University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Preferences on Compartmentalization of Reusable Food Containers

Prepared by: Alexandra Lillywhite, Junzhi (Evan) Hu, Liam Madsen, Sana Furqan, Zsófia Barta

Prepared for:

Course Code: PSYC 421

University of British Columbia

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Student Research Report

Preferences on Compartmentalization of Reusable Food Containers

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PSYC 421: Environmental Psychology

Dr. Jiaying Zhao

April 13th, 2021

Executive Summary: The purpose of this study was to determine a new container design for the campus wide reusable food container (RFC) sharing program in aims of increasing the use of these containers on campus. Three distinct food container designs were used, based on existing designs seen on popular shopping sites, these designs included a single-space, compartmentalized, and stacked conditions. A survey was conducted in order to create data on peoples' preferences. Our survey used various measures including: likelihood to use, likelihood to tell a friend, internal design preference, usefulness, and willingness to pay for each of our container conditions. In addition, qualitative data was taken for each of the conditions which was used to construct an idea of possible changes to each container design. Our quantitative data was analyzed using a repeated measures ANOVA test, where we noticed that compartmentalized containers were generally favoured for the majority of our measures. In addition, our qualitative data revealed that the compartmentalized containers had the most constructive criticism and positive suggestions, while the other containers received substantially more negative feedback. As a result, we propose the integration of a compartmentalized container into the RFC sharing program on campus.

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Preferences on Compartmentalization of Reusable Food Containers

Introduction: Currently, there is no existing empirical research on internal structural design of reusable food containers (RFCs), and the effects this has on the use of the product. The goal of this study is to provide researched recommendations for the existing RFC program at UBC; we investigated how organization can influence behaviour, specifically self-regulating/controlling behaviour. Although none of the studies described were conducted specifically on RFCs, they all indicated that increased orderliness and organization led to stronger self-control behaviours. Li et. al. found a positive effect of environmental orderliness on participants' ability to hold their breath[1]. Muraven et. al.found support for a "strength model" of self-regulation, comparing self-regulating abilities to an overused muscle that becomes fatigued[2]. This study used measures that were physical, psychological, and emotional, supporting the notion that self-regulation is a finite resource in humans[2]. Chae et. al. supported that environmental disorder led to self-regulatory failure[3]. In a variety of experiments, they demonstrated how disorderly environments led to self-regulatory failures, such as "regulatory failure like impulsive buying, poor performance on the Stroop task, and reduced persistence on challenging tasks". These studies clearly support that not only is self-control a finite, depletable, and therefore manipulatable resource, but that it is also affected beyond an individual's control by the immediate environment of the individual. If the environment can have an effect on self-control behaviour, then it is possible the design and consequent functionality of an RFC could aid the self-control behaviours of the user. Therefore, to increase individuals' self-control/regulation behaviour, they could improve the quality of their environments through orderliness in design.

Our study addressed internal bottlenecks[4] like limited-resources by focusing on the hypotheses that self-control is a finite psychological resource[2], and increasing motivation by reducing challenges associated with RFCs. External bottlenecks[4] like complex/confusing choice settings include the daily decisions individuals on UBC campus face regarding meals, and how they plan and transport their home-prepared meals to campus. Such planning involves tackling scenarios with limited resources/alternatives at hand on campus, while maintaining standards and personal preferences for meals consumed. A product that reduces the effort the user has to put in, while simultaneously improves the quality of the environment (that is the physical container for food), is a product that could improve program usage through alternative design. Orderliness is being "arranged or disposed of in some order or pattern"[5], thus a design that incorporates arranged patterns in a functional manner could directly enhance the RFC and support its usage in a campus-wide program.

Research Question: Based on background research, we proposed the following research question: *When using RFCs, what kind of compartmentalisation do people prefer?* Compartmentalisation refers to the internal structure of the containers for example, whether it has dividers to create separate sections inside the container.

Hypothesis: Given our broad research question, we curated a specific hypothesis for each measure in our study: $\mathbf{H_1}$: The internal design of the compartmentalised container will be rated better than the internal design for the other two types of containers. $\mathbf{H_2}$: The compartmentalised container will be rated as more useful than the other two types of containers. $\mathbf{H_3}$: The

compartmentalised container will be rated more likely to be used than the other two types of containers. $\mathbf{H_4}$:The compartmentalised container will be rated more likely that the participant will tell a friend than the other two types of containers. $\mathbf{H_5}$: The price that participants are willing to pay for the containers will be higher for the compartmentalised container compared to the other two types of containers

Methods

Participant sample: We aimed for a sample of 51 individuals after conducting a power calculation for a within subjects design with an effect size of 0.25 at α=0.05 (refer to **Figure 12** in appendix), our total responses = 74, with usable responses leaving, N = 54. Demographics: Age(M= 24.9, SD=9.4). Proportion female = 56%, proportion non-UBC students =54% (remainder were UBC students), ethnicity majority: 64% Caucasian/White; (refer to **Figures 9&10** in appendix for demographic graphs). The study was online (due to COVID-19), using social media groups (e.g. UBC class of 2020/2021) and circles (eg. work, friends, and family).

