Food for thought: Assessing student perceptions of meal hall plastic waste and sustainability in Dalhousie Halifax campus residences

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ENVS 3502: Environmental Problem Solving II: Campus as a Living Laboratory

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Executive Summary

The generation of large amounts of waste from single-use disposable plastics presents a barrier to achieving greater campus sustainability. It has been noticed that Dalhousie University residences use and waste an abundance of disposable plastics. This is especially seen in the dining hall to-go lunch practices provided by the dining halls. This project involved a qualitative analysis of Dalhousie residence students to evaluate if students support the implementation of a reusable Meal-To-Go container system and to quantitative count of how many to-go lunches were requested in an average week. This research study will indicate if such a program would be supported, perceived barriers that would prevent the implementation of the program, and the feasibility of such a project. It was found that nearly all of the students who were surveyed were supportive of the implementation of a reusable container program. Potential benefits of implementing the program highlighted were the overall reduction in single use plastic waste, food waste reduction and an increase in the convenience of eating at the meal halls. The results were conclusive with that of our predictions: that the student population living in Dalhousie University residences would like to see the implementation of a reusable container system. It was also found that majority of the students either do not use the Meal-To-Go program or had not heard of it prior to the study. A future analysis of student perceptions on the Meal-To-Go program following this study would be beneficial to determine the effectiveness of communication between residence life management and students in regard to services they provide, as well as further study and pilot testing into the implementation of a reusable container program for residence meal halls.

Introduction

Plastic waste is a growing sustainability concern, with disposable, single-use packaging noted as one of the largest and most targetable sources for waste reduction (Accorsi, Cascini, Cholette, Manzini, & Mora, 2014; Eriksson, 2018). As leaders in sustainability initiatives and research, universities play an important role in fostering environmentally-conscious behaviours and habits (Baldwin & Dripps, 2012). Solid waste reduction, however, presents an ongoing challenge for campus sustainability targets due to the variety of waste sources and components (Baldwin & Dripps, 2012). A key area for waste reduction is in university cafeterias, dining halls, and other campus food services, for both food and packaging wastes (Baldwin & Dripps, 2012; Accorsi et al., 2014). Encouraging the use of reusable food containers rather than disposable, single-use plastic packaging is one approach to increasing campus dining hall sustainability. When institutions facilitate the use of reusable containers, consumers (in this case, students) perceive them to be more accessible and more convenient to use than disposable, unsustainable plastic food packaging (Ertz, Huang, Jo, Karakas, & Sarigollu, 2017).

It has been noticed that Dalhousie University residences uses an abundance of disposable plastics, specifically in the dining halls with regards to food packaging for the To-Go Bagged Lunch program (Appendix A). Students in Dalhousie residences have the option to pick up a prepared lunch from the residence dining halls, to be eaten outside of the dining hall. These lunches, however, contain a large quantity of single-use disposable plastic packaging, and students do not have the option to use their own containers for this program. Although Dalhousie's Sustainability Plan does not address residences specifically, one of the targets is to divert solid, liquid, and hazardous wastes from landfills, with a goal of 70% waste reduction by the year 2020 (Dalhousie University Office of Sustainability, 2010). Dalhousie University's Food Services team has also made a commitment to minimize waste for both environmental and financial benefits, by recycling and reusing where possible, and reducing waste overall (Dalhousie University Food Services: Halifax, 2019). Despite these goals, in 2018 Dalhousie was rated at only 4.31 / 8 for "Waste Minimization and Diversion" for the Sustainability Tracking, Assessment & Rating System (STARS) from the Association for the Advancement of Sustainability in Higher Education (AASHE) (STARS, 2018).

It is clear that disposable plastic waste reduction is an area for improvement at Dalhousie, and one target may be the residence dining halls. A number of North American universities have already successfully implemented dining hall and cafeteria waste reduction initiatives, such as reusable container programs. These institutions include Harvard, McGill, the University of British Columbia, and the University of Waterloo (University of British Columbia, n.d.; Harvard University, 2018; University of Waterloo, 2018; McGill University, 2019). The majority of these programs involve a deposit or token system, where students borrow a reusable container in exchange for a token, and then return it to the university after use for sanitization. The purpose of this research is to assess current student perceptions of sustainability and plastic waste in Dalhousie residence dining halls, so as to assess the potential for waste reduction, and to gain insight into the level of student support for a possible future reusable container program. A goal of this research is to answer the question: to what extent do students living in Dalhousie Halifax campus residences support the implementation of a reusable container drop-off program for residence meal halls, and what are the perceptions of overall meal hall sustainability? The insight into student perceptions of sustainability gained from this research may lead to further in-depth study and pilot projects for the implementation of waste reduction programs, such as those regarding reusable containers, which could greatly aid in Dalhousie University's campus sustainability and waste reduction efforts.

Methods

This research project took a qualitative approach by using an online survey to gain insight from students currently living in residence on their perceptions of the current meal-to-go program and overall sustainability in residence dining halls. This research approach is known as computer-assisted social research (CASR) (Palys & Atchison, 2014). Since there are approximately 2258 students living in Dalhousie Halifax campus, a sample size calculator was used to generate how many responses were needed to have a 95% level of confidence and 5% margin of error in the results. This was calculated to be 329 responses needed to reach the above parameters.

