

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

# Going for Woke Not Broke: Impacts of Sustainability Menu Attributes on Student Willingness-to-Pay

Snow Peas

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Prepared for: [clients/community partners – organization name (NOT people)]

Course Code: PSYC 421

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**Going for Woke Not Broke: Impacts of Sustainability Menu Attributes on Student  
Willingness-to-Pay**

Group 8: Snow Peas

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PSYC 421: Environmental Psychology

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### Executive Summary

As discussions on climate change and ways to reduce society's ecological footprint become more recurrent, people are having debates on how food is produced and consumed, resulting in many advocating for more sustainable alternatives. Unfortunately, sustainable modes of production are often more expensive, resulting in pricier products overall. The study hypothesizes that the need for more environmentally friendly products, however, will increase people's willingness to pay for a sustainably labeled product compared to a conventional item. Using data obtained from a survey taken primarily by UBC undergraduate students ( $N= 77$ ), a significant difference in participants willingness to pay between the control variables (unlabeled conventional product) and the manipulated variables (labeled with either sustainable, organic, or local) across all conditions (burger, southwest bowl, and poutine) was found. This suggests that people are willing to pay more for items marketed with environmentally friendly buzzwords compared to conventional products, with the majority of participants willing to spend an extra 1-2 dollars for a more sustainable product. Limitations of this study include low sample size, strong demand characteristics, and low ecological validity. Results imply that using ecological buzzwords in descriptions would increase students' WTP for menu items and may lead to more funding for future sustainability initiatives.

**Keywords:** sustainable-food labeling, willingness-to-pay, organic, local, sustainable

## Introduction

Recent research has demonstrated that a shift towards sustainable systems of food production is necessary for ecologically sustainable development, as traditional food production systems are increasingly identified as a key driver of global environmental degradation (Willet et al., 2019). Environmentally sustainable food systems encapsulate a variety of practices, including local production, reduced GHG emissions, and organic farming methods. The sustainable attributes of food products can be conveyed through effective tools such as eco-labels, which serve to inform consumers about environmental impacts of a product's production and promote sustainable consumption patterns (Lavallée & Plouffe, 2004).

Consumer valuation of environmentally conscious options is steadily increasing, with recent meta-analyses suggesting that consumers across the globe are willing to pay more for sustainably produced food in comparison to conventionally produced food. Bastounis et al. (2021) found that consumers are more likely to select and pay more for food products that are labeled with sustainable attributes, with the greatest prioritization of organically labeled food products. Another meta-analysis similarly found that organic attributes were the most influential in increasing consumers' willingness-to-pay (WTP) by 38%, followed by fair-trade (30.5% increase) and local (21.1% increase) alternatives (Li & Kallas, 2021). Current research examining WTP for sustainable attributes predominantly focuses on specific products or food groups (ie. dairy, meats, produce, etc.), despite the increasing prevalence of sustainable meal options in the restaurant and food service industry (Schubert et al., 2010). Current research has yet to fully address how consumers' perceived value of menu items is influenced by attributes such as local, organic, or sustainably produced. The goal of this study is to contribute to the understanding of which food production practices are of most interest to students through an investigation of the perceived monetary value of popular food items.

Increasing WTP for sustainable food options can be explained through environmental and health conscious motives. The framework of the value-attitude-behavior model provided by Shin and colleagues (2017) suggests that WTP for sustainable foods is contingent on personal values and environmental attitudes. They found that biospheric values were positively correlated with consumers' pro-environmental attitudes, which mediated WTP for organic menu items (Shin et al., 2017). These findings illustrate how awareness of the role of food systems in climate change may motivate individuals to shift towards more sustainable patterns of consumption. The EAT-Lancet Commission has identified how diet is increasingly understood as a crucial link between human and environmental sustainability (Willet et al., 2019). Health consciousness has become a predominant motivator in sustainability, as food production practices pose a threat to individual biological health and the ecosystem (Shin et al., 2019).

While demand for sustainable food options has grown over the last several decades, consumers are often deterred by the premium price of these products, as they remain more expensive to produce than conventional food options (Kaczorowska, 2019). Cost may act as a formidable barrier for post-secondary students, as food insecurity has been estimated to impact between 35-42% of university students (Bruening et al. 2017). While affordability is an important determinant in UBC students' food choices, taste and nutrition appear to be of greater importance (Chiam et al., 2021). As demand increases the production and availability of sustainable food options, market trends suggest that additional costs associated with certification and production passed onto consumers may decrease (Bastounis et al., 2021). Therefore, this research can help to inform future interventions for overcoming the barriers associated with the shift towards sustainable food production, particularly for the student population.

While the use of sustainable labels has been explored, research has yet to demonstrate to what extent the framing of sustainability attributes of food items impacts individuals' WTP. We sought to answer the question: *how does the framing of sustainability attributes of food items influence people's WTP?* We hypothesized that students would be willing to pay more for food items that include sustainable attributes such as “organic”, “sustainable” or “locally produced” in comparison to conventional food items that do not have labels that confirm sustainable sourcing.