Conditions: Our independent variable is the type of container, 3 container types means we have 3 conditions: single-spaced container, compartmentalized container, and stacked container. We used a within-subjects design and we controlled for colours, materials, and dimensions in our designs by providing a statement before each condition asking participants to assume the same colour, material and dimensions for all containers. The compartmentalized and stacked conditions operationalized our research that orderliness will lead to more self-control behaviour and adherence to the RFC program over time, and the single space condition is used to compare against in terms of internal organization.

***Measures*:** We used a variety of measures for our 5 different dependent variables. For the likelihood to use and the likelihood to tell a friend measure we used a 7-point likert scale, with 1=extremely unlikely, 7=extremely likely and 4 being the midpoint value. For our internal design measure, we used a 7-point likert-scale with 1=worst design, 7=best design and 4 being the midpoint value. For our usefulness measure, we used a 7-point likert-scale with 1=extremely useless, 7=extremely useful and 4 being the midpoint value. For our willingness to pay, we asked participants "How much are you willing to pay for this container?" and we provided an open-text box for them to respond with a positive whole number value between 0 and 50, representing Canadian dollars. Each measure directly represents their respective hypotheses 1-5. We used a 7-point likert scale as research supported the idea that it provides a more accurate measure of participants' true evaluation[6]. Additionally, we used an open text-box response where participants answered "If you had to change one thing about this container what would it be? (Please be as clear as possible with your response)"(refer to **Figure 8** in the appendix for full survey). The text-response is intentionally neutral to allow negative and/or positive feedback.

Procedure: Participants completed our online Qualtrics survey between 2/3/21-12/3/21 using links that were distributed in aforementioned groups. Some participants found the survey lacked detail (e.g. labels) and struggled with interpreting the designs.

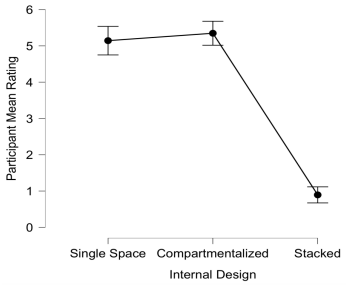

Figure 1:data visualisation for internal design (H_1)

Results

H_1 (*internal design):* Our repeated measures ANOVA test yielded a p-value of <0.001 at α=0.05, allowing us to conclude with 95%

certainty that our results on this measure were significant. Trends in **Figure 1.** showed that there was a generally better rating for the compartmentalised container over both other container types. However, post-hoc Holm analyses showed that the rating for the compartmentalised container was only significantly better than the stacked-container ($p < 0.001$), and not than the single-spaced container ($p = 0.687$).

H_2 (*usefulness):* Our repeated measures ANOVA test yielded a p-value of <0.001 at α=0.05, allowing us to conclude with a 95% certainty that our results on this measure were significant. Trends in **Figure 2** showed that there was a generally higher usefulness rating for the compartmentalised container over both other container types. However, post-hoc Holm analyses showed that the compartmentalised container was only rated significantly more useful than the stacked container ($p < 0.001$), and not than the single-spaced container ($p = 0.485$).

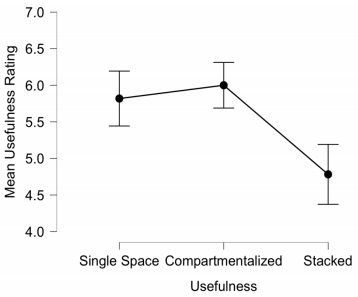

Figure 2:data visualisation for usefulness (H_2)

H_3 (*likelihood to use):* Our repeated measures ANOVA test yielded a p value of <0.001 at α=0.05, allowing us to conclude with 95% certainty that our results on this measure were significant. Trends in **Figure 3** showed that the single-spaced container was the most likely to be used compared to the other two container types. However post-hoc Holm analyses showed that, the single-spaced container was not significantly more likely to be used over the compartmentalised container ($p = 0.094$), but both compartmentalised container and the single-spaced containers were significantly more likely to be used than the stacked container ($p < 0.001$).

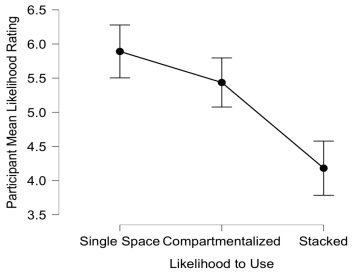

Figure 3:data visualisation for likelihood to use (H_3)

H_4 (*likelihood to tell a friend):* Our repeated measures ANOVA test yielded a p value of 0.010 at α=0.05, allowing us to conclude with 95% certainty that our results on this measure were significant. Trends in **Figure 4** showed that the compartmentalised container was most likely to be told about to a friend compared to the other two container types. However, post-hoc Holm analyses showed that the compartmentalised container was only significantly more likely to be told about to a friend than the stacked container ($p = 0.008$) and not than the single-spaced container ($p = 0.102$)..