Due to the large sample size needed, it would have been challenging and highly time consuming to conduct in-person interviews with each student. A stratified random sample of

participants from each residence would have been needed to have a representative sample. Further, it takes a considerable amount of time to transcribe in-person interviews, therefore for the scope of this study it was not an appropriate method (Palys & Atchison, 2014). An online survey approach was chosen, as surveys are a sound method to gain many responses in a short amount of time (Palys & Atchison, 2014). One limitation to online surveys is the respondents need to be competent with some type of electronic device, as well as have access to the Internet in order to complete the survey (Palys & Atchison, 2014). Since the target audience was students living in residence this limitation was not seen as an issue, as residence provides Internet to all its residents and it can be assumed that the majority of youth know how to use electronic devices.

The questions for the student survey were developed and agreed upon collaboratively by all researchers. A variety of different types of survey questions were decided upon, including Likert scale, single response, choosing all that apply, and long answer questions (Appendix B). This allowed for the survey to be concise, engaging, and to also have opportunities for respondents to express their thoughts and more complex ideas in long answer form. After the questions were formalized they were transferred into a Google Forms online survey platform. Google applications are free to use and distribute, thus this was determined to be the best online method to use for this study. Google Forms also allow multiple people to edit the form virtually, without all the researchers having to be together in the same location, which allowed for quick and convenient editing by all researchers. To give incentive for completing the survey, two $25 gift cards to Glitter Bean Cafe were offered to student respondents who included their email at the end of the survey to be entered in a random draw. This incentive was sponsored by the Dalhousie Student Union Sustainability Office through their Green Grant program.

Once the survey was finalized online, posters were created that advertised the survey topic, the gift card incentive, and which also included a QR code and a Snapchat code which could be scanned with a phone camera to access the survey. Four posters were put up in the lobbies of each main residence building: Howe Hall, Sheriff Hall, Gerard Hall, Risley Hall and LeMarchant Place. By taking a photograph of either code with a mobile phone camera, respondents would be directed to the online survey. The respondents could then answer the survey at their leisure. It was thought that having the survey accessible at the convenience of the respondent would increase the chances of respondents filling out the survey. It was felt, despite this, that responses from posters alone would not be sufficient to meet the target sample size.

Therefore, an intercept method of survey distribution was utilized in addition to the posters. Researchers stood at tables outside each of the four dining halls and intercepted residents as they were entering or leaving the dining hall, asking if they would like to voluntarily complete the survey. This was conducted for a full day, once at each dining hall, during both the lunch dining hall hours (11:30am-1:30pm) and the dinner dining hall hours (5pm-7pm). Although the residents were being asked to complete the survey in-person, the QR and Snapchat codes were still the main survey distribution method. Surveyors printed a number of small slips of paper with QR codes and Snapchat codes, which were handed out to residents.

During analysis of the data, coding of long answers was conducted by creating a list of main themes that arose from respondents' answers. Long answers were colour coded and sorted into the appropriate thematic categories (Appendix C). For the short answers, descriptive statistics were applied to the data to assess themes and ideas from respondents' answers.

One main limitation of these survey methods is regarding access to the emails of students living in residence. Originally, it was determined that the best survey distribution method would be to send an email containing the survey to all students who currently live in the Halifax campus residences. This method would likely have allowed the survey to reach a wider audience. After contacting the Residence Office, however, it was decided that students living in residences would experience survey fatigue if they were to receive a survey via email, as a number of other surveys had recently been distributed via this method. There was also some original hesitancy from the Residence Office towards an intercept survey method as well. It was decided the intercept method of using QR codes to distribute the survey would be the best method considering survey fatigue and the scope of the research project.

Results

There were 113 students surveyed across the six residences at Dalhousie University, Halifax, NS. To reach a 95% confidence interval, the survey target was 329 students out of the 2258 students who live in residence. As we were only able to survey 113 students, our percent margin of error was 9%. Of the students surveyed, 72% of participants were in their first year, and programs of study spanned across 36 different disciplines (Appendix C).

Of the students surveyed, 99% of students were currently on a meal plan and eating at residence dining halls (Figure 1). Over 50% of students ate in meal hall 11 to >19 times per week (Appendix C). Only 66.9% of students surveyed had previously heard about the meal to go program, and 33.0% of students had never heard of the current meal to go program before. Most students who had heard of the current Meal-To-Go Program had learned about the program through word of mouth, either from friends or professors (60.00%), and the remainder had been through advertisements online, email, campus tours or during orientation. Students identified that the best methods for Residence to advertise the Meal-To-Go program more would be through more posters (38.29%), followed by more advertisements online, emails, flyers, and advertising directly in meal hall. 89% of students had never used the meal-to-go program before, and only 10.8% of students had previously used the program (Figure 1). When asked if students would be more likely to take advantage of the Meal-To-Go program if it involved the use of a reusable container you could take into meal hall, 85.45% of student said yes, and 14.54% of students said no. Overall support for the implementation of a reusable container program in residence meal halls showed 96% of participants voting yes, and 3.57% voting no (Figure 1).

