Research Topic: Student's attitude towards food waste in Goldsmiths

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Research Question:

What is the student's attitude towards food waste in Goldsmiths

Introduction:

Food waste, food that is discarded in the food system, is a prevalent phenomenon in the UK. Food waste has been a significant and urgent problem that affects the quality of life due to its dreadful impacts on the economy and environment. According to a report released by the Waste & Resources Action Programme (WRAP), a charity organization that aims to strengthen the economy by reducing waste and promoting sustainability in the UK, the total estimate for UK post-farm food waste in 2015 is 10.2 Million tonnes. Out of the 10.2 million tonnes of food waste, the amount of edible household food waste is 5.0 million tonnes, which is equivalent to 15 billion pounds (Wrap Restates Uk Food Waste Figures To Support United Global Action). Most importantly, a recent report from the United Nation (UN) showed that 8.4 million people (equal to the entire population of London) in the UK are struggling to afford to eat (Loopstra, Taylor, 2016). In addition, food waste emits a lethal greenhouse gas called methane, a gas that traps heat 21 times more than carbon dioxide (Weather Centre - Climate Change - Methane). Instead of sending the food waste to landfills and increasing the emission of methane, an alternative way is to perform food composting. Food composting is a way to turn food waste into nutrient rich supplement for your garden. As a result, we have decided to conduct a research on student's attitude towards food waste in Goldsmiths University. The goal for this research is to study if there is a correlation between behaviors of wasting food and demographics, accessibility to food composting bin, housing accommodations and lastly the type of food waste. Our motivation ultimately is to use those correlations to find a solution that would effectively help university students to reduce food waste.

The population of interest of our research was Goldsmiths University students, specifically students from the Computing Department, from various ages, genders and backgrounds. While we do want to expand the research to the entire campus, it was beyond our scope for the assignment due to time restriction. In order to achieve our goal, we created three research questions and each question is designed to focus on a specific correlation such as demographics and student's behavior.

The following are our research questions:

1. Who are more likely to waste food than the others? How does demographics correlates with food waste?
2. Any correlations with accessibility to food composting to eliminate food waste?
3. What type of food do students usually waste and what are the reasons?

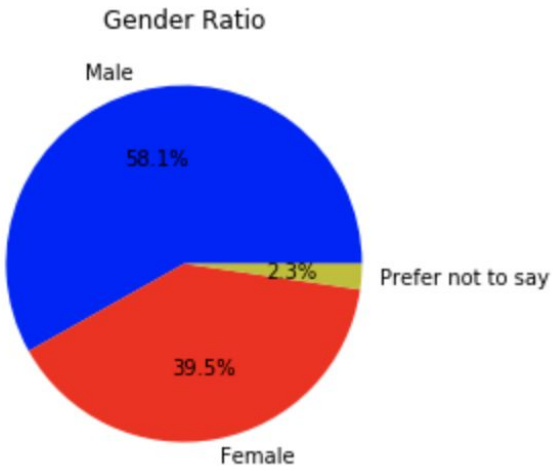
Survey Design:

In the survey, there were thirteen questions which consisted of four demographic questions, six behavioral questions, four attitudinal questions. Through asking participants various types of questions, I was able to make correlations between different variables such as the relationship

between gender and behavior. In all of the behavioral and attitudinal questions, we used a linear scale as the question type because participants are not restricted to only either-or choices, rather allowing them to choose based on their own mind.

Analysis Overview of Data:

Our survey collected a total of 43 responses. First, the demographics of the responses are shown below; gender, degree pursuing, accessibility to composting bin, and housing, all being nominal variables. Then, several questions are asked regarding their behaviors towards food waste using 5 ordinal variables, from 1 representing 'Not often' to 5 representing 'Very often.'