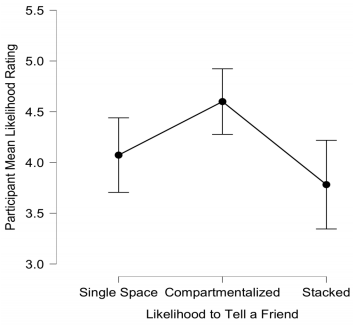

Figure 4:data visualisation for likelihood to tell a friend (H_4)

H_5 *(willingness to pay):* Our repeated measures ANOVA test needed to be log transformed in order to normalise our data for interpretation purposes. At a α=0.05, our normalised p value was 0.002, allowing us to conclude with a 95% certainty that our results on this measure were significant. Trends in **Figure 5** showed that participants were willing to pay more for the compartmentalised container compared to the other two container types. However, post-hoc Holm analyses showed that

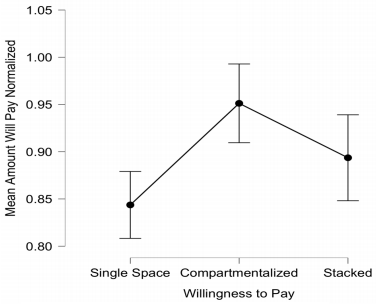

Figure 5:normalised data visualisation willingness to pay (H_5)

participants were only significantly willing to pay more for the compartmentalised container over the single-spaced ($p < 0.001$) but not over the stacked container ($p = 0.098$).

Correlational and Reliability Analysis: Following our repeated measures ANOVA and post-hoc tests, we conducted a correlational analysis for each of the measures using Pearson's R and results were compiled (refer to **Figure 6** in appendix). We found that the internal design measure showed mostly strong correlations with every measure for each condition. Usefulness, likelihood to use, and likelihood to tell a friend showed mostly mild correlations with the other measures for each condition. Overall, willingness to pay showed mostly weak correlations with the other measures for each condition. We conducted a reliability analysis using Cronbach's alpha calculation (refer to **Figure 7**. in appendix). Our measures were found to be reliable in each condition that was tested, as each of the Cronbach's alpha values were above 0.7, indicative of good reliability.

Qualitative Data Analysis: Qualitative data was not statistically analysed, instead its purpose was to gain design-specific feedback on the conditions. Text responses from questions #10, 17, and 24 were categorized into themes (e.g. internal design, material, etc.) and coded according to content (e.g. "add compartments") in order to be compiled into a frequency-based bar chart (refer to **Figure 11** in appendix). The stacked container received the most negative feedback, such as it being inconvenient to access and messy to use; and many participants were confused by the design. The single space compartment received the most "no change" comments, as well as "add compartments" notes. The compartmentalized container received the most feedback about adjustable compartments, which we see as a solution to the myriad of comments about adding/removing compartments. If the user is able to organize the container according to their personal needs, they are able to maximise its functionality, which incentivizes them to use the container and RFC program.

Discussion: Our study provides some of the first knowledge in the field regarding the potential effects of internal container structure on users' ratings and container-use choice. As our statistical results indicate, all of our hypotheses for each measure are partially supported except for $\mathbf{H^3}$ regarding participants' likelihood to use the food container, where the single-spaced condition was rated the most likely to be used. It is worth noting that our post hoc analysis did not render the single-spaced container significantly more likely to be used than the compartmentalized container. More specifically, in regards to the other four hypotheses ($\mathbf{H^1}$, $\mathbf{H^2}$, $\mathbf{H^4}$, and $\mathbf{H^5}$), our data demonstrated significant differences on all four measures, indicating that the compartmentalized container has a better internal design, is more useful, is more likely to be told to a friend, and is wanted at a higher price. However, once again, we found with the post hoc analysis that the compartmentalized condition was not rated significantly higher than both of the other two conditions simultaneously. Thus, we concluded that $\mathbf{H^1}$, $\mathbf{H^2}$, $\mathbf{H^4}$, and $\mathbf{H^5}$ are only partially supported in our study. As for our qualitative data, the purpose of their collection was to serve as complementary information to our quantitative analysis and to offer us greater depth into understanding individual reasonings behind their ratings. Conforming with our quantitative data, the stacked condition received the most complaints; meanwhile, recommendations for the inclusion of leak-proof container lids and removable dividers were also raised.

Overall, we observed a general trend of preference for compartmentalized containers; this answers our research questions and suggests that food containers with compartmentalization are

preferred over food containers with no compartments and stacked ones. It would be interesting to look into the driving force behind why single-spaced containers are rated as the most likely to use containers, despite the fact, compartmentalized containers were rated higher on all other measures. Does there exist a decision-making mechanism that favors single-spaced containers even though compartmentalized containers are seen as more useful, have a better internal design, and are more talked about among friends?

