University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Conveying Information about Food Insecurity: Effects of Media on Food Insecurity Awareness

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Prepared for:

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Themes: Food Insecurity, Victim Identification, Stigma, Media

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Executive Summary:

Can the way one articulates information about food insecurity affect the way that people respond and act on said information? This study sought to investigate the effect of different information delivery methods, specifically a personalized testimonial or simply giving a mass of statistics to a participant and seeing whether or not the different ways information is conveyed affected the willingness of said participant to use food insecurity resources. We hypothesized that, based on past research, people would be more affected by the testimonial condition as it would be a more personable and identifiable effect. Through an online survey (n = 110) we randomly assigned UBC undergraduate students to a statistics condition, testimonial condition, or a control condition. An ANOVA was used following the data collection and no significant effect was found across the conditions. We associated this effect with insufficient food insecure participants as well as a floor effect in the questions asked. Following our research, we recommended that UBC conduct further research with a greater subject pool for a better understanding. We also recommend that those who advertise for Food Insecurity Resources focus less on the method they get their point across and more on the content.

Introduction

Current literature exploring issues related to food insecurity on post-secondary campuses has focused primarily on stigma reduction (Kenney & Young, 2019; Swales et. al., 2020; Henry, 2017; Hoyt, 2015). Lisa Henry discusses in her (2017) study the benefits of greater awareness and visibility of food insecurity in encouraging food insecure students to feel empowered to reach out for help, and underscores the necessity of these resources to be accessible to the diversity of students on campus. While it is evident that the issue of food insecurity on university campuses is being addressed through the increasing number of campus food pantries (Henry, 2017), it is important to consider the potential barriers that may be preventing the student population from using these resources. Hoyt (2015) notes a need for encouragement for students to share personal experiences with food insecurity to alleviate shame amongst their peers. Individuals may additionally view their food insecurity status as a moral fault (Swales et. al., 2020). For this reason there may be potential advantages to familiarization between food insecure individuals to aid in their recognition of who is actually accessing these resources, encouraging 'qualifiable identification'; the act of self-identifying as a person who is qualified to access said resources. The concept of experiential learning is discussed in an article by Kenney & Young (2018) and suggests that students' education about food insecurity from real-life examples increases understanding and empathy. From a similar vein, a study regarding the Identifiable Victim Effect highlights the preference given to identified individuals as opposed to anonymous victims (Genevsky et. al., 2013). As most studies regarding this topic are focused on student populations in the United States, we recognize that their results may not necessarily be applicable to the socioeconomic and cultural position of subjects here at UBC Vancouver and thus further research is needed to confirm these findings within our specific context. However, these concepts provide us with the context to form our research hypothesis that, compared to the mediums of statistical and objective questioning, testimonial surveying will elicit the most willingness for the participating university student to utilize a food insecurity resource.

A 2019 study showed that 37% of students attending UBC Vancouver are food insecure (Carry, Thistle, & Buszard, 2019). The UBC Social Ecological Economic Development Studies (SEEDS) Program aims to create societal impacts by integrating applied research into campus programs, such as the AMS Food Bank. Previous research conducted by UBC students explored ways to optimize donations towards a UBC Meal Donation Program (Chandra et. al., 2020). Findings demonstrate that participants are more inclined to donate when passive methods are used (Chandra et. al., 2020). In other words, when easy, convenient ways to donate are available, individuals prefer so. Another 2020 study by UBC students sought to examine the effect of discrete ordering via ballots on price selection based on individual level of food security, with findings inconclusive regarding any "stigmatization" effects (Bragg et. al., 2020). While these studies are valuable and informative, it does not address another barrier these individuals face when seeking food resources: the self-identification of being qualified to access these resources.

The knowledge gap we attempt to fill with our research is how the education and information provided surrounding food insecurity resources affects one's willingness to use them.

Our study examined how the medium, whether statistical, testimonial, or objective questioning of education surrounding food insecurity resources and their perception of normalcy, affect the stigma and willingness of people to use them. We hypothesized that there would be less stigma or greater willingness regarding the usage of free/accessible resources as more students are aware of their existence when exposed to the testimonial condition.

