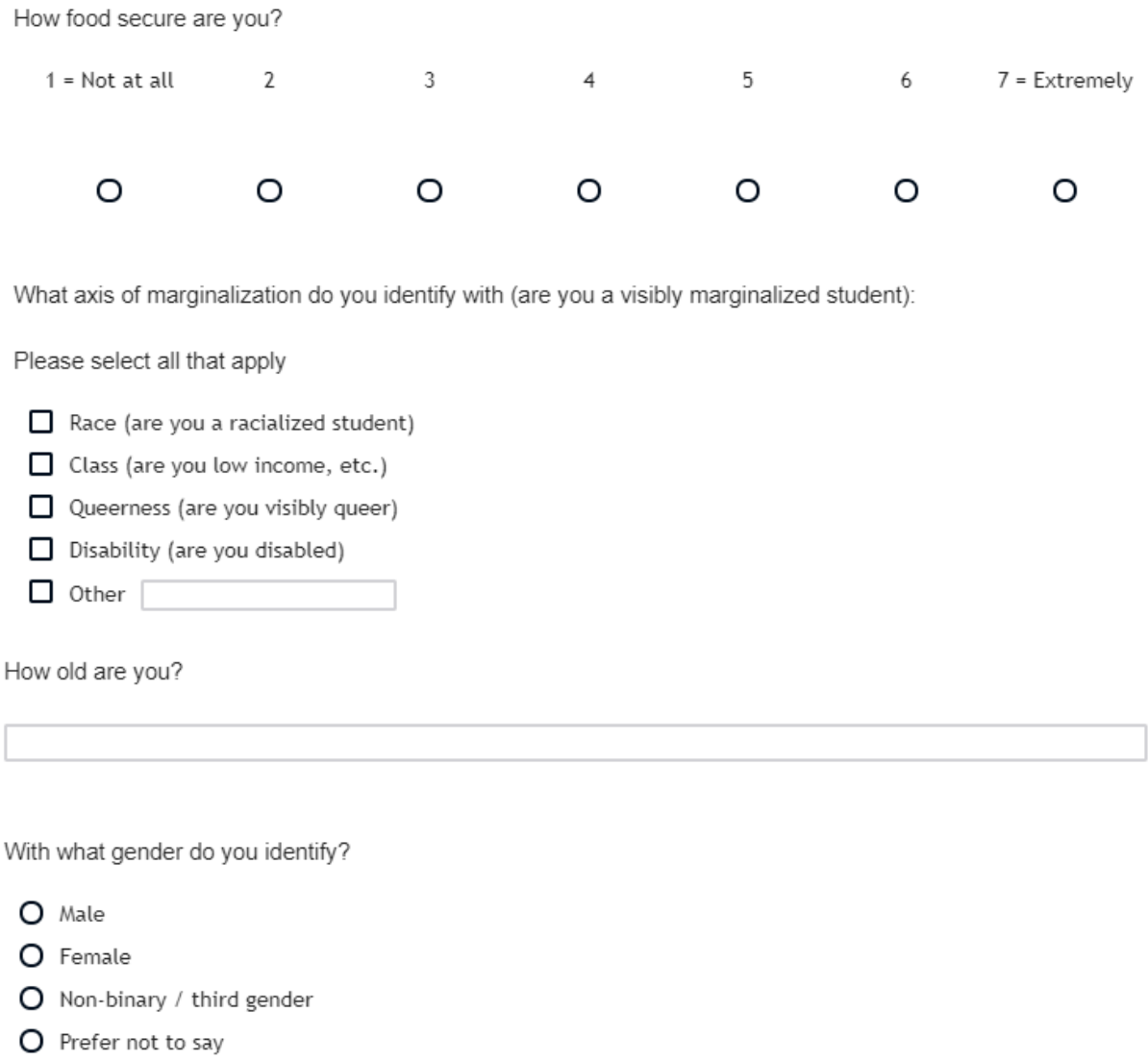
	1 = Not at all	2	3	4	5	6	7 = Extremely
How stigmatized do you believe the use of these resources is?	○	○	○	○	○	○	○
How likely do you think you would use such a resource?	○	○	○	○	○	○	○
How comfortable would you feel using the resource?	○	○	○	○	○	○	○

What resources would you prefer to use: please rank them from 1=most likely to 3=least likely:

Food bank

Sliding scale grocery store

At-cost grocery store (below market value)



Appendix B: Team Member Contribution

Each team member contributed equally towards data collection and the completion and editing of the project proposal, qualtrics survey, presentation slides, and research report. Alexis and Will presented the slides on behalf of the group.