There are a few limitations in our study which we hope future research can address. One being a minor mistake made when composing the survey on UBC Qualtrics. We accidentally mislabeled two of the seven points on our Likert scale for one of the tested measures. We attempted to correct this mistake by reaching out to some of the participants and asked whether they noticed this mistake or were confused. It turns out none of the people we spoke with noticed this mistake, and almost all of them ignored most labels on the Likert scales, only paying attention to how the two ends of the scales are labeled and positioning. Another mistake occurred when composing the survey; we failed to explicitly state in the survey that the containers are food containers, resulting in few students reporting challenges in identifying the purpose of what these containers are for. Moreover, preference is represented by only five measures in our investigation; future research could include a broader range of preference measurements such as perceived convenience and perceived environmental-friendliness to potentially capture more effects of food container designs[7]. Future researchers could also look into other aspects of RFC designs, such as what material to use to make RFCs the most cost-effective, sustainable, and durable.

Recommendations for your UBC Client: Based on our findings, the most valuable recommendation we conclude for our client is to develop compartmentalized RFCs with removable/adjustable dividers and leak-proof lids for the future campus-wide RFC sharing program. With the removable/adjustable dividers, the consumers gain the ability to customize for how they desire to use the space while also giving them the option to not use any dividers at all. Furthermore, from our survey, many participants specified the importance of a leak-proof lid on food containers, as food leakage inside students' backpacks is problematic; and consumers are more inclined to purchase a container which will keep their food within the container. After researching existing initiatives, we found the solution to leaking could be resolved through using airtight lids which are produced through an injection molding process and allow for the body and top of the container to correspond perfectly to each other[8]. Testing on different materials can further be conducted to understand what works best for leak-proof purposes.

With the global trend pushing towards sustainable living and UBC's initiative to accomplish UBC Zero Waste Action Plan, findings from our study could introduce significant implications for future policy making and program formation in order to reach those goals. Overall this project has contributed towards understanding the effect organization can play towards something as simple as choosing a RFC. The information acquired from this study is relevant to UBC as it provides knowledge about the type of design students themselves prefer when using RFCs. By customizing the food containers that already exist to meet students needs and preferences, we can prevent the usage of less sustainable options such as plastic and single-use containers which prove to be harmful to the environment, ultimately looking towards a brighter and less harmful future for the world.

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Appendix

Contribution of Team Members

Proposal: Each member was responsible for a section of the report: Sana worked on the Background Literature. Zsófia researched the psychological insight on the topic. Alex completed the Hypothesis and Methods section. Liam worked on the Anticipated Outcomes. Evan helped with work on Methods and Anticipated Outcomes.
All members contributed to compiling and editing the proposal document.

Creating Qualtrics Survey: In terms of coming up with the questions for the conditions and demographics questions, all group members contributed to brainstorming and finalizing our measures. Sana created the diagrams for the conditions in the survey. Alex created conditions 1 and 2 in Qualtrics and Evan created condition 3. Zsófia created the demographics questions. Everyone distributed the survey link to their own social groups.

Check In Meeting: Alex, Sana, and Zsófia were present at the check-in meeting with the professor and TA's. Everyone worked together to prepare for the meeting itself by compiling questions and notes in a google doc.

Presentation: Everyone participated in creating the slides and script, and presenting our findings in class. Sana found the theme for the presentation and designed the overall appearance. Zsófia created the background research slide. Alex made the research question, hypothesis, demographics, and conditions slides. Sana did the measures slide. Liam, Alex, Sana, and Evan created the JASP analyses. Zsófia did the qualitative data visualizations and the corresponding slide. Evan created the quantitative data analysis slide. Everyone contributed to the implications/recommendations slide and references

Final Report: Each member was responsible for a section of the report: Zsófia worked on the Introduction and methods, the Results were completed by Alex (ANOVA & post-hoc analyses) Liam (correlation, JASP analysis, & reliability analyses) and Zsófia (Qualitative analysis). Prior to writing the report, Alex, Evan and Liam worked on drafting up detailed data interpretations from the statistical analyses. Evan worked on the Discussion section and Sana worked on the Recommendations recommendations; all remaining work was shared together.

Throughout the course all the work was divided equally between each of the team members. Everyone was enthusiastic and motivated towards fulfilling requirements and learning from research collected. Multiple group video meetings were held in order to assign, collaborate and solve problems together and no issues regarding our teamwork were faced in the process. We also want to acknowledge Dr. Jiaying Zhao and Kyle Gooderham for their immense guidance, suggestions, and knowledge which helped us in conducting the research, it would have been impossible without them. Thank you for a great term!