### Methods

We used UBC Qualtrics to design the survey and dispersed it by putting up posters, sharing it on multiple social media platforms (ex. Instagram, Facebook) and distributed it through UBC class group chats (Appendix B). Initially, our study aimed to recruit a minimum of 138 UBC students after conducting a power analysis for a within subject design with an effect size of 0.1, an alpha of 0.5 and power of 0.8 (Appendix C). We received  $N = 113$  in total. However, 36 of the participants were excluded: 34 participants did not complete the survey, 1 did not consent and 1 participant was an outlier. Removal was done to ensure data validity, as this indicates that their responses were not taken seriously or were done hastily. Our final sample consisted of  $N = 77$  responses with 81.8% being women, 16.9% being men and 1.3% being individuals who identified as other with a mean age of 21.5. Out of the total number of participants, 72.7% are UBC students, 13.0% are students not from UBC and 14.3% are not students. 33.8% identified as Asian, 27.3% Caucasian, 5.2% Black, 5.2% Arab. 1.3% Indigenous and 10.4% other ethnicities.

Our independent variable is the description of sustainable food attributes that the participants were exposed to. This study had four conditions that were used to describe the food items: no description, a sustainable description, an organic description, and a local description. Our dependent variable was participants' WTP, measured in CAD through an online survey created on Qualtrics. We used a correlational within-subjects design. Our survey was active for 32 days, running from March 8th 2022 to April 10th, 2022.

A consent form to participate in the survey appeared on the first page and instructions on what the survey will require the participants to do “You will be asked about your WTP for certain food items with different attributes. Please provide all answers in CAD and in the following format: 0.00”. Respondents were shown twelve questions regarding how much they're willing to pay for a hamburger, a poutine, and a plant-based Southwest Bowl (Appendix A). Each question contained a photo of the food item and a different description. They either contained no description, asking “how much would you be willing to pay for this [food item]?”; a sustainable, organic, or locally-produced description. For example, “the ingredients for this [food item] are sustainably produced. How much would you be willing to pay for this [food item] knowing it's more sustainable?” (Appendix A). These questions were created to differentiate the conditions from each other, and to gauge participants' value of different factors in food sustainability – organic, local, or just sustainable in general with no specifics – compared to a presumed conventional burger with no description about sustainability. Responses were required to be in a \$0.00 format, and the maximum value was \$50.00.

To mask the study's intent and remove demand characteristics, we advertised the study as a perception of food value survey and all questions were randomized. Posters asked “how much would you pay for this burger?” and the sustainability framing was not mentioned until the questions themselves (Appendix B). To avoid the anchoring-and-adjustment heuristic, a baseline amount or example was not provided, and the maximum total of \$50.00 only appeared as an error message when participants attempted to respond with a non-valid amount.

Data analysis was done using JASP, with the CSV file downloaded from qualtrics. We ran repeated measures ANOVA for each food – poutine, hamburger or Southwest Bowl, which also provided descriptive statistics, effect size estimates, and a post hoc test.

## Results

The data obtained showed a significant difference in participants WTP between the conventional (control) variables and labeled (manipulated) variables across all conditions. Using a repeated measures ANOVA test for each food item, we found that participants were willing to pay more for food items that contained an environmentally-friendly buzzword label compared to a conventional unlabeled product.

When participants were asked how much they were willing to pay for a conventional unlabeled hamburger, the mean response for WTP was \$10.07 (sd = 4.043), while a “sustainable” labeled hamburger (M = \$11.48, sd = 4.482, difference of \$1.41), an “organic” labeled burger (M = \$11.57, sd = 4.889, difference of \$1.50), and a “local” labeled burger (M = \$11.64, sd = 4.800, difference of \$1.60) were all viewed with a higher value (df = 3, f = 24.190, p < 0.001) (Appendix D).

For the Southwest bowl, students were willing to spend on average \$9.63 for a conventional unlabeled product (sd = 4.045), while a “sustainable” labeled bowl (M = \$10.90, sd = 4.186, difference of \$1.27), an “organic” labeled bowl (M = \$11.04, sd = 4.780, difference of \$1.41), and a “local” labeled bowl (M = \$11.16, sd = 4.430, difference of \$1.53) all showed a similar outcome (df = 3, f = 22.206, p < 0.001) (Appendix E).

A conventional unlabelled poutine (M = \$6.59, sd = 3.108) also had a lower amount of participants WTP when compared to a “sustainable” labeled poutine (M = \$7.87, sd = 3.669, difference of \$1.28), an “organic” labeled poutine (M = \$7.88, sd = 3.807, difference of \$1.29), and a “local” labeled poutine (M = \$8.17, sd = 4.180, difference of \$1.58) (df = 3, f = 25.452, p < 0.001) (Appendix F).

These results confirm the team's hypothesis that participants are willing to spend more on products that contain environmentally friendly labels, however, by using a post hoc test on each of the different variables (Appendixes D, E, & F), we found that there was no significant difference in the amount participants were willing to pay between the labeled conditions (Appendix G).

## Discussion

The results of our study indicate that participants generally had a higher WTP across all three manipulated description conditions for each of the three food items compared to the control, non-sustainable food items. Across the three food items in comparison to the control base price, the Burger had approximately a \$1.00 increase in WTP, the Southwest Bowl had approximately a \$1.00 increase in WTP, and the Poutine had approximately a \$2.00 increase in WTP (Appendices D-G). This suggests that there is an overall higher WTP for sustainable menu items, especially if the items contain sustainable labels in their description. Our research did not find a significant difference in WTP between the sustainable attributes themselves with each food item, suggesting that just the presence of a sustainable label can have a significant impact on our participant's WTP.