Methods

We specifically collected data from UBC undergraduate students to better understand UBC food insecurity. 134 individuals completed the survey however, only 110 were considered after removing incomplete surveys. Of those 110 participants, the average age was 21; although, ages ranged from 18 to 28 years old. On average, participants were in year three of their study. Unsurprisingly, individuals from year one to five of their study also took part in the survey. In addition, more men than women completed the survey; however, the advantage was only small with a mean of 1.464. Ultimately, our target sample was not representative. With only 17% of participants being able to relate to some aspect of being food insecure, our final results were skewed.

Our study used three separate conditions that included our control condition where participants were skipped through the UBC food insecurity education portion and they answered the final questions on the study. Our testimonial condition included participants being presented with a quote that communicated statistical information regarding UBC food insecurity resources from a person that aligned with a participant's previously disclosed demographic. We did this because based upon previous research, people are more likely to establish a further connection and more strongly influenced by things they read if they can relate to them more. Our third condition was the statistical condition where participants were presented with just plain statistical information of UBC food insecurity resources. Our independent variable was the measurable use of UBC food insecurity resources that was operationalized by assessing the change in willingness to use them or stigma across our three conditions using Likert values.

A five-point Likert scale was used to measure willingness to use UBC food insecurity resources and participants' qualifiable identification. We designed the increments of the Likert scale to establish an appropriate measure of when or when a participant would not use the UBC food insecurity resources. We operationalized qualifiable identification as how qualified the participant felt they were to use the resources. This was done specifically in such a manner where Willingness was assessed by asking participants how much they would want to use a resource, and Stigma was assessed specifically with "I" statements such as: "I would feel out of place using a food insecurity resource at UBC". The use of "I" statements in this case was purposeful in that we hoped that it would react well with those in the testimonial condition as

part of an identifiable victim effect. Part of the Household Food Security Survey Module (HFSSM) questions were used to assess participants' experiences with food security in the past year. We operationalized this by determining which participants were in fact food insecure. These were relevant to our dependent measure as they showed us, through data, how participants felt to compare against our hypothesis.

UBC Qualtrics was used to collect data on the stigma and willingness for use of the UBC food insecurity resources. We conducted data collection shortly after creating the survey to undergraduate students that attend UBC Vancouver campus by sending them a link to complete the survey. A couple challenges with this arose including, internet inconsistency causing peoples survey results to appear incomplete in data analysis, the amount of students that were reached that were genuinely food insecure what a small sample size, and our attention checking question being too hard.

Results

Our total sample size included 131 individuals who opened the survey, with a total of 110 completing it (n=110). From these values, the Qualtrics randomizer placed 37 individuals into the control condition, 37 individuals into the statistics condition, and 36 individuals into the testimonial condition, granting a close to even spread. Statistical analysis was conducted by way of a one-way ANOVA test, comparing the different random conditions against their responses to questions outlined above. The questions were coded as either relating to the Stigma one felt regarding the use of said resources or the Willingness to use food insecurity resources. Responses to either Stigma or Willingness were granted numerical values ranging from 1 to 5, corresponding to the Likert Scale used to measure them. Greater numerical values on the Stigma represented an individual's belief that they could not or should not use the food insecurity resources available on campus. Greater numerical values for Willingness illustrated a greater motivation to use the resources available.

The ANOVA for both Stigma and Willingness revealed no significant p-value (<0.05), with Stigma demonstrating a p-value of 0.180 and Willingness demonstrating a p-value of 0.544. These results and their graphs are indicated in the appendix (Appendix C, Figures 1&2). It is worthwhile to note that the Willingness condition did see a greater average response of participants who were not in the Control condition, with a mean response value of 2.883 compared to mean values of 3.00 and 3.09 in the Testimonial and Statistical conditions respectively. This difference is not great enough to be significant, though it is worth noting its existence. This effect might have been more noticeable with a bigger sample size. Furthermore, the modal responses to the two question bases can also be noted. With both Stigma and Willingness demonstrating a modal response value of 3.67, it can be understood that many of the participants felt that they were not applicable to receive food resources but were willing to use them if given the opportunity.