Figure 6: Correlational Analysis with relative strengths and statistical significance

Pearson's Correlations

Single Space

			Pearson's r	p
Internal Design	-	Usefulness	0.708***	< .001
Internal Design	-	Likelihood to Use	0.662***	< .001
Internal Design	-	Likelihood to Tell a Friend	0.609***	< .001
Internal Design	-	Willingness to Pay_22	0.180	0.216
Usefulness	-	Likelihood to Use	0.726***	< .001
Usefulness	-	Likelihood to Tell a Friend	0.457***	< .001
Usefulness	-	Willingness to Pay_22	0.162	0.268
Likelihood to Use	-	Likelihood to Tell a Friend	0.469***	< .001
Likelihood to Use	-	Willingness to Pay_22	0.317*	0.027
Likelihood to Tell a Friend	-	Willingness to Pay_22	0.268	0.063

* p < .05, ** p < .01, *** p < .001

Pearson's Correlations

Compartmentalized

			Pearson's r	p
Internal Design_6	-	Usefulness_7	0.683***	< .001
Internal Design_6	-	Likelihood to Use_8	0.666***	< .001
Internal Design_6	-	Likelihood to Tell a Friend_9	0.535***	< .001
Internal Design_6	-	Willingness to Pay_23	0.411**	0.003
Usefulness_7	-	Likelihood to Use_8	0.647***	< .001
Usefulness_7	-	Likelihood to Tell a Friend_9	0.453**	0.001
Usefulness_7	-	Willingness to Pay_23	0.349*	0.014
Likelihood to Use_8	-	Likelihood to Tell a Friend_9	0.477***	< .001
Likelihood to Use_8	-	Willingness to Pay_23	0.393**	0.005
Likelihood to Tell a Friend_9	-	Willingness to Pay_23	0.356*	0.012

* p < .05, ** p < .01, *** p < .001

Pearson's Correlations

Stacked

			Pearson's r	p
Internal Design_11	-	Usefulness_12	0.854***	< .001
Internal Design_11	-	Likelihood to Use_13	0.817***	< .001
Internal Design_11	-	Likelihood to Tell a Friend_14	0.474***	< .001
Internal Design_11	-	Willingness to Pay_24	0.544***	< .001
Usefulness_12	-	Likelihood to Use_13	0.799***	< .001
Usefulness_12	-	Likelihood to Tell a Friend_14	0.338*	0.018
Usefulness_12	-	Willingness to Pay_24	0.548***	< .001
Likelihood to Use_13	-	Likelihood to Tell a Friend_14	0.507***	< .001
Likelihood to Use_13	-	Willingness to Pay_24	0.449**	0.001
Likelihood to Tell a Friend_14	-	Willingness to Pay_24	0.266	0.064

* p < .05, ** p < .01, *** p < .001

Strong= Mild= Weak=

Figure 7: Cronbach's alpha calculation to test the reliability of our questions. A question with good reliability has a Cronback's alpha above 0.7, a question with great reliability has a Cronback's alpha above 0.8, and a question with excellent reliability has a Cronback's alpha above 0.9