Some limitations of this study include our small sample size; we were unable to reach the recommended sample size (N=138) suggested by our power analysis. We had only 77 valid respondents. Additionally, the majority of participants were UBC students. Therefore, it is difficult

to extrapolate or generalize the data from this study to other demographic groups. Another limitation is that the majority of respondents identified as women and it may not represent the WTP factor of other genders. Additionally, there was low ecological validity in the survey as some participants responded with \$0.00 for all products of no description, which would not reflect real life circumstances where everyone is not in a financial position to be able to afford sustainable food products or the sustainability impact of the product is not made clear. The standard deviation among the WTP factor of our participants may be explained by the impact of socioeconomic status on one's valuation of food products. Moreover, UBC students may have attempted to seem more concerned with the environmental impact of food products than they would be in reality, due to the prevalence of environmentalism. Participants may have grown conscious of their image and realized the aim of the study as they read the terms “sustainable” or “organic”, thereby influencing their responses. However, our preliminary results can serve as a strong foundation towards identifying key trends in people’s spending habits and priorities toward sustainable food production.

To increase representation and broaden the scope of the findings, one could expand the demographics to include rural and urban participants, and how their environment and SES may influence their WTP for sustainable food items. While previous research on consumer values and perception of ecolabels has demonstrated that urban consumers are more price sensitive, they were less willing to pay more for sustainably labeled food products in comparison to what they already pay for non-sustainable food products. Less is understood about rural consumers WTP for sustainable attributes (Kaczorowska et al. 2019). A recent meta-analysis of discrete choice experiments suggests that women and people with lower levels of education expressed higher WTP for ecolabels on food products, which can further inform future research directions on underrepresented demographics (Bastounis et al. 2021).

Ecolabels and using sustainability buzzwords may increase consumers’ WTP for more environmentally sustainable food products, which could be used as an effective strategy to promote a transition to a more sustainable diet (Bastounis et al. 2021). Therefore, the use of a cost-benefit analysis comparing the current base prices of organic food products to people’s WTP can be used in future studies to reflect more recent real world trends. For example, it can include different real world data such as analyzing online grocery shopping trends or a naturalistic observation of participants’ spending habits in Open Kitchen.

Future studies could also expand the conditions to include sustainability attributes such as, fair-trade or low-GHG emissions. This would be useful in analyzing any significant differences between those attributes in comparison to each other, along with the attributes of the original study. For example, past research has suggested that environmental concern is a strong predictor of WTP for organic meals in comparison to the follow up factors of social value and health consciousness (Shin et al. 2019). However, they also found that health consciousness was the most influential factor in motivating consumers’ to visit, followed by social value and environmental concern (Shin et al. 2019). We hope that if this study were to be expanded that it would uncover the mechanisms of how framing sustainable attributes of food products can influence the value one places on those items along with their attitudes towards them.

### **UBC Client Recommendations**

In light of our research, it is evident that the framing of sustainability attributes for food items positively influences UBC students' willingness to pay significantly more for food items

labeled as “organic”, “local”, or “sustainable” compared to conventional food items. Our findings suggest that UBC consumers value sustainable menu items and consider what is most environmentally optimal. Our study can also provide a framework for food pricing, as it shows how much students are willing to pay for existing menu items (see Tables D.1, E.1 and F.1). Currently, Open Kitchen at UBC charges \$8.29 for a hamburger, but our results indicate that students would be willing to pay \$11.48 for a more sustainable hamburger (Table D.1). These findings also hold true for plant-based options like the Southwest Bowl, which currently is priced at \$8.99, but students would be willing to pay \$11.16 for if it were entirely local (Table E.1). Likewise, students would be willing to pay \$1.50 more for poutine that was made with local ingredients, such as potatoes from the UBC farm or cheese from a local dairy farm (Table F.3). OrganicBC (2022) claims that 35 pounds of organic and local potatoes could be purchased for \$79.20 – approximately \$2.26 per pound. While a generic 10 pound bag of potatoes from Walmart costs \$4.97, or \$0.50 per pound, this difference is almost made up by the difference in students’ WTP.

Moving forward, offering sustainable meal alternatives can help UBC in transition towards environmentally-conscious food production systems. These findings suggest that UBC food services can implement a policy for all eligible food items to utilize the labeling of sustainability attributes on available menus, like Nutrislice. For example, food item A: “locally sourced from Abbotsford”. Since word choices such as ‘locally sourced’ and ‘organic’ evidently align with people's general sustainability values, it follows that the UBC kitchen, as well as the overall environment, would greatly benefit from more intentional usage of these powerful ‘buzzwords’.

As the production and availability of sustainable food options increase, the price premium that is passed on to consumers may decrease. In the interim, more costly sustainable food options may present a barrier for students of lower-economic status. Another possible intervention for increasing the accessibility of sustainable food is to offer more plant-based options, which provide affordable meals for student consumers while simultaneously reducing the use of high-cost sustainable ingredients (ie. meat and seafood). These described interventions — aligning meal pricing with student values, labeling and promoting sustainable options, and offering low-cost nutritional alternatives — can help UBC to mitigate the barriers involved in transitioning towards climate friendly models of food systems.



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## Appendix A

### Survey Perceived Value of Food Products

13/04/2022, 18:01

Qualtrics Survey Software

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#### Consent Form

##### Consent Form

Class Research Projects in PSYC 421 - Environmental Psychology

Principal Investigator: Dr. Jiaying Zhao

Course Instructor

Department of Psychology

Institute for Resources, Environment and Sustainability

Email: [jiayingz@psych.ubc.ca](mailto:jiayingz@psych.ubc.ca)

##### Introduction and Purpose

Students in the PSYC 421 - Environment Psychology class are required to complete a research project on the UBC campus as part of their course credit. In this class, students are required to write up a research proposal, conduct a research project, analyze data, present their findings in class, and submit a final report. Their projects can include surveys, observations, and simple experiments on waste sorting on campus, student health and wellbeing, food consumption and diet, biodiversity perception, and exercise habits. The goal of the project is to train students to learn research techniques, how to work in teams and work with UBC clients selected by the UBC SEEDS (Social Ecological Economic Development Studies) program.