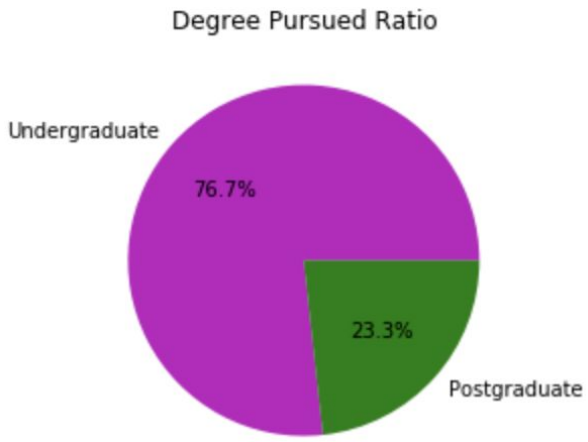


[Graph 1]

Gender	Responses
Male	25
Female	17
Prefer not to say	1

[Table 1]

With only one response which identifies their gender to 'Prefer not to say,' the data for this is insignificant and becomes erroneous [see Graph 1 and Table 1]. Therefore, in future analysis, this data will be omitted when gender is being used as a variable.

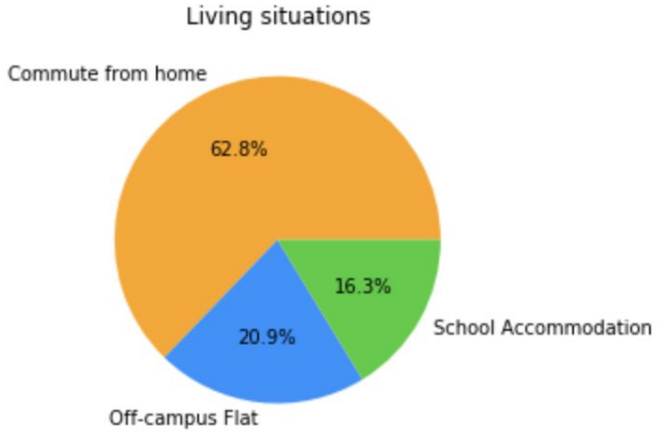


[Graph 2]

Degree Pursued	Responses
Undergrad.	33
Postgrad.	10
Other	0

[Table 2]

As all responses fit to a given specific degree, 'Other' is no longer considered in this variable [see Graph 2 and Table 2].



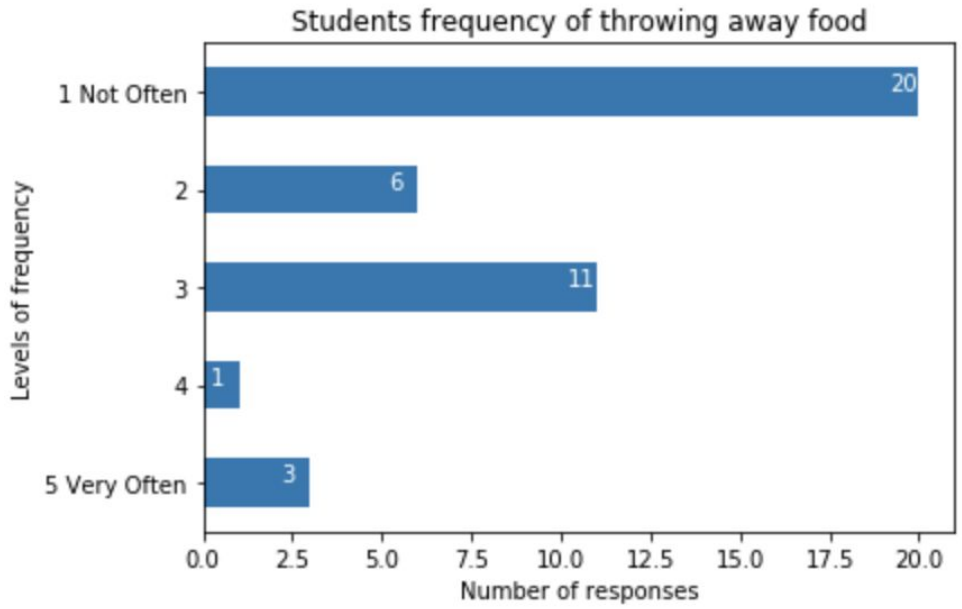
[Graph 3]

Living Situation	**Responses**
Commute from home	27
Off-campus Flat	9
School Accommodation	7

[Table 3]

Our data reveals a clear lack in a balanced sample. More than half of our gathered data share the same demographics: a male undergraduate student that commutes from home.