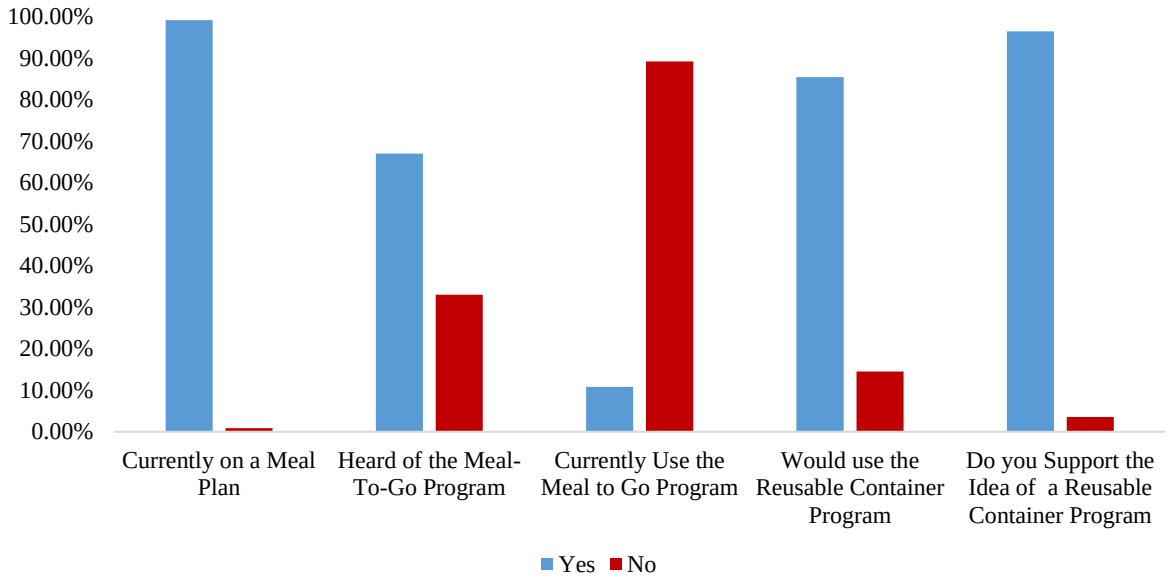

Figure 1: Assessing the knowledge and use of the current Meal-To-Go program offered in Dalhousie's Residence Meal Dining Halls by students who currently live in residence on the Halifax Campus, and the support for the possible implementation of a reusable container program.

There were several key themes that arose when participants were asked if they would support the implementation of a reusable container program. The two major themes that were addressed were the benefits (80.19%), barriers (4.71%), and general support (15.09%) of the program (Appendix C). Within the benefits, the top three sub categories of themes that were addressed in the open comments section included waste reduction (37.73%), environment (14.15%), and convenience (13.21%) (Figure 2). There were three sub themes within barriers that were identified during coding, which included poor food quality options, added costs and economic barriers, and healthy and sanitation concerns (Figure 2).

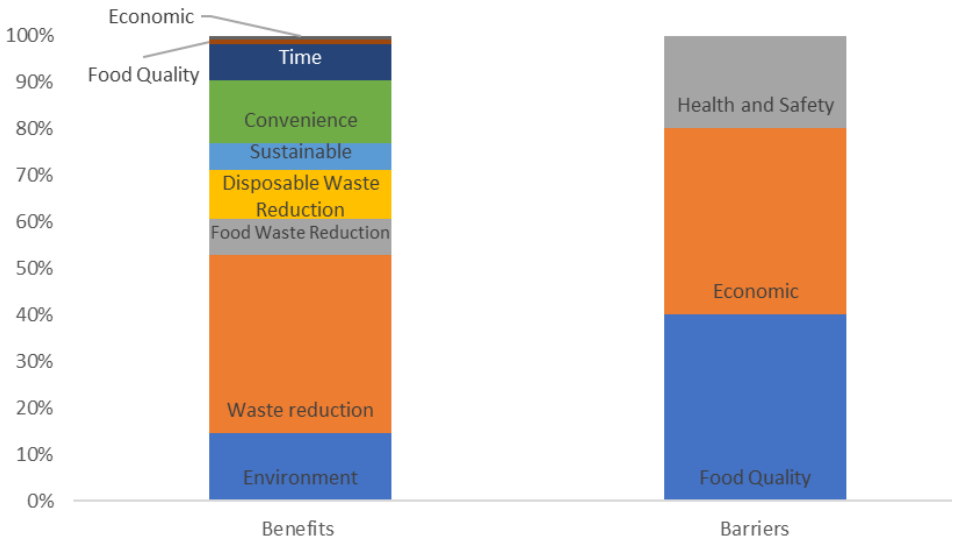

Figure 2: Key themes that were coded based on participant responses to question 9b. of the survey questions: 'Please explain your answer to 9. Even if you do not see yourself taking advantage of the bagged lunch program, would you support the implementation of a reusable food container program for general use in residence meal halls?'.

When asked to identify potential benefits of the implementation of a reusable container program in residence from a set list, 82.30% of students identified reduction of plastic waste as a benefit. This was followed by the benefit of having more food options for the meal-to-go program (76.99%) and reduction of food waste (72.56%) (Table 1). The top barriers of the implementation of a reusable container program were the possibility of containers not being returned (73.45%), containers being lost (64.60%), and the possible increase in the price of residence meal plans (44.24%) (Table 1).

Table 2: Perceived benefits and barriers of the implementation of a reusable container program identified by students living in residence. Data used from survey questions 10 and 11 (Appendix B).

Perceived Barriers and Benefits	**Percent (%)**
Benefits	
Reduce Plastic Waste	82.30
More Options for Food	76.99
Reduce Food Waste	72.56
Not Having to Pre-order / Fill out form	62.83
Other	0.88
No Benefits	0.88
None of the Above	0
Barriers	
Containers not Returned for Use	73.45
Lost Containers	64.60
Increased Cost to Meal Plan	44.24
Resistance from Residence Dining Halls	41.59
The Cost of the Container	38.93
Inconvenient to Return	27.43
No Barriers	2.65
None of the Above	2.65
Other	1.77

When asked if campus resident sustainability initiatives are important to them, 97.32% of participants either agreed or strongly agreed with this statement. When asked if there was evidence of sustainability initiatives in their residence, 28.85% of participants identified that they disagreed or strongly disagreed with this statement (Figure 3).