Appendix C: Figures & Results

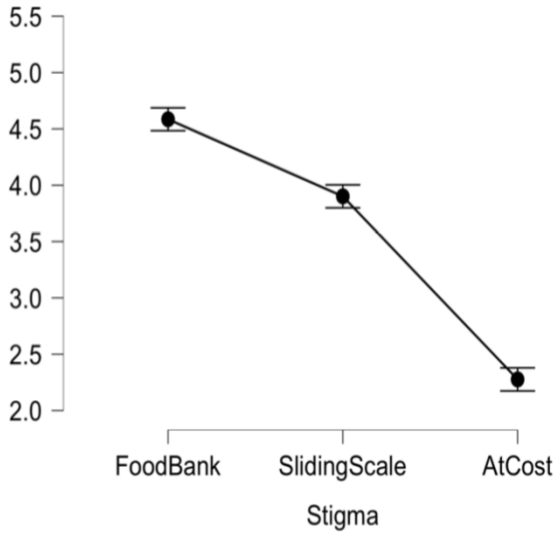


Figure 1. Average stigma associated with Food Bank, Sliding Scale, and At Cost conditions

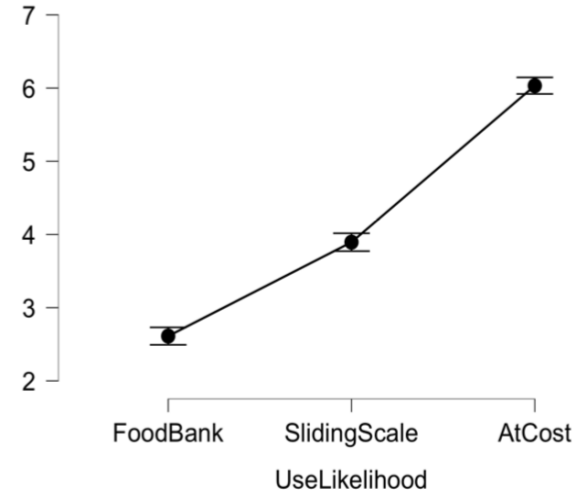


Figure 2. Average use likelihood associated with Food Bank, Sliding Scale, and At Cost conditions

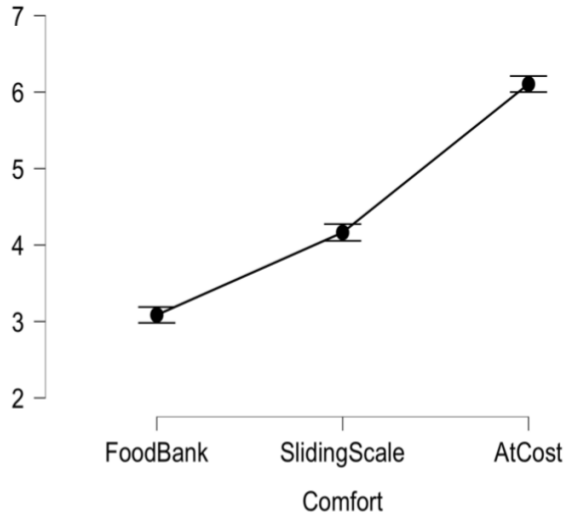


Figure 3. Average comfort associated with Food Bank, Sliding Scale, and At Cost conditions

Post Hoc Comparisons - Stigma

		Mean Difference	SE	t	p_{holm}
FoodBank	SlidingScale	0.684	0.144	4.746	< .001
	AtCost	2.309	0.144	16.019	< .001
SlidingScale	AtCost	1.625	0.144	11.272	< .001

Note. P-value adjusted for comparing a family of 3

Table 1. Post hoc comparisons for stigma

Post Hoc Comparisons - UseLikelihood

		Mean Difference	SE	t	p_{holm}
FoodBank	SlidingScale	−1.283	0.167	−7.695	< .001
	AtCost	−3.421	0.167	−20.519	< .001
SlidingScale	AtCost	−2.138	0.167	−12.825	< .001

Note. P-value adjusted for comparing a family of 3

Table 2. Post hoc comparisons for use likelihood

Post Hoc Comparisons - Comfort

		Mean Difference	SE	t	p_{holm}
FoodBank	SlidingScale	−1.079	0.150	−7.176	< .001
	AtCost	−3.020	0.150	−20.085	< .001
SlidingScale	AtCost	−1.941	0.150	−12.909	< .001

Note. P-value adjusted for comparing a family of 3

Table 3. Post hoc comparisons for comfort