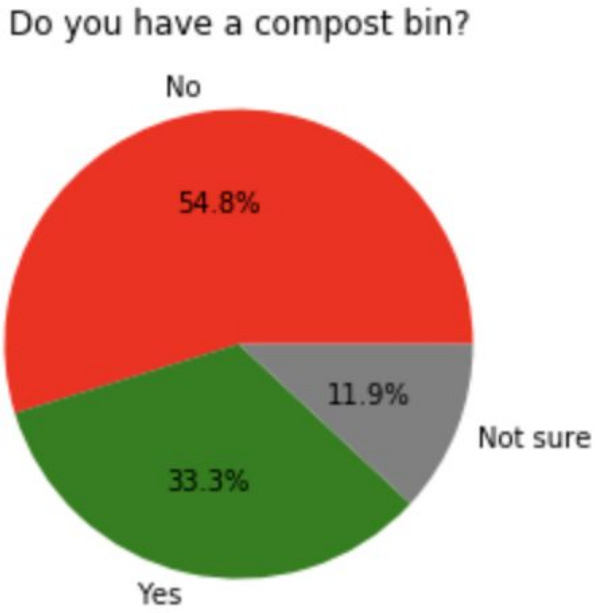
Next, responders chose one of 5 ordinal variables that best fits their general behaviors in food waste.



[Graph 4]

According to Graph 4, since there are 2 missing data responses, it is important to tidy the data when this variable is used to analyze with different variables. Nevertheless, almost half of the student responses claimed ‘Not Often’ to throw away food.

The following data organized by nominal variables reveal the student's accessibility to a compost bin at their living situation.



[Graph 5]

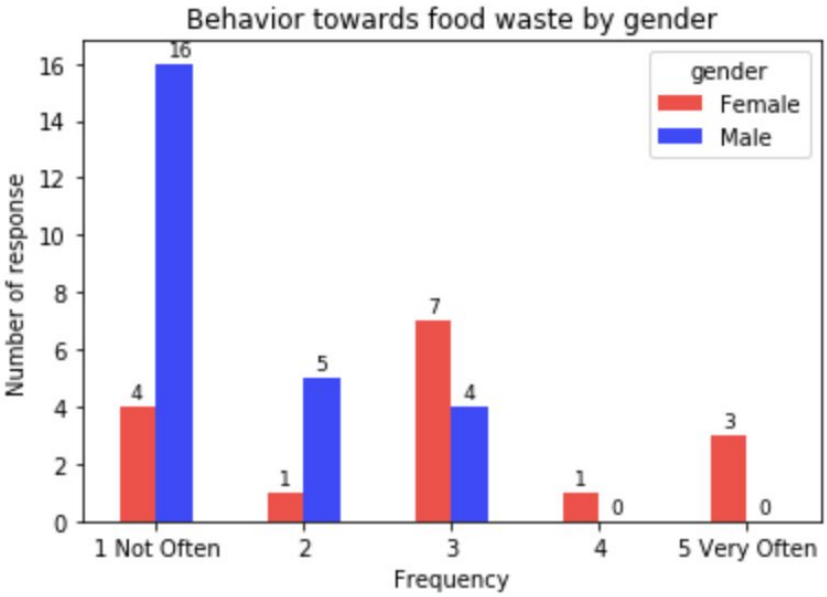
Do you have a compost bin?	Responses
Yes	14
No	23
Not sure	5

[Table 4]

Again, Table 4 shows a missing data response which is to be adjusted when this variable is used in an analysis. Regardless, more than half of the responses claim not to have a compost bin. This only leaves ⅓ of the data sample to have access to a compost bin and 5 students that are unsure with the question. Furthermore, our