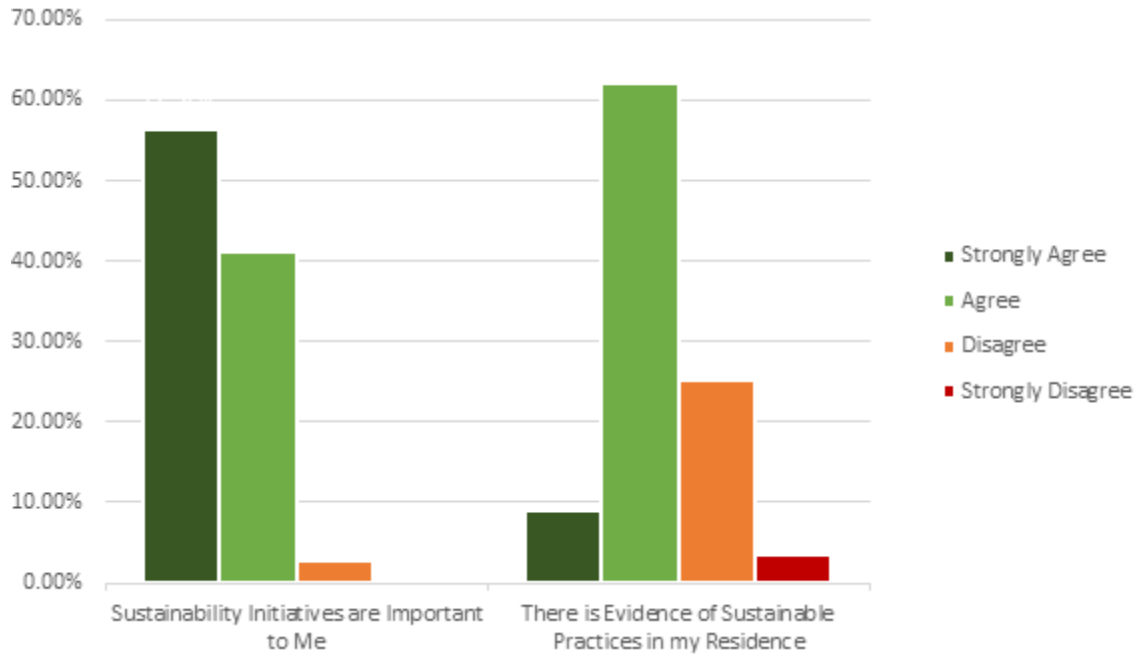

Figure 3: Likert Scale of the importance of sustainable initiatives in residence as perceived by students compared to the perception of evidence of current sustainable practices in their residence. Data based on participant responses to survey questions 12 and Q13 (Appendix B).

Discussion

This study provides an overview of student perceptions of barriers and benefits to the implementation of a reusable container program in residence meal halls, as well as an assessment of the general level of student support for such a program. The research goal aimed to target the reduction of plastic waste use within residence meal hall with the use of the current Meal-To-Go program. Through the survey, it was evident that there was large support for the proposed implementation of a reusable container program in Dalhousie Halifax campus residence meal halls, and additionally there were many other perceived benefits that would also be associated with the program. Initially, the goal would have been to replace the current packaging of the Meal-To-Go program with the use of reusable containers. However, the results indicate that there is low student participation in the Meal-To-Go program, with only 11% of students who were surveyed currently using the program.

Students expressed frustration with the inconvenience of the current Meal-To-Go program. Students found it very hard to remember to submit the form beforehand or on time to be able to get the lunch the next day. Students were frustrated by inaccessible meal hours, noting

that they have limited hours or conflicting class schedules which prevented them from dining at certain times of the day. Students felt they already pay a lot into their meal plans but didn't have the freedom to eat when they wanted. It became clear that a reusable container program would be best if students had the ability to go into meal hall and take food to go and return the container later versus having to pre-order their meals. As one student reiterated, "I think the meal hall has terrible hours and this [the reusable container program] allows a solution to those hours." A study from Cornell University found that financial constraints cause students to skip meals or not eat enough, as the prevalence of food insecurity among college students ranges between 20 to 40% (Wessels, 2017). If students are unable to access meal hall hours, and if the Meal-To-Go program is not accessible or advantageous to students, this could increase food insecurity among student who cannot afford to purchase food outside of meal hall times.

Regarding this proposed reusable container program, there was large support by students to be able to take meals to go in a reusable container from the dining halls. 85% of students noted that they would be more likely to participate in the Meal-To-Go reusable container program, and all but four participants supported the overall idea. Some concerns were noted that it would be difficult to ensure that containers would be returned. There was also concern expressed over sanitation, noting that current cups and bowls in the dining halls often have leftover food debris on them.