The results of the HFSSM are also worthy of note, as they helped us understand the scope and results of our data much better. Essentially, those that responded to the HFSSM with any notion of agreement totaled to 19/110 (17.2%) of our participants. This percentage combined with the mode of answers to the previous questions indicated above demonstrated to us that we had a floor effect, where many of the participants we sampled had not experienced any food insecurity to begin with and could therefore not indicate changing opinions. Further analysis was attempted with only the n=19 that had responded as being food insecure, and results are still not conclusive, still not demonstrating a notable p-value. Adjusted Stigma and Willingness ended with p-values of 0.459 and 0.376 respectively (Appendix C, Figures 3&4). However, it is worth noting that both graphs for the adjusted participants showed a greater difference between control and the manipulated conditions, which indicates a possibility for future research. With these findings, we are forced to take the Null hypothesis, our data is ultimately inconclusive and does not inform us whether or not there is a connection between the method one uses to demonstrate food insecurity ideas and educate people.

Discussion

Our study was conducted to determine the most effective method of reaching out to students who could use UBC's free and accessible food insecurity resources. Our results suggest that there are no significant differences between each group. Therefore, there are no differences in the stigma or willingness of people regarding the usage of free/accessible resources after being presented with statistical use information through different mediums. The survey was created to assess the willingness and stigma of students on UBC's Vancouver campus regarding the food insecurity resources provided by the school. The questions using the Likert scale were intended to examine the willingness of students to use accessible food insecurity resources on campus in different situations. Most students reported to be willing to utilize food insecurity resources on campus only when they felt they would not have enough food. A second set of questions using the Likert scale regarded students' feelings towards using the accessible food insecurity resources. Many students reported they would feel out of place if they used the resources, indicating a presence of stigma around approaching an accessible food resource provided by UBC. The questions that utilize the HFSSM scale were intended to assess the students' food security experience over the past year. With only 17% of our UBC undergraduate participants reporting to be food insecure, we believe the difference from the 37% of UBC undergraduate students reporting to be food insecure from previous studies is a cause of the results produced by our study.

Overall, the research could have benefitted from reducing the floor effect in some manner, be it asking more specific, dividing questions, or tailoring the subject pool to favor more heavily those that are food insecure. Furthermore, it is important to note that the original Qualtrics survey did use an attention-checking question which was done so to ensure that people had read the documents in the conditions that they were placed in. After finding that many

participants failed the attention check from both our data as well as feedback from those that had done the survey, we ultimately decided to use all the data as presented, rather than removing those that had failed the check. We chose to do this because we deemed the attention check as being too difficult, even to those that had properly read the document and attained the information necessary. The attention checking question quizzed participants on the percentage value outlined in their corresponding readings, but did so by offering ranges as options, which confused many who took the survey. Participants also found it difficult as the question was on a separate page from the original reading, meaning they could not go back and reread for even better comprehension. In the future if we were to run the experiment again, we would opt for an easier attention checking or reading comprehension question, where participants would have their reading alongside the attention question. Like the first point in addition, our research pool was just short of our power calculation 110<120, though that seems to be less of a limitation compared to the two previously mentioned.

Recommendations

As stated above, our study attempted to identify the method most powerful in reducing stigma towards food insecurity resource use. Although our results were inconclusive, it does not mean this wasn't a step in the right direction. Future researchers can learn from our errors and conduct meaningful research by using a more diverse sample. This will lead to more representative results, less bias, and the ability to use inferential statistics. We recommend more research on UBC's food insecurity resources. Furthermore, future studies should explore the specific shame behind refusing food help. Some believe others are more in need of those resources in the community because the decision to spend money on tuition, residence, and more is voluntary (Henry, 2017). This is significant because many individuals may be confused about whether or not they qualify as "food insecure" due to feelings of guilt for voluntarily attending a university among other factors. In addition, subsequent research should investigate the effects of COVID-19 on food insecurity. 67% of students report that they use employment to cover their basic needs such as food (Henry, 2017). Due to the significant job loss during the pandemic, researchers may be able to muster a representative sample with relative ease and gather significant findings. As well, researchers should look into scholastic achievement in relation to food insecurity of university students (Chaparro et al., 2009). A controversial perspective worth studying is the effect of motivation from food insecurity on willingness to finish their degree. It is possible students may have a stronger motivation to finish school to achieve a lifestyle far more comfortable than what they are experiencing now (Henry, 2017). Finally, we recommend spreading and having information more readily available about food insecurity at UBC. As indicated from our results, the form that the communicated information takes does not affect how it acted upon, and knowing this means UBC food insecurity resources can further focus on what they are communicating to students and less so on how they are doing it. Evidently, it is hard to use these services and decrease the number of students experiencing food struggle if they are not aware that they can access these resources.