##### Study Procedures

If you agree to participate, the study will take about 10 minutes of your time. You will answer a few questions in the study. The data will be strictly anonymous. Your participation is entirely voluntary, and you can withdraw at any point without any penalty. Your data in the study will be recorded (e.g., any answer you give) for data analysis purposes. If you are not sure about any instructions, please do not hesitate to ask. Your data will only be used for student projects in the class. There are no risks associated with participating in this experiment.

##### Confidentiality

Your identity will be kept strictly confidential. All documents will be identified only by code number and kept in a locked filing cabinet. You will not be identified by name in any reports of the completed study. Data that will be kept on a computer hard disk will also be identified only by code number and will be password protected so that only the principle investigator and course instructor, Dr. Jiaying Zhao and the teaching assistant will have access to it. Following the completion of the study, the data will be transferred to a password protected hard drive and stored in a locked filing cabinet. Please note that the results of this study will be used to write a report which is published on the SEEDS library.

##### Remuneration

There is no remuneration for your participation.

##### Contact for information about the study

This study is being conducted by Dr. Jiaying Zhao, the principal investigator. Please contact her if you have any questions about this study. Dr. Zhao may be reached at (604) 827-2203 or [jiayingz@psych.ubc.ca](mailto:jiayingz@psych.ubc.ca). Contact for concerns about the rights of research subjects If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint

13/04/2022, 18:01

Qualtrics Survey Software

Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598.

**Consent**

Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time. You also may postpone your decision to participate for 24 hours. You have the right to choose to not answer some or any of the questions. By clicking the “continue” button, you are indicating your consent to participate; hence, your signature is not required. The researchers encourage you to keep this information sheet for your records. Please feel free to ask the investigator any additional questions that you have about the study.

- I consent to participate in this study
- I do not consent to participate in this study

**Instructions**

You will be asked about your willingness to pay for certain food items with different attributes. Please provide all answers in Canadian dollars and in the following format: 0.00

**Questions**

How much would you be willing to pay for this Southwest Bowl (plant-based bowl)?



Please write how much you're willing to pay

The ingredients for this Southwest Bowl are sustainably produced. How much would you be willing to pay for this Southwest Bowl knowing it's more sustainable?

13/04/2022, 18:01

Qualtrics Survey Software



Please write how much you're willing to pay

This Southwest Bowl was made from ingredients sourced from a certified organic farm. How much would you be willing to pay for this Southwest Bowl knowing the ingredients are organic?



Please write how much you're willing to pay

This Southwest Bowl was made with ingredients grown directly from the UBC farm. How much would you be willing to pay for this Southwest Bowl knowing it has ingredients sourced from the UBC farm?



Please write how much you're willing to pay

13/04/2022, 18:01

Qualtrics Survey Software



Please write how much you're willing to pay

This Southwest Bowl was made from ingredients sourced from a certified organic farm. How much would you be willing to pay for this Southwest Bowl knowing the ingredients are organic?



Please write how much you're willing to pay

This Southwest Bowl was made with ingredients grown directly from the UBC farm. How much would you be willing to pay for this Southwest Bowl knowing it has ingredients sourced from the UBC farm?



Please write how much you're willing to pay

13/04/2022, 18:01

Qualtrics Survey Software

This poutine was made with ingredients grown directly from the local UBC farm. How much would you be willing to pay for this poutine knowing it has ingredients sourced from the UBC farm?



Please write how much you're willing to pay

This poutine was made from ingredients sourced from a certified organic farm. How much would you be willing to pay for this poutine knowing the ingredients are organic?



Please write how much you're willing to pay

The ingredients for this poutine are sustainably produced. How much would you be willing to pay for this poutine knowing it's more sustainable?

13/04/2022, 18:01

Qualtrics Survey Software



Please write how much you're willing to pay

How much would you be willing to pay for this poutine?



Please write how much you're willing to pay

The ingredients for this hamburger are sustainably produced. How much would you be willing to pay for this hamburger knowing it's more sustainable?



Please write how much you're willing to pay

13/04/2022, 18:01

Qualtrics Survey Software

This burger was made from ingredients sourced from a certified organic farm. How much would you be willing to pay for this hamburger knowing the ingredients are organic?



Please write how much you're willing to pay

How much would you be willing to pay for this hamburger?



Please write how much you're willing to pay

This hamburger was made with ingredients grown directly from the local UBC farm. How much would you be willing to pay for this hamburger knowing it has ingredients sourced from the UBC farm?



Please write how much you're willing to pay

**Demographics**

Are you a student?



13/04/2022, 18:01

Qualtrics Survey Software

- Yes, I'm a UBC student
- Yes, but I'm not a UBC student
- No

Which year are you in?

- Undergraduate Year 1
- Undergraduate Year 2
- Undergraduate Year 3
- Undergraduate Year 4
- Undergraduate Year 5+
- Graduate

Which gender do you identify with?

- Woman
- Man
- Non-binary
- Transgender
- Two spirited
- Other

What is your age (in years)?

With which of the following do you identify? (select all that apply)

- White
- Asian
- Indigenous peoples of North America
- Arab
- Latin, Central or South American
- Black
- Other

Which of the following best describes your political views?