Food quality in residence meal halls was also considered a barrier to students using the Meal-To-Go program and food waste in general. Two students noted "If the food was of a better quality (e.g. flavour, not burnt, not just a mush of lentils for vegans/vegetarians) people would waste so much less," and "I do not use the bagged meal option because the food quality is low." A study conducted in 2017 at Dalhousie Halifax campuses assessed food wasting attitudes and behaviours in residence meal halls. The study found that 78.1% of students surveyed wasted food due to the unappetizing nature of the food (MacDonald et. al., 2017). However, if given the opportunity to pack the food up to take their leftovers with them, 63% of students indicated they would still take the food with them to eat later (MacDonald et. al., 2017). Similar views were also expressed in a study conducted by Nikolaus et al. which found that students living on campus and dined in residence meal halls wanted to decrease the food waste they produced, but they were restricted by dining halls from being able to take leftover with them in reusable containers, which caused a source of frustration (2018). This study identified some barriers that

may arise if students were able to take reusable containers to go with them that our study did not identify through student responses. These included limited storage space in individual residence rooms to store leftovers if they are not consumed immediately and forgotten food which ultimately ends up as food waste if it is stored but never consumed (Nikolaus et. al., 2018). This suggests that if students had the ability to take food to go with them, food waste in residence meal halls could be reduced. There was evidence from our survey that suggests that food waste is a notable concern for students, though a barrier to overcome would include the storage of food in residence rooms.

Despite this, students agreed that there would also be a number of benefits to the program. Students commented that this would greatly help with eating on the go over weekends, and at meal times outside of lunch, which currently is not an option in the Meal-To-Go program. Students expressed that they often felt rushed to run to class and would abandon their plate and hated the amount of food they wasted because they were unable to take it with them. One student noted they refused to use the meal to go program because of the amount of unnecessary plastic packaging involved.

While the survey did show overwhelming support for the research question, there were also several other key findings regarding student perceptions and sustainability issues in residence meal halls that were not anticipated. Concerns were raised over the general waste disposal tendencies in meal halls such as paper napkins being thrown directly into the waste stream instead of being composted and noting that paper cups were being provided and used more frequently in dining halls than the provided reusable plastic cups. Students noticed a lack of evidence of overall sustainable practices in their residence meal halls, as one student expressed: “this [using paper cups] is a huge sustainability issue and causes A LOT of unnecessary waste. I am concerned about this practice”. Based on student responses, it is clear that sustainability initiatives in residence meal halls are an important target for improvements.

There are several limitations to this study which should be addressed. The study was limited to surveying outside of residence meal halls, stopping and engaging with students to fill out the survey while they were on their way to eat or to class. As students often seemed rushed, this may have limited the depth to which they answered the more open-ended questions in the survey. As it was optional to provide written answers, it was noticed that there were fewer responses to open ended questions toward the end of the survey compared to the ones at the

beginning of the survey. Also, as some of the surveys were conducted in person, there is potential that the surveyors' presence could influence the answers of participants, who may try to answer the survey depending on what they think is "right" versus their own opinion. This study also did not engage residence meal hall staff and dining services in the research. Therefore, the study cannot provide a holistic understanding of perceived benefits and barriers to the implementation of reusable containers in residence dining halls.

Conclusion

If this study were to be conducted again, it would be better to focus beyond just the Meal-To-Go lunch program. While plastic waste diversion was the main goal, a suggestion would be to additionally assess potential food waste that could also be diverted if students were able to take their food to go in reusable containers. The primary suggestion is that residence meal halls and dining services consider the potential implementation of a reusable container program which would allow students to enter residence meal halls and:

1. Receive a standard size reusable container that students can fill at food vending services within the dining hall and take outside of the hall with them. This would utilize one of their meal hall swipes, allowing students to access the meal hall during regular dining hours, but take their food to go with them if they have a class they need to get to or do not have time to dine in meal hall later on that day.
2. Be able to access a smaller sized reusable container to package any leftovers from meal hall to take with them. This size of container would not allow students to take food to go from vending options within meal hall, but would allow students to take any uneaten food with them. This would reduce the amount of food being wasted and tossed into the organics waste stream when a student is full or needs to leave the meal hall.
3. Allow students to still sign up for a Meal-To-Go ahead of time, for pick-up outside of meal hall hours for students who are unable to take food to go or dine during regular dining hall hours.
    a. Provide options to fill out the form online and submit in advance to make the process more accessible for students, versus having to pick up / drop off a form at the residence meal hall the day before.

b. More food options should be available for students to take in the Meal-To-Go program, as students are currently unhappy with food quality and options offered.
c. Food should be packaged in a reusable container, to reduce the unnecessary and excessive plastic film waste that is used in the current Meal-To-Go program
d. If the option of a reusable container for pre-packed meals in residence meal halls is not feasible, current packing methods should be replaced with more sustainable options such as biodegradable packaging. This could include paper clam shells, or 100% recyclable containers which are already utilised in other Dalhousie catering and retail operations.

We see great interest and value in the potential implementation of a reusable container program, not only for use in the bagged lunches, but also in residence dining halls to allow students to take food to go with them. Although there is support from the students, there seems to be other limiting factors to be discussed with the residence office pertaining to the implementation of a service at Dalhousie that was not covered in this study. It is recommended that further research be conducted into the cost of implementation, reduction of waste as a result and the potential benefit the service would provide in students life be done before any serious decisions are made. Next steps would be to engage with Food Services and collaborate with residence dining hall staff to investigate their perceived benefits and barriers to this program, as well as to share these findings on student support and thoughts on the project.

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Appendices

Appendix A – Image of Meal-To-Go program bagged lunch

Figure A. An example of the single-use disposable plastic packaging used in the bagged Meal-To-Go lunches. Photo: Julia Walker, 2019.