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Appendix A - Survey

Figure 1. Demographic Questions

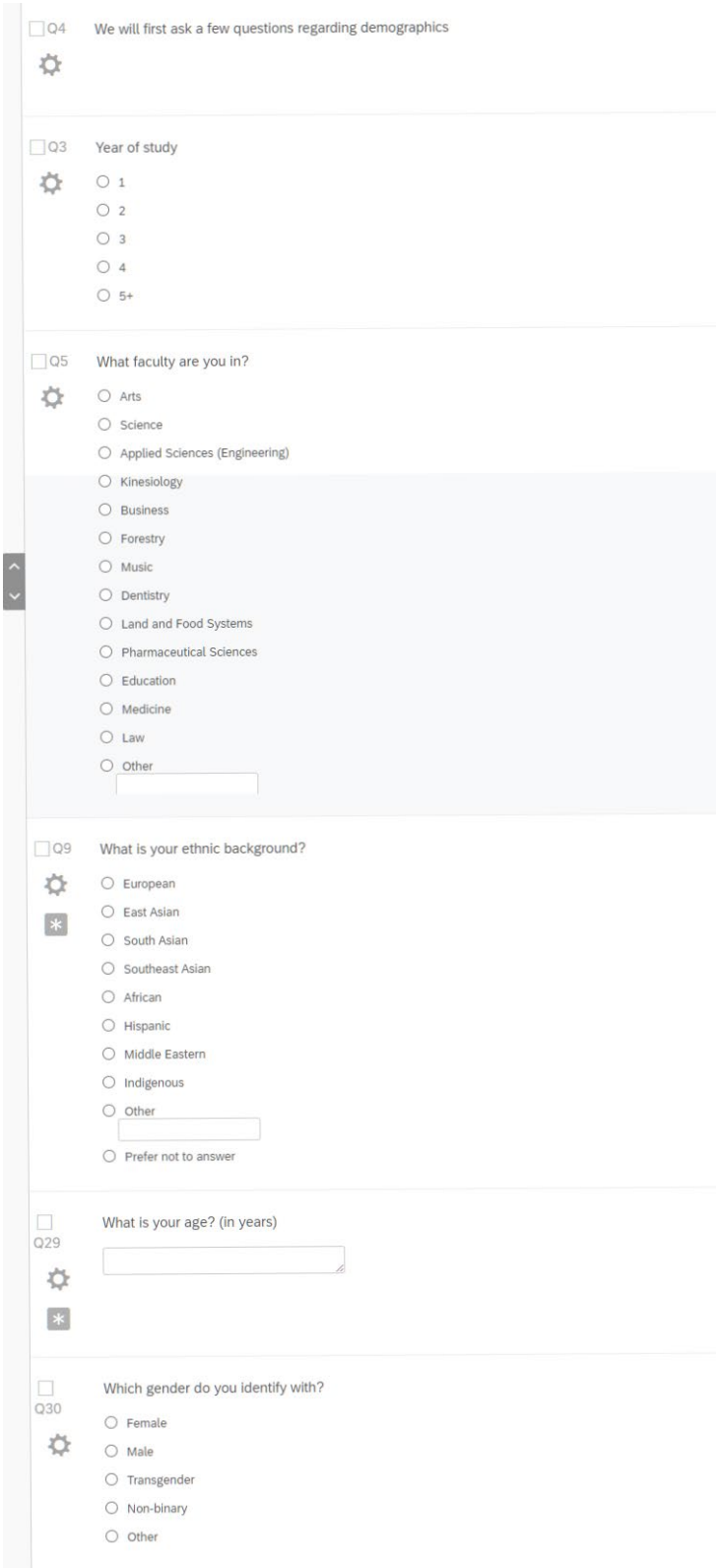
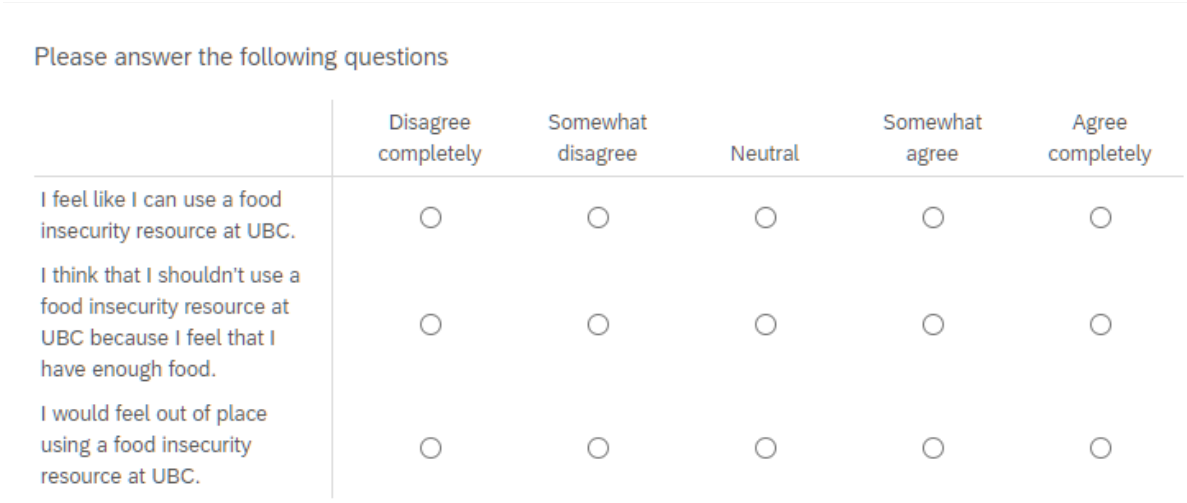