Results ▾

Single Space Reliability Analysis

Frequentist Scale Reliability Statistics

Estimate	Cronbach's α
Point estimate	0.811

Stacked Reliability Analysis

Frequentist Scale Reliability Statistics

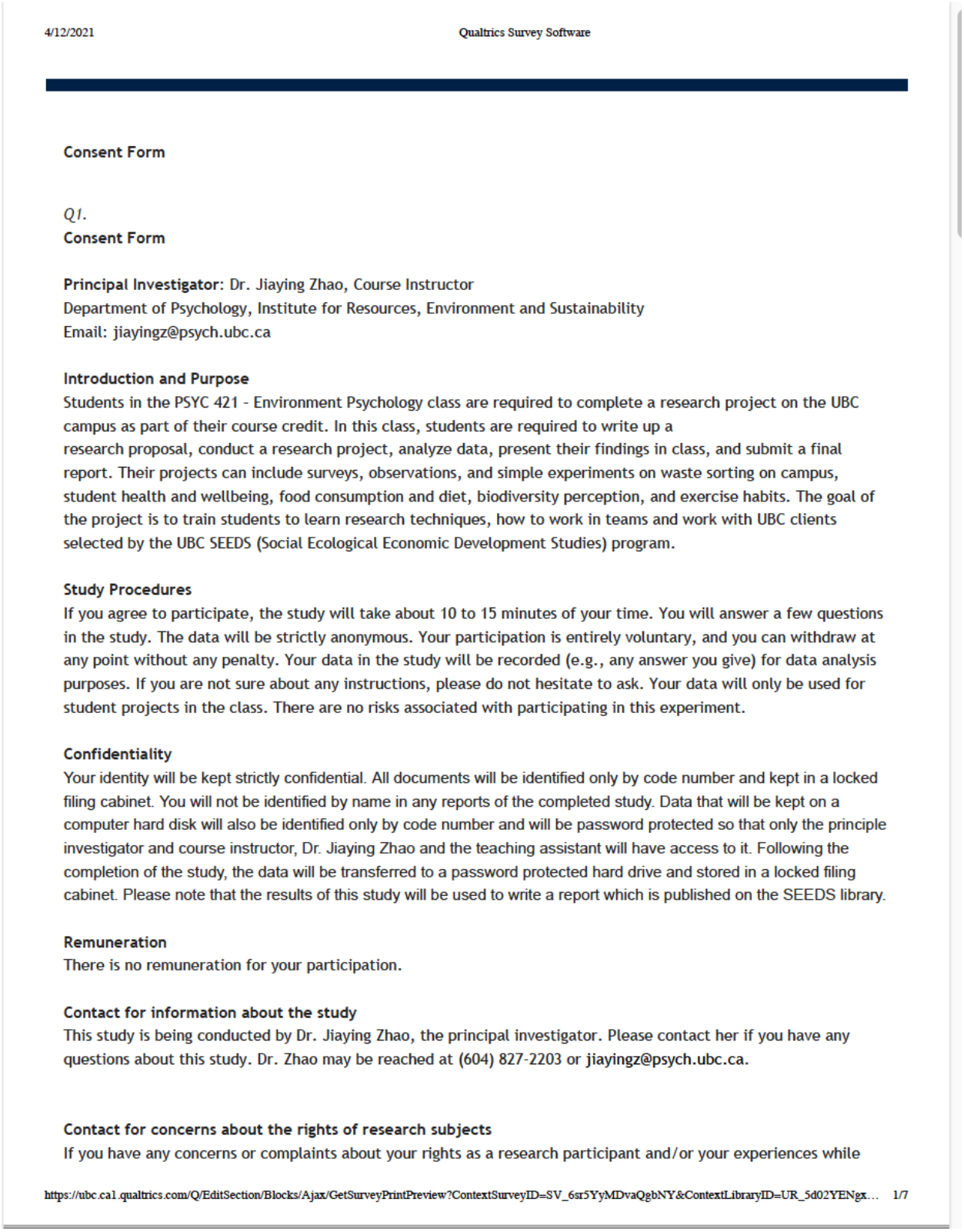
Estimate	Cronbach's α
Point estimate	0.833

Compartmentalized Reliability Analysis

Frequentist Scale Reliability Statistics

Estimate	Cronbach's α
Point estimate	0.793

Figure 8 - Survey



4/12/2021 Qualtrics Survey Software

Consent Form

Q1.
Consent Form

Principal Investigator: Dr. Jiaying Zhao, Course Instructor
Department of Psychology, Institute for Resources, Environment and Sustainability
Email: 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 to 15 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.

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

https://ubc.ca1.qualtrics.com/Q/EditSection/Blocks/Ajax/GetSurveyPrintPreview?ContextSurveyID=SV_6sr5YyMDvaQgbNY&ContextLibraryID=UR_5d02YENgx… 1/7

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

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 "yes, I consent" 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. By clicking the "no, I do not consent" button, you will be taken directly to the end of the survey and will not be asked any questions.

Q2. Having read the form above, do you consent to participating in the survey?

- O Yes, I consent
- O No, I do not consent

Introduction Statement

Q3. **You will answer a series of questions about reusable containers. Please assume that all the container diagrams shown in each section of the survey are of the same colour, material, and dimensions (e.g., everything but the internal design of each container is the same).**

The "internal design" of the container refers to the space inside the container, for example whether or not it has dividers that create separate sections inside the container.

Single-Space Container Condition

Top View

Side View

Q5.

How would you rate the internal design of this container on this scale of 1-7?

1 (worst design)	2	3	4	5	6	7 (best design)
O	O	O	O	O	O	O

Q6. How would you rate the usefulness of this container?

Extremely useless	Moderately useless	Slightly useless	Neither useful nor useless	Slightly useful	Moderately useful	Extremely useful
O	O	O	O	O	O	O

Q7. If you had to use a reusable container, how likely would you be to use this one?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q8. How likely would you be to tell a friend about this container?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q9. How much are you willing to pay for this container (between 0 and 50 Canadian Dollars)? Please answer in **numerical form** and do not include a unit. For example if you are willing to pay 10 dollars please enter 10.

Q10. If you had to change one thing about this container what would it be? (Please be as clear as possible with your response)

Compartmentalized Container Condition

Top View

Side View

Q12. How would you rate the internal design of this container on this scale of 1-7?

1 (worst design)	2	3	4	5	6	7 (best design)
O	O	O	O	O	O	O

Q13. How would you rate the usefulness of this container?

Extremely useless	Moderately useless	Slightly useless	Neither useful nor useless	Slightly useful	Moderately useful	Extremely useful
O	O	O	O	O	O	O

Q14. If you had to use a reusable container, how likely would you be to use this one?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q15. How likely would you be to tell a friend about this container?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q16. How much are you willing to pay for this container (between 0 and 50 Canadian Dollars)? Please answer in **numerical form** and do not include a unit. For example if you are willing to pay 10 dollars please enter 10.