Appendix B – Informed consent statement and survey questions

This survey is being conducted for the ENVS/SUST 3502 Environmental Problem Solving II: Campus as a Living Lab class at Dalhousie University. All data collected will be kept confidential, and no identifying information will be collected. Direct survey results will only be viewed by the researchers. Overall survey results will be shared in aggregate form with the course instructor and teaching assistants in a final report and to the ENVS 3502 class via a presentation. Direct quotes with no identifying information may be used to highlight specific themes or perspectives. Final reports will also be accessible online via the Dalhousie Environmental Science website, which is open to the public. All data shared within the report will be anonymous. If you have any additional questions or concerns, please contact Dr. Amy Mui (amy.mui@dal.ca) or Jessica Needham (jessica.needham@dal.ca). If you are under the age of 18 please disregard this survey.

1. What year of study are you in?
2. What program are you in (or prospective program if undecided)?
3. Which residence hall do you live in?
    - Howe Hall
    - Mini Residence
    - Risley Hall
    - LeMarchant Place
    - Shirreff Hall
    - Gerard Hall
4. Are you currently on a residence meal plan?
    - Yes
    - No
5. Approximately, how often do you eat in a residence dining hall?
    - Never
    - 1 time per week
    - 2-3 times per week
    - 4-5 times per week

6-10 times per week

11-19 times per week

>19 times per week

6. Are you aware of the Dalhousie residence meal halls' bagged lunch service for students who have class or who are not able to attend the regular lunch hours?

If you answered yes to question 6, how did you hear about the bagged lunch service?

If you answered no to question 6, how could the residence office best provide information about this program to residents?

7. How often do you use the to-go lunch option offered by the residence dining hall?

Never

1 time per week

2-3 times per week

4-5 times per week

>5 times per week

8. Do you think you might be more likely to make use of the bagged lunch service if you were able to drop off your own reusable containers to store the food? (ie: having the ability to pack your own food and take it to go from meal hall in a reusable container OR take your leftovers with you instead of putting it into organic waste)

Yes

No

9. Even if you do not see yourself taking advantage of the bagged lunch program, would you support the implementation of a reusable food container program for general use in residence meal halls?

Please explain your answer to question 9

10. What do you perceive to be barriers to the implementation of a general-use reusable food container program in residence meal halls? Check all that apply:

Financial costs to containers

Financial costs to increased meal plan prices

Food services management resistance

General inconvenience

Students not returning the containers

Students losing containers

None of the above

No perceived barriers

Other

Other comments for question 10:

11. What do you perceive to be the benefits of the implementation of a general-use reusable food container program in residence meal halls? Check all that apply:

Less food waste

Less disposable plastic waste

More option of when to eat/timing of meals

Not having to submit a packed lunch form then night before a to-go lunch

None of the above

No perceived benefits

Other

Other comments to question 11:

12. Campus Residence sustainability initiatives are important to me

Strongly Agree

Agree

Disagree

Strongly Disagree

13. There is evidence of sustainable practices in my residence

Strongly Agree

Agree

Disagree

Strongly Disagree

14. Do you have any other comments you would like to add?

Appendix C – Raw survey data and codified responses

1. What year of study are you in?

Year of Study	Count	Percent (%)
1	78	72.22
2	13	12.03
3	7	6.48
4	7	6.48
5	3	2.77

2. What program are you in (or prospective program if undecided)?

Program of Study	Count	Percent (%)
Anthropology	1	0.89
Architecture	1	0.89
Arts	6	5.36
Biochemistry	3	2.68
Biology	5	4.46
Chemistry	1	0.89
Commerce	7	6.25
Community Design	1	0.89
Computer Science	6	5.36
Engineering	7	6.25
English	4	3.57
Environmental Science	2	1.79
Health Promotion	1	0.89
International Development	2	1.79
Journalism	2	1.79
Kinesiology	2	1.79
Management	2	1.79
Marine Biology	10	8.93
Medical Sciences	12	10.71

Microbiology	1	0.89
Neuroscience	4	3.57
Nursing	2	1.79
Ocean Science	1	0.89
Pharmacy	1	0.89
Physics	1	0.89
Planning	1	0.89
Political Science	1	0.89
Psychology	4	3.57
Public Sector Management	1	0.89
Recreation Management	1	0.89
Respiratory Therapy	1	0.89
Science	12	10.71
Sustainability	1	0.89
Theatre	2	1.79
Therapeutic Recreation	1	0.89
Undeclared	2	1.79

3. Which residence do you live in?

Residence	Count	Percent (%)
Howe Hall	34	30.63
Mini Residence	6	5.41
LeMarchant Place	13	11.71
Shirreff Hall	12	10.81
Risley Hall	41	36.94
Gerard Hall	5	4.50

4. Are you currently on a Residence Meal Plan?

On a Meal Plan	Count	Percent (%)
Yes	110	99.09

No	1	0.90

5. Approximately how often do you eat in a residence dining hall?

Frequency	Count	Percent (%)
Never	2	1.79
Once	0	0.00
2 to 3	5	4.46
4 to 5	8	7.14
6 to 10	15	13.39
11 to 19	54	48.21
>19	28	25.00

6. Are you aware of the Dalhousie residence meal hall's bagged lunch service for students who have class or are not able to attend the regular lunch hours?

Aware	Count	Percent (%)
Yes	75	66.96
No	37	33.03

If you answered yes to question 6, how did you hear about the bagged lunch service?

Method	Count	Percent (%)
Campus tour	2	4.44
Email	2	4.44
Friend	27	60.00
Online	10	22.22
Orientation	4	8.88

If you answered no to question 6, how do you think the Residence Office could best provide information about this program to residents?