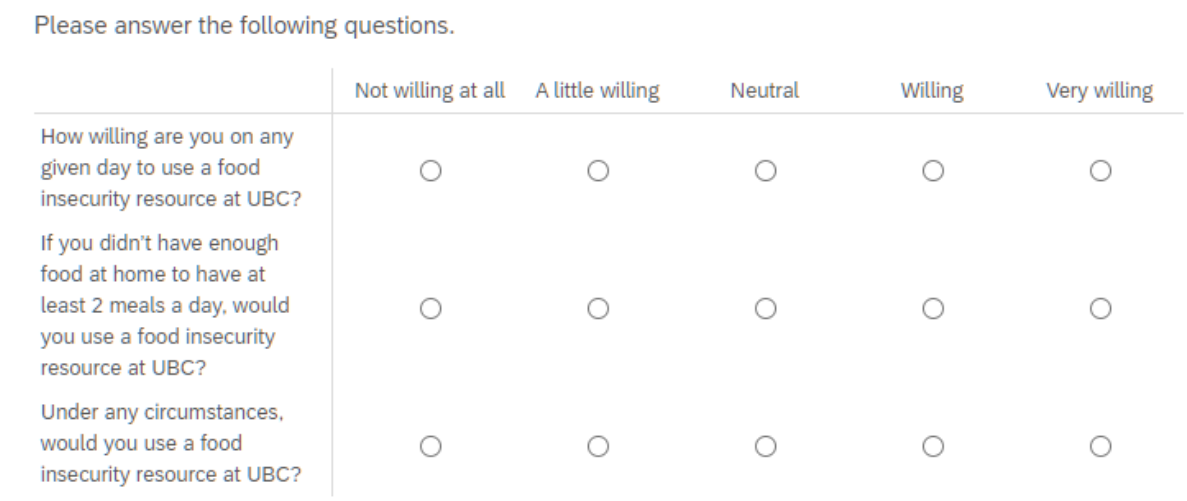
Figure 2. Willingness Questions



Please answer the following questions

	Disagree completely	Somewhat disagree	Neutral	Somewhat agree	Agree completely
I feel like I can use a food insecurity resource at UBC.	○	○	○	○	○
I think that I shouldn't use a food insecurity resource at UBC because I feel that I have enough food.	○	○	○	○	○
I would feel out of place using a food insecurity resource at UBC.	○	○	○	○	○