Q17. **If you had to change one thing about this container what would it be? (Please be as clear as possible with your response)**

Stacked Containers Condition

Top View

Side View

Q19. How would you rate the internal design of this container on this scale of 1-7?

1 (worst design)	2	3	4	5	6	7 (best design)
O	O	O	O	O	O	O

Q20. How would you rate the usefulness of this container?

Extremely useless	Moderately useless	Slightly useless	Neither useful nor useless	Slightly useful	Moderately useful	Extremely useful
O	O	O	O	O	O	O

Q21. If you had to use a reusable container, how likely would you be to use this one?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q22. How likely would you be to tell a friend about this container?

Extremely unlikely	Slightly unlikely	Unlikely	Neither likely nor unlikely	Slightly likely	Likely	Extremely likely
O	O	O	O	O	O	O

Q23. How much are you willing to pay for this container (between 0 and 50 Canadian Dollars)? Please answer in **numerical form** and do not include a unit. For example if you are willing to pay 10 dollars please enter 10.

Q24. **If you had to change one thing about this container what would it be? (Please be as clear as possible with your response)**

Demographic Questions

Q25. What is your age? (Please answer in numerical form, e.g. 20, not twenty)

Q26. Which gender do you identify with?

- O Male
- O Female
- O Other:
- O Prefer not to say

Q27. Please indicate your ethnicity

- O Caucasian/White
- O First Nation/Indigenous
- O Asian/Pacific Islander
- O Black/African American
- O Hispanic/Latinx
- O Multiracial/Biracial
- O Other:
- O Prefer not to say

Q28. Are you currently a student at UBC?

- O Yes
- O No

Thank you

Q29. Thank you for taking the time to complete our survey.
Your responses have been recorded, and you can now close this window.

Figure 9 - Ethnicity: demographic data for participant ethnicity, represented by a pie chart

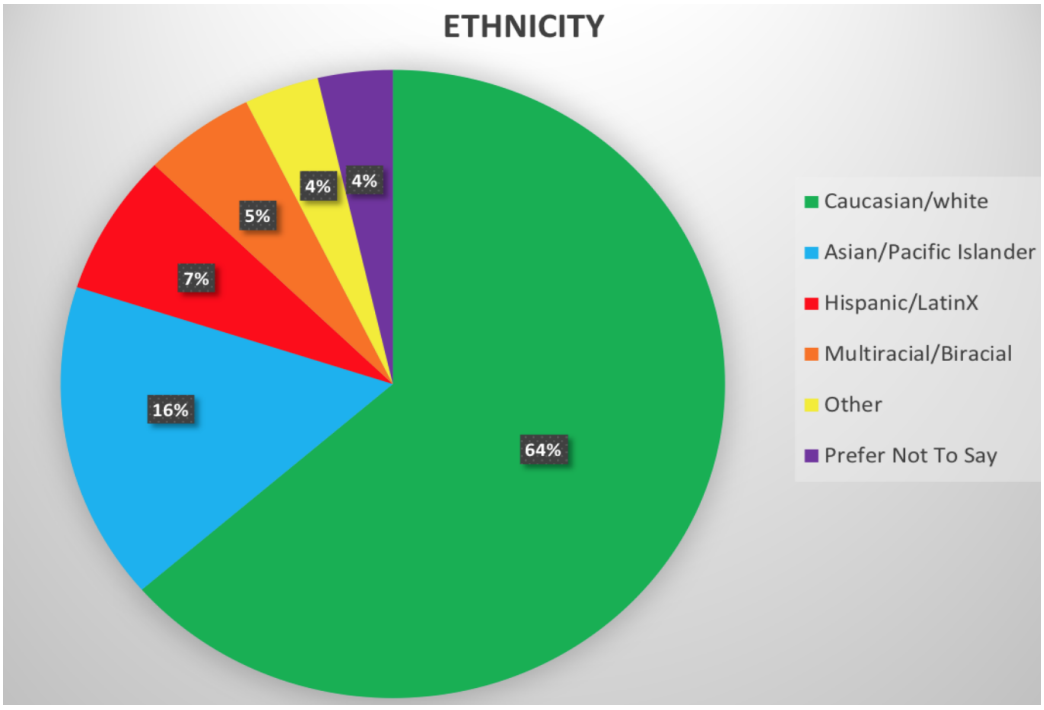


Figure 10 - Gender: demographic data for participant gender, represented by a pie chart