Method	Count	Percent (%)
More Advertisement / Information Online	10	21.27
Online Request Forms	1	2.12
Email	4	8.51
Flyers	5	10.63
Posters	18	38.29
Instagram	1	2.12
Information in Meal Hall	8	17.02

7. How often do you use the to-go lunch option offered by the residence dining hall?

Frequency	Count	Percent (%)
Never	99	89.18
1	7	6.30
2 to 3	1	0.90
4 to 5	3	2.70
> 5	1	0.90

8. Do you think you might be more likely to make use of the bagged lunch service if you were able to drop off your own reusable containers to store the food? (ie: having the ability to pack your own food and take it to go from meal hall in a reusable container OR take your leftovers with you instead of putting it into organic waste)

More Likely	Count	Percent (%)
Yes	94	85.45
No	16	14.54

9. Even if you do not see yourself taking advantage of the bagged lunch program, would you support the implementation of a reusable food container program for general use in residence meal halls?

Support	Count	Percent (%)
Yes	108	96.42
No	4	3.57

Please explain your answer to Question 9 (as broken into coded themes)

Environment (15)

- Better for the environment
- Better for environment
- I think that all established institutions should be more responsible when it comes to the environment, Dalhousie is no different.
- Save the planet
- eco friendly
- I feel that reusable containers would benefit the environment
- Save the environment.
- Reusable containers are much better for the environment and will save money in the long run
- Makes more sense and better for the environment
- Save the world
- It is better for the environment
- Because our environment is suffering and people need to step up their game
- Good to environment
- Saves the environment!

Waste reduction in reusable system (17)

- There is already a lot of waste in meal hall so anything that can be done to reduce it should be implemented.
- Less waste!!
- reducing waste is very important and we should all be supporting it
- Less waste is always better
- Me Hall is way to waste full as it is, this would help out a great deal

- It reduces waste
- I think it's a good way to cut down on waste.
- reduces waste
- To reduce waste
- Let's cut down on waste however we can.
- It would reduce waste for people who do use it.
- reduce waste
- It would prevent a large amount of waste.
- Less waste
- we would use less waste
- But think any effort to decrease waste should be implemented.
- Residence has too much waste, no one understands recycling
- I find it a hassle to manage the trash.
- I find it a hassle to deal with all the trash and sorting it
- Because there will be less garbage created.

Disposable waste reduction (reusable system) (5)

- Therefore if I would ever have to use this system I would bring my own containers
- If a resident has the supplies (I.e. a reusable container) they should be able to use it. It will also aid interring meal halls waste of bags.
- Waste management is already unsustainable in meal halls, the option of reusable containers would help to slightly curb the issue.
- But if students were able to reuse their own tupper, there would be much less waste.
- Reusable containers being available would be a great option to reduce waste.

Food waste reduction (reusable system) (2)

- Reusing containers would make people collect their food and there would be less waste
- and reduce food waste

Food Quality (3)

- I do not use the bagged meal option because the food quality is low
- Although, I question whether this change would make a large impact, because from my understanding the bagged lunch program is my very popular (due to food quality issues)

▪ I think it is a good way to eat healthier
Waste in current system (4)
▪ There is a lot of waste in the dining halls ▪ It would be a great way to reduce the amount of waste already produced in meal hall ▪ Way too much waste around here ▪ I've used the bagged lunch service once and I was irritated by all the waste
Disposable waste (current system) (6)
▪ I think that the waste produced by the bagged lunch is significant, ▪ Hate throwing out the containers ▪ Bagged lunch uses unnecessary packaging such as cling film which cannot be recycled ▪ Plastic waste on campus is a big problem ▪ I'm super eco friendly and the amount of plastic in bagged lunches is actually the reason as to why I don't get many bagged lunches. ▪ In the bagged lunches there's a lot of garbage, like the plastic wrap and the containers,
Food waste (current system) (6)
▪ They complain about food waste but don't allow us to take our leftovers out! ▪ Sometimes I don't finish my meal, but I want to take it to go so I don't create more food waste. I don't want to contribute to the problem ▪ I think it could help reduce food waste in that less people would throw out food they couldn't finish while eating in the meal hall ▪ Yes, there is too much waste associated with food right now without this option ▪ So much food is wasted from my meals bc I can't save it to eat later ▪ This would be so useful, sometimes I take too much food and hate throwing it out.
Time (8)
▪ I would also like to be able to take food from the dining hall in my own container if I have an evening class or limited time for a meal before any class. ▪ It is important for those with no time ▪ I think the meal hall has terrible hours and this allows a solution to those hours ▪ So often students have to abandon plates because of a time shortage to get to class ▪ More option for food at later times or times when meal hall isn't providing hot foods. ▪ If someone is busy during hours or hungry late at night

- I have a university schedule that accommodates lunch time
- Sometimes I and other students need to have supper early on (like 4:30) due to other responsibilities

Sustainability 6

- Bags break and are unsustainable
- Sustainability
- I like the sustainable option
- Sustainability is important
- it would be sustainable and there's no reason not to
- It's important to use reusable products whenever possible

Economic 3

- I wouldn't drop off any reusable containers because I don't own any,
- without having to spend our own money or foodbucks when it's our only choice
- Residence is already sort of expensive and if that increases the cost then I do not support it.

Convenience 14

- I think it's important for people who want to to have the opportunity to do so
- I would prefer having the ability to go in and use a personal container to make my own food.
- It's always good to be able to use reusable items
- Would help for storage
- Allows for students to have snacks in their room
- way more convenient
- If it's easy, then why not
- Easier use
- I think the usefulness of using reusable containers
- it would give more options for food and
- having a take away container would leave us with the ability to have a late night snack or meal when we are hungry
- It would be easier to just return a container at dinner.
- Easier to put a container in my backpack and hand it back at dinner.