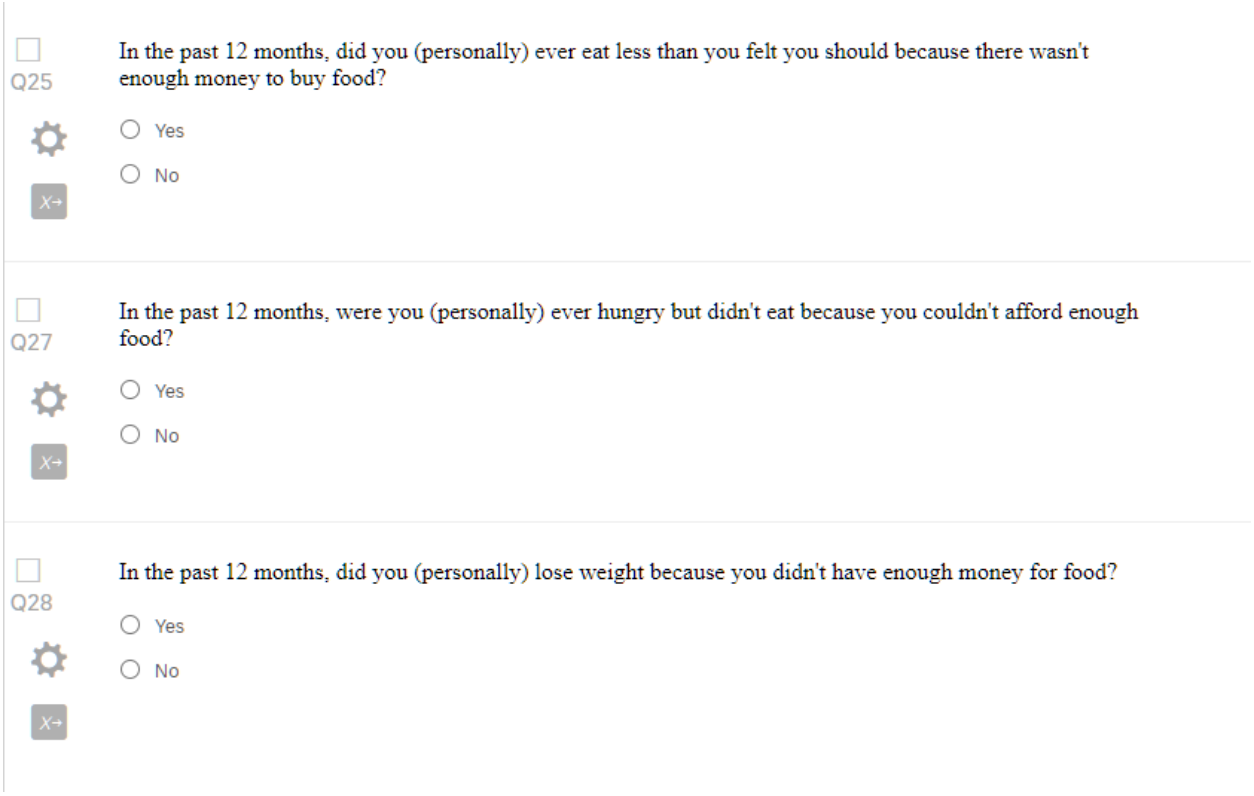
Figure 3: Stigma Questions



Please answer the following questions.

	Not willing at all	A little willing	Neutral	Willing	Very willing
How willing are you on any given day to use a food insecurity resource at UBC?	○	○	○	○	○
If you didn't have enough food at home to have at least 2 meals a day, would you use a food insecurity resource at UBC?	○	○	○	○	○
Under any circumstances, would you use a food insecurity resource at UBC?	○	○	○	○	○

Figure 4: HFSSM Questions



Appendix B - Contributions

Bryn contributed through proposal contributions, Qualtrics survey data gathering, PowerPoint participants and measures, and paper introduction and references.

Shannon contributed through proposal contributions, Qualtrics survey data gathering, PowerPoint theme, research question, and hypothesis, paper research question and hypothesis, and discussion of results in regards to research question and suggestions.

Kassandra contributed through proposal contributions, Qualtrics survey data gathering, PowerPoint descriptive statistics, and method participants and recommendations for UBC client.

Savannah contributed through proposal contributions, Qualtrics survey data gathering, PowerPoint editor and presenter, paper methods conditions, measures, and procedures, team member contribution explanation, and paper revision and edits.