- Strongly liberal

13/04/2022, 18:01

Qualtrics Survey Software

- Liberal
- Slightly liberal
- Middle of the road
- Slightly conservative
- Conservative
- Strongly conservative

Generally speaking, how stressed are you regarding climate change?

- No stress at all
  - A negligible amount of stress
  - A small amount of stress
  - A noticeable but tolerable amount of stress
  - A just manageable amount of stress
  - A slightly stressful amount of stress
  - A noticeable amount of stress
  - A considerable amount of stress
  - An overwhelming amount of stress
- 

Powered by Qualtrics

**Appendix B**  
Promotional Media

# **PARTICIPATE IN A PSYC 421 STUDY!**

**HOW MUCH WOULD YOU  
PAY FOR THIS BURGER?**



**Let us know by  
taking this survey!**



**PARTICIPATE IN A PSYC 421 STUDY!**

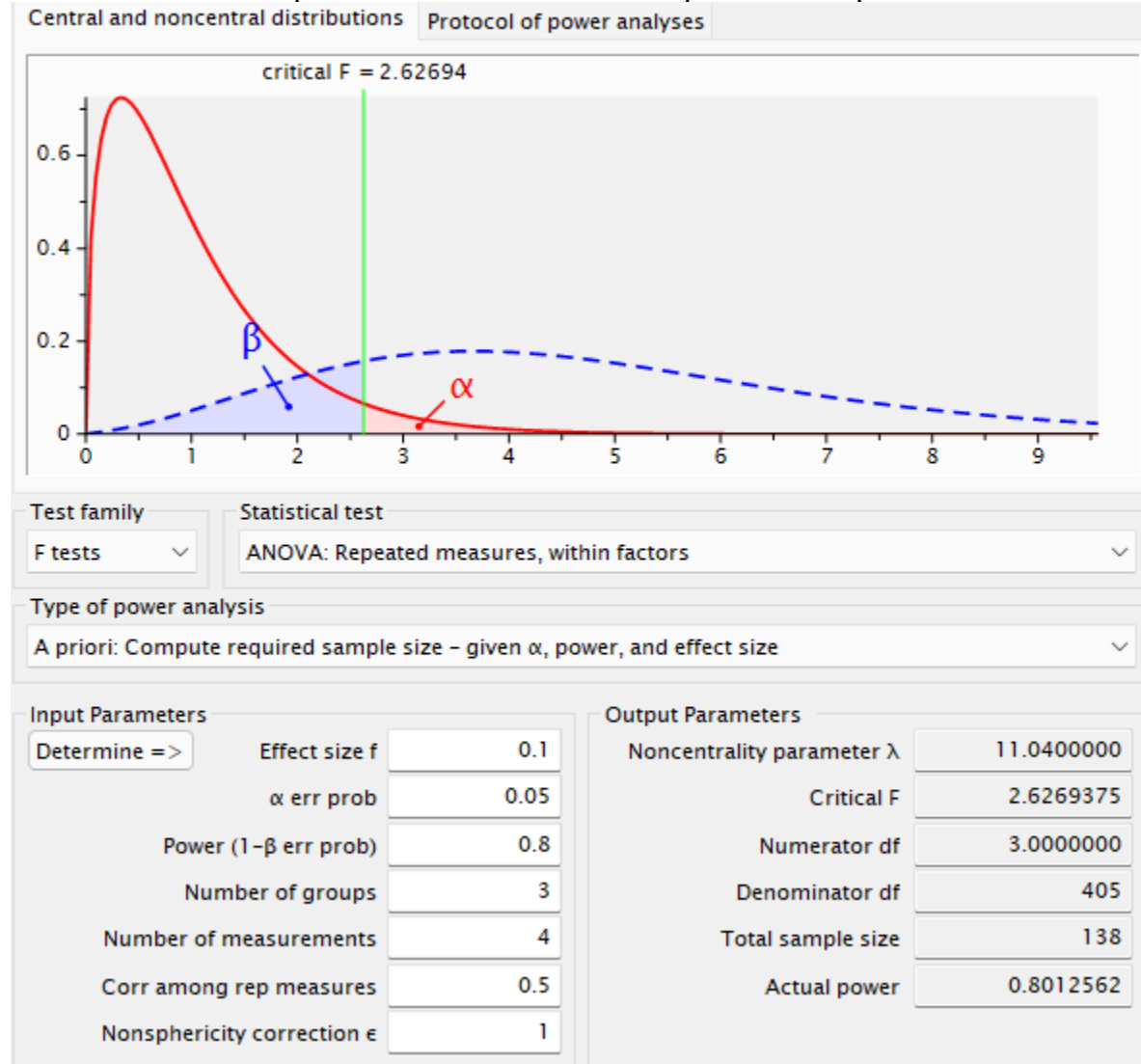


**HOW MUCH DO YOU THINK THIS IS WORTH?**

Click the link in my bio to let me know!