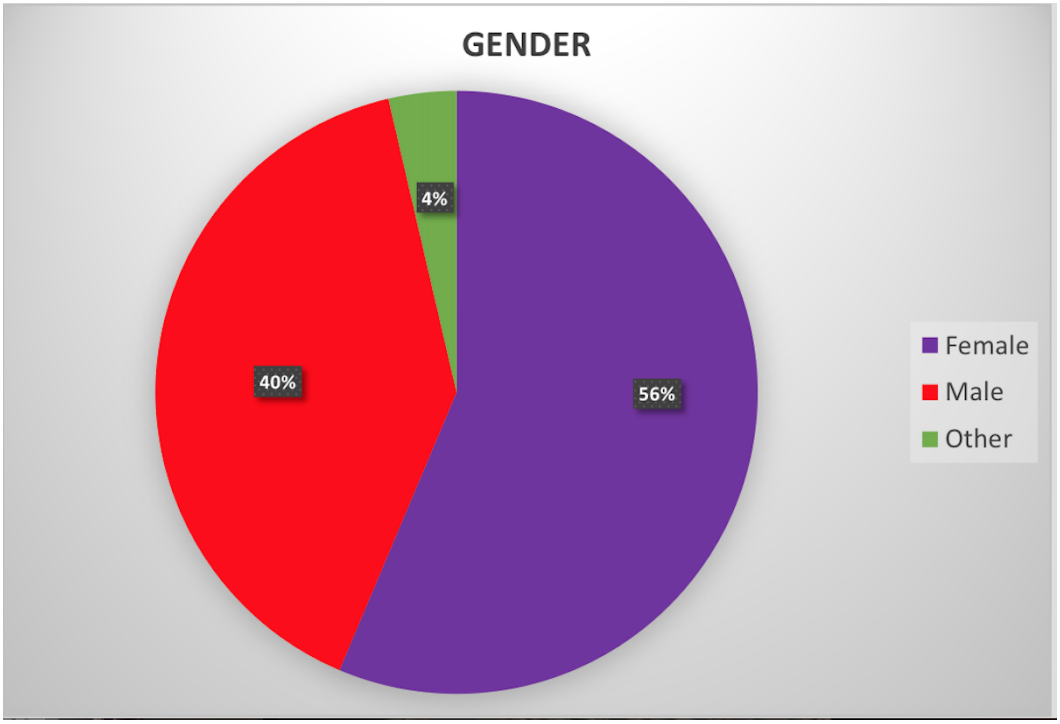


Figure 11 - Qualitative Data: frequency of change suggestions per topic

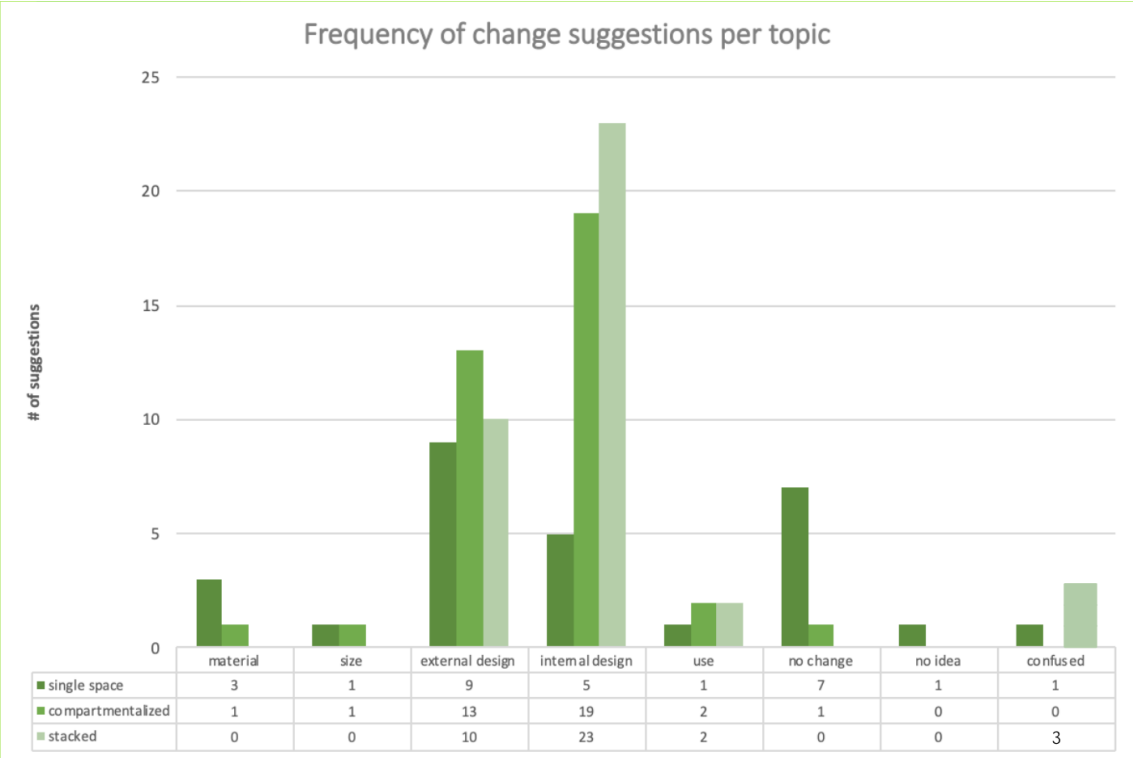


Figure 12 - Power Calculation: G*power calculation to determine predicted sample size