Jeff contributed through proposal contributions, Qualtrics survey design and approval with Dr. Zhao, Qualtrics survey data gathering, PowerPoint results editor and presenter, paper results, limitations and Executive Summary, and paper revision and edits.

Appendix C - Results

Figure 1: Stigma Original

Stigma ANOVA

ANOVA - Stigma

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
FL_22 - Block Randomizer - Display Order	1.619	2	0.810	1.743	0.180	0.032
Residuals	49.694	107	0.464			

Note. Type III Sum of Squares

Descriptives

Descriptives - Stigma

FL_22 - Block Randomizer - Display Order	Mean	SD	N
FL_30	3.991	0.696	37
FL_31	3.739	0.676	37
FL_32	4.000	0.671	36

Descriptives plots

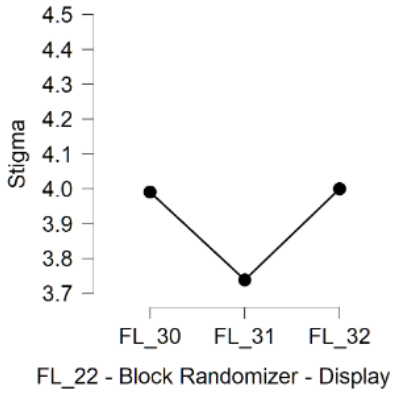


Figure 2: Willingness Original

Willingness ANOVA

ANOVA - Willingness to use resources

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
FL_22 - Block Randomizer - Display Order	0.799	2	0.399	0.613	0.544	0.011
Residuals	69.748	107	0.652			

Note. Type III Sum of Squares

Descriptives

Descriptives - Willingness to use resources

FL_22 - Block Randomizer - Display Order	Mean	SD	N
FL_30	2.883	0.861	37
FL_31	3.090	0.674	37
FL_32	3.000	0.873	36

Descriptives plots

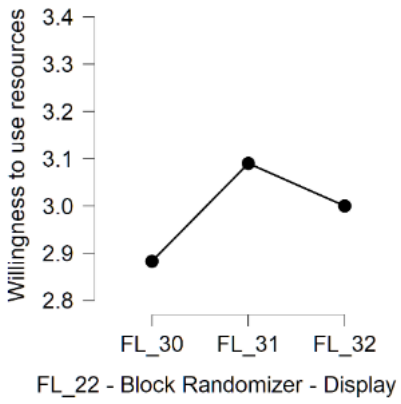


Figure 3: Adjusted Stigma

Adjusted Stigma ANOVA

ANOVA - Stigma Adjusted

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Randomizer Adjusted	0.525	2	0.263	0.818	0.459	0.093
Residuals	5.136	16	0.321			

Note. Type III Sum of Squares

Descriptives

Descriptives - Stigma Adjusted

Randomizer Adjusted	Mean	SD	N
Control	4.000	0.667	4
Statistic	3.630	0.309	9
Testimonial	3.556	0.779	6

Descriptives plots

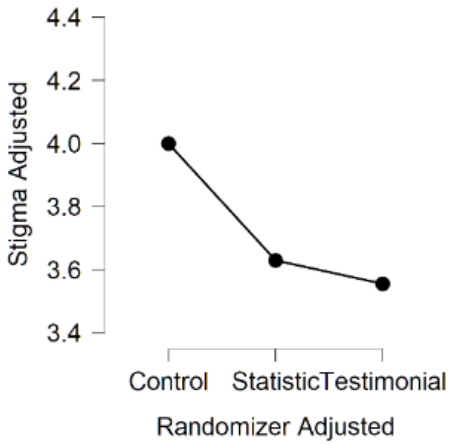


Figure 4: Adjusted Willingness

Adjusted Willingness ANOVA

ANOVA - Willingness Adjusted

Cases	Sum of Squares	df	Mean Square	F	p	η²
Randomizer Adjusted	1.105	2	0.553	1.041	0.376	0.115
Residuals	8.497	16	0.531			

Note. Type III Sum of Squares

Descriptives

Descriptives - Willingness Adjusted

Randomizer Adjusted	Mean	SD	N
Control	2.417	0.833	4
Statistic	3.037	0.423	9
Testimonial	2.944	0.998	6

Descriptives plots