### Appendix C

Power Calculation: G\*power calculation to determine predicted sample size



**Appendix D**  
Burger Data Analysis

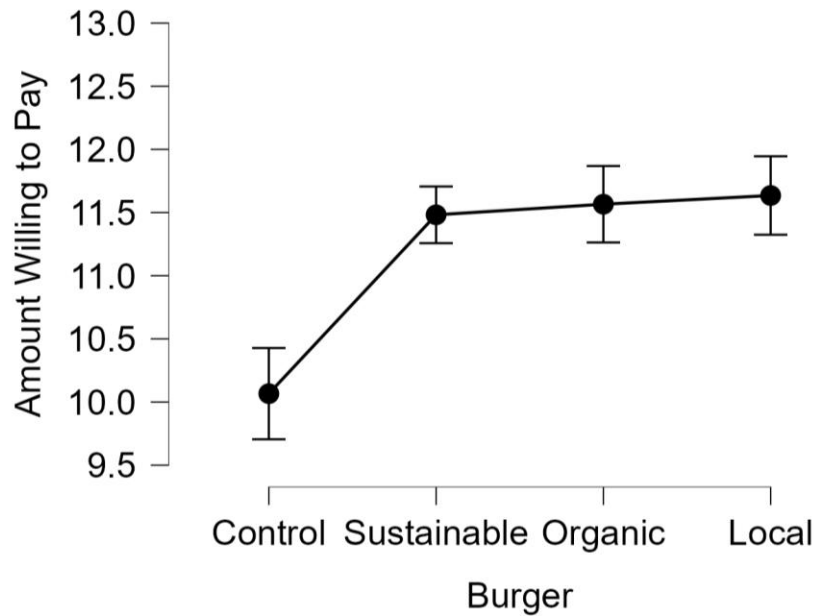


Figure D.1 A graph showing WTP in CAD for the photo of a hamburger on the y-axis and condition (control, sustainable, organic, local) on the x-axis. Error bars indicate there is a significant difference between control to sustainable, organic, local, but not between sustainable, organic, and local.

Descriptives

Burger	Mean	SD	N
Control	10.066	4.043	77
Sustainable	11.482	4.482	77
Organic	11.566	4.889	77
Local	11.635	4.800	77

Table D.1 A table containing the mean price in CAD, standard deviation and number of responses for the photos of a hamburger.

Within Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	$\eta_p^2$
Burger	129.943 <sup>a</sup>	3 <sup>a</sup>	43.314 <sup>a</sup>	24.190 <sup>a</sup>	< .001 <sup>a</sup>	0.241
Residuals	408.251	228	1.791			

Table D.2

Post Hoc Comparisons - Burger

		Mean Difference	95% CI for Mean Difference			t	Cohen's d	95% CI for Cohen's d		Phom
			Lower	Upper	SE			Lower	Upper	
Control	Sustainable	-1.416	-1.990	-0.842	0.216	-6.565	-0.310	-0.455	-0.166	< .001
	Organic	-1.500	-2.074	-0.926	0.216	-6.954	-0.328	-0.475	-0.182	< .001
	Local	-1.569	-2.143	-0.995	0.216	-7.275	-0.344	-0.492	-0.196	< .001
Sustainable	Organic	-0.084	-0.658	0.490	0.216	-0.389	-0.018	-0.146	0.109	1.000
	Local	-0.153	-0.727	0.421	0.216	-0.709	-0.034	-0.161	0.094	1.000
Organic	Local	-0.069	-0.643	0.505	0.216	-0.320	-0.015	-0.143	0.112	1.000

Table D.3

**Appendix E**  
Southwest Bowl Data Analysis

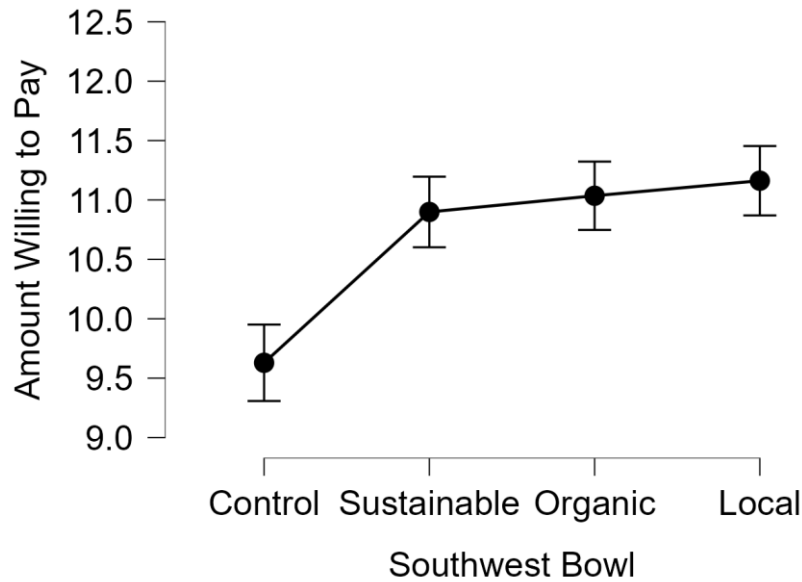


Figure E.1 A graph showing WTP in CAD for the photo of a Southwest bowl on the y-axis and condition (control, sustainable, organic, local) on the x-axis. Error bars indicate there is a significant difference between control to sustainable, organic, local, but not between sustainable, organic, and local.

Descriptives

Southwest Bowl	Mean	SD	N
Control	9.629	4.045	77
Sustainable	10.899	4.186	77
Organic	11.035	4.780	77
Local	11.162	4.430	77

Table E.1 A table containing the mean price in CAD, standard deviation and number of responses for the photos of a Southwest Bowl.