Support (16)
▪ however I would support the sustainable transition
▪ but it's a great idea for people who do.
▪ I think it's always a good option to implement reusable containers and to reduce waste!
▪ It would be a good addition to meal hall
▪ I absolutely support that.
▪ Reusable is the way of the future
▪ I would sign a petition
▪ Reusable is good
▪ its a great idea
▪ s immensely important and should be introduced as soon as possible
▪ Having a reusable container program would be great
▪ Seems like it can't hurt.
▪ I like the idea
▪ Sounds good.
▪ i have no question, it's a brilliant idea
▪ That sounds like a good idea
Health and Safety (1)
▪ Not sure if it would be cleaned properly to be reused all of the time

10. What do you perceive to be barriers to the implementation of a general-use reusable food container program in residence meal halls? Check all that apply:

Barriers	Count	Percent (%)
Other	2	1.77
None of the Above	3	2.65
No Barriers	3	2.65
Inconvenience	31	27.43
Cost Container	44	38.94
Resistance	47	41.59
Cost Meal Plan	50	44.25

Lost	73	64.60
Not Returned	83	73.45

Other comments for Question 10

Economic Cost

- Containers are not expensive for students, just reuse things you already have. If the financial cost is for the meal hall, they can afford it.
- If the meal plan prices go up, nobody will go for this. The students should just use their own containers.

Health and Safety

- Containers might not be sanitary. I find cups, bowls, etc with debris on them all-the-time

Benefits

- but it's important to work through these for a more sustainable food program and to reduce food waste
- I think overall the benefits outweigh the costs

Resistance

- Let the students bring their own container
- Meal Hall is always the problem
- I would take food in a container now if the meal hall staff would allow it.
- There will be resistance to change and tough to determine how to ensure containers will be returned

11. What do you perceive to be the benefits of the implementation of a general-use reusable food container program in residence meal halls? Check all that apply:

Barriers	Count	Percent (%)
None of the Above	0	0.00
No Benefits	1	0.88
Other	1	0.88
No form	71	62.83

Less food waste	82	72.57
More option	87	76.99
less Plastic	93	82.30

Other comments for Question 11

Convenience

- Very hard to remember to submit the form so having option would be amazing
- It's annoying to have to fill out a form before hand, where if you can just take one on the go it would be good.
- can't bring it to go to eat when I'm studying at night, especially since meal hall closes at 645
- could have to go meals on weekends which currently isnt offered
- More convenient timing
- If I'm paying for meal hall it would be nice to be able to eat the food when I need to, which is sometimes not when it's open

Economic

- It's SO annoying that I pay so much for food and

Support

- I think that reusable containers is a brilliant idea.

12. Campus Residence sustainability initiatives are important to me.

Important to Me	Count	Percent (%)
Strongly Agree	63	56.25
Agree	46	41.07
Disagree	3	2.67
Strongly Disagree	0	0

13. There is evidence of sustainable practices in my residence.

Important to Me	Count	Percent (%)

Strongly Agree	10	9.00
Agree	69	62.16
Disagree	28	25.22
Strongly Disagree	4	3.60

14. Do you have any other comments you would like to add?

Support for a reusable container program

- Let us just use containers to take food out.
- I hope this idea comes into action.:)
- Let us do our own to go
- I think this is a great opportunity for students and the environment. I only wish that it would have been implemented earlier.

Frustration

- Meal hall frustrates me
- People are r throwing their napkins in the trash. Please let them know that they should go into the organics bin!!!
- While this initiative is important, I believe that a more prominent sustainability issue in Howe hall is their ocassional (but increasingly more frequent) use of paper cups instead of the reusable plastic cups. Paper cups are used the replace the regular plastic cups more and more. This is a huge sustainability issue and causes A LOT of unnecessary waste. I am concerned about this practice.
- Please understand students living in residence are idiots and need lots of help in every aspect of life, especially in regards to sustainable practices.
- Why isn't there more meals offered to go than just lunch? Also why does O'Brien close so early? Many students living on sexton have to eat out because of the dining hall's short dinner hours

Sustainability issues in meal hall

- People are r throwing their napkins in the trash. Please let them know that they should go into the organics bin!!!

- While this initiative is important, I believe that a more prominent sustainability issue in Howe hall is their ocassional (but increasingly more frequent) use of paper cups instead of the reusable plastic cups. Paper cups are used the replace the regular plastic cups more and more. This is a huge sustainability issue and causes A LOT of unnecessary waste. I am concerned about this practice.
- If you are sending this feedback to meal hall... tell them that many students think it is very wasteful to have food out on "display not for eating" like broccoli and peppers... that food could go to use or for people who need it. It's wasteful just to have it laying around.

Food quality

- If the food was of a better quality (eg flavour, not burnt, not just a mush of lentils for vegans/vegetarians) people would waste so much less.

Food waste

- Food waste is a big issue and reusable containers would cut down on that, so I like the idea a lot
- If you are sending this feedback to meal hall... tell them that many students think it is very wasteful to have food out on "display not for eating" like broccoli and peppers... that food could go to use or for people who need it. It's wasteful just to have it laying around.
- Don't waste food, after each meal,any donation possibilities? To homeless people given that they have to consume the food within 24 hrs?
- There needs to be more options for sustainability in terms of waste organization

Economics

- Perhaps students wouldn't have to be supplied with containers by you guys but we could bring our own to keep costs down.