Within Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	$\eta_p^2$
Southwest Bowl	116.312 <sup>a</sup>	3 <sup>a</sup>	38.771 <sup>a</sup>	22.206 <sup>a</sup>	< .001 <sup>a</sup>	0.226
Residuals	398.074	228	1.746			

Table E.2



Post Hoc Comparisons - Southwest Bowl

		Mean Difference	95% CI for Mean Difference			t	Cohen's d	95% CI for Cohen's d		Phom
			Lower	Upper	SE			Lower	Upper	
Control	Sustainable	-1.270	-1.836	-0.703	0.213	-5.962	-0.291	-0.437	-0.144	< .001
	Organic	-1.406	-1.973	-0.839	0.213	-6.603	-0.322	-0.471	-0.173	< .001
	Local	-1.533	-2.099	-0.966	0.213	-7.197	-0.351	-0.503	-0.198	< .001
Sustainable	Organic	-0.136	-0.703	0.430	0.213	-0.641	-0.031	-0.163	0.101	1.000
	Local	-0.263	-0.830	0.304	0.213	-1.236	-0.060	-0.192	0.072	0.654
Organic	Local	-0.127	-0.693	0.440	0.213	-0.595	-0.029	-0.161	0.103	1.000

Table E.3

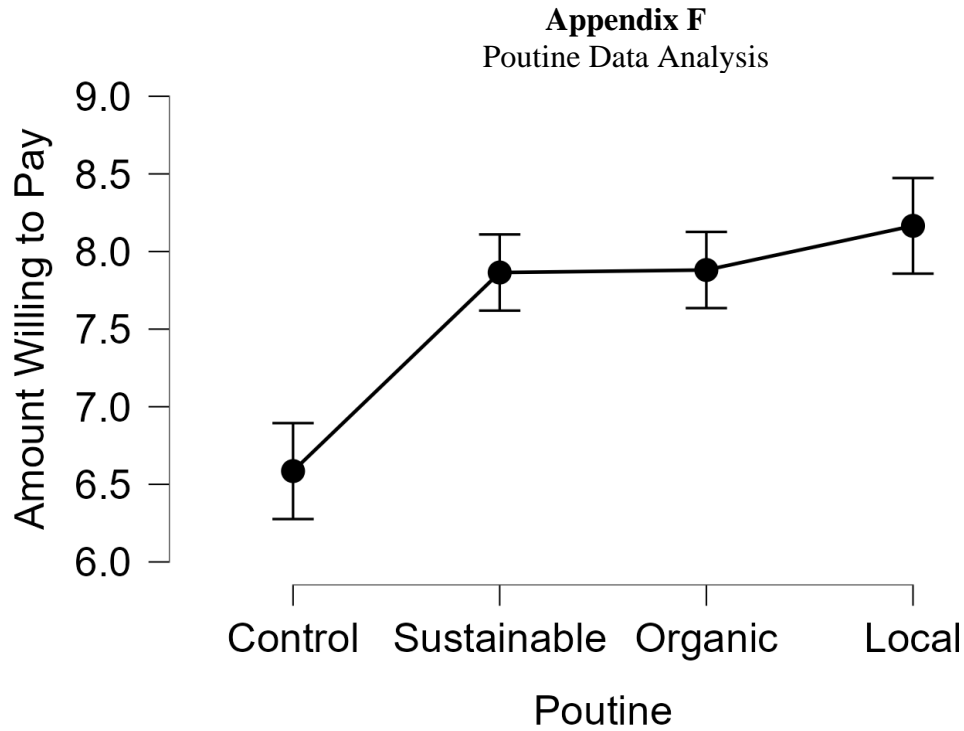


Figure F.1 A graph showing WTP in CAD for the photo of a poutine on the y-axis and condition (control, sustainable, organic, local) on the x-axis. Error bars indicate there is a significant difference between control to sustainable, organic, local, but not between sustainable, organic, and local.

Descriptives

Poutine	Mean	SD	N
Control	6.585	3.108	77
Sustainable	7.865	3.669	77
Organic	7.881	3.807	77
Local	8.165	4.180	77

Table F.1 A table containing the mean price in CAD, standard deviation and number of responses for the photos of a poutine.

Within Subjects Effects ▼

Cases	Sum of Squares	df	Mean Square	F	p	$\eta_p^2$
Poutine	115.167	3	38.389	25.452	< .001	0.251
Residuals	343.892	228	1.508			

Table F.2

Post Hoc Comparisons - Poutine

		Mean Difference	95% CI for Mean Difference			t	Cohen's d	95% CI for Cohen's d		Pholm
			Lower	Upper	SE			Lower	Upper	
Control	Sustainable	-1.279	-1.806	-0.752	0.198	-6.463	-0.345	-0.507	-0.182	< .001
	Organic	-1.295	-1.822	-0.769	0.198	-6.545	-0.349	-0.512	-0.186	< .001
	Local	-1.580	-2.107	-1.053	0.198	-7.983	-0.426	-0.597	-0.254	< .001
Sustainable	Organic	-0.016	-0.543	0.511	0.198	-0.082	-0.004	-0.148	0.140	0.935
	Local	-0.301	-0.828	0.226	0.198	-1.520	-0.081	-0.226	0.064	0.390
Organic	Local	-0.285	-0.811	0.242	0.198	-1.438	-0.077	-0.222	0.068	0.390

Table F.3

**Appendix G**  
Combined Data Analysis

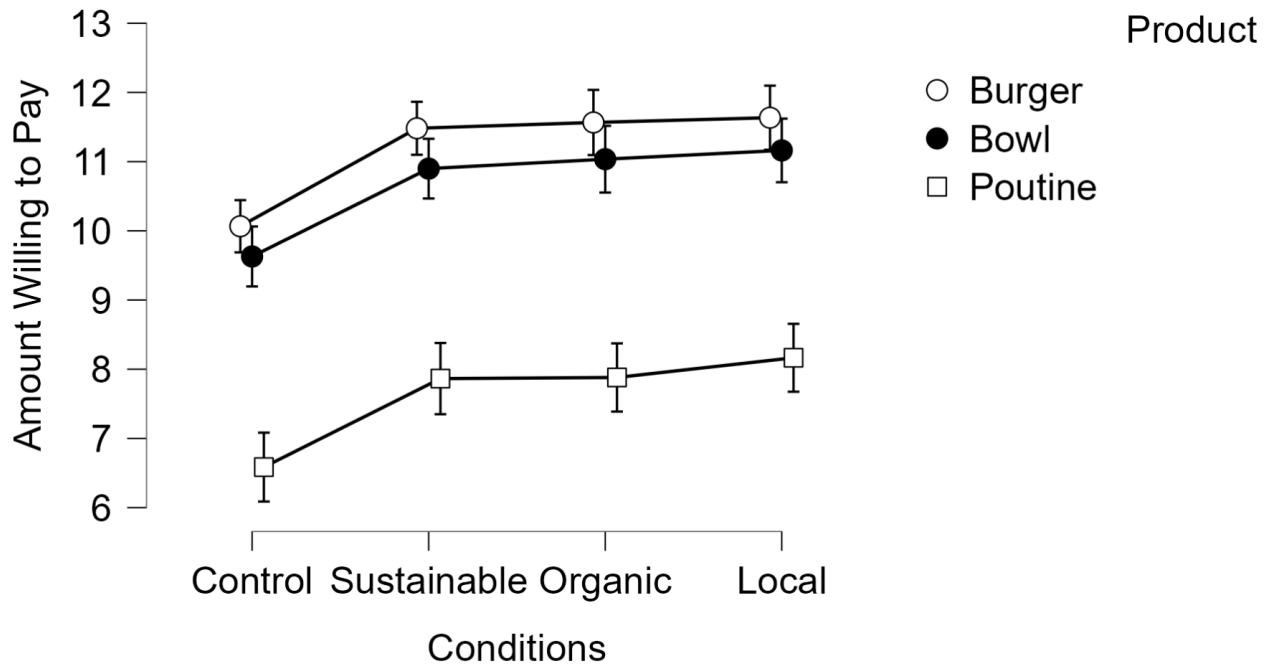


Figure G.1 A graph showing WTP in CAD on the y-axis and condition (control, sustainable, organic, local) on the x-axis. Plotted are the responses for hamburgers, Southwest Bowl, and poutine. People were least willing to pay for all poutine conditions, and most willing to pay for sustainable, organic, or local hamburger conditions. Error bars indicate there is a significant difference between control to sustainable, organic, local, but not between sustainable, organic, and local.

Post Hoc Comparisons - Conditions ▼

		Mean Difference	95% CI for Mean Difference			t	Cohen's d	95% CI for Cohen's d		P <sub>holm</sub>
			Lower	Upper	SE			Lower	Upper	
Control	Sustainable	-1.322	-1.726	-0.917	0.152	-8.697	-0.312	-0.431	-0.194	< .001
	Organic	-1.400	-1.805	-0.996	0.152	-9.216	-0.331	-0.452	-0.210	< .001
	Local	-1.561	-1.965	-1.156	0.152	-10.269	-0.369	-0.495	-0.242	< .001
Sustainable	Organic	-0.079	-0.483	0.326	0.152	-0.519	-0.019	-0.116	0.079	0.604
	Local	-0.239	-0.643	0.165	0.152	-1.573	-0.056	-0.154	0.041	0.352
Organic	Local	-0.160	-0.565	0.244	0.152	-1.053	-0.038	-0.135	0.060	0.586

Note. P-value and confidence intervals adjusted for comparing a family of 6 estimates (confidence intervals corrected using the bonferroni method).  
Note. Results are averaged over the levels of: Product

Table G.1

**Appendix H**

## Team Member Contribution

**Survey & Data Collection**

Leanna, Lowell, Morgan → created survey

Morgan and Lowell → distributed flyers, shared on social media and with peers

Leanna → sent to class discussion boards and asked profs to distribute, created poster & social media graphic

Muna → shared in class group chats, social media & asked Laure Dupuy to distribute our survey

Hana → distributed surveys to online class chats, social media, etc., reached out to Dr.Zhao regarding concerns about our survey questions

Katelyn → shared on class discussion boards, study groups, and social media

**Proposal**

Leanna → Methods

Morgan → Methods and power analysis (appendix C)

Hana → Literature review and research question

Lowell →References

Muna →Research hypothesis and anticipated outcomes

Katelyn → Literature review and driving/restraining forces

**Presentation**

Leanna → Measures and conditions, editing

Morgan → Results, graphs, editing

Hana → research question, hypothesis

Lowell →Limitations and Results Interpretation

Muna → Future Implications, editing

Katelyn → Participant demographics, editing

**Final Report**

Executive summary → Morgan

Group and student names → Leanna

Project title → Leanna

Introduction (Literature review & driving and restraining forces) → Katelyn

Research question and hypothesis → Hana

Methods → Leanna & Muna

    Participants & conditions → Muna

    Measures & Procedure→ Leanna

Results, including appendices D-G → Morgan

Discussion → Lowell

Recommendations for UBC client → Katelyn & Hana

References → Katelyn & Leanna

Appendix → everyone

    Survey → Leanna

    Member contribution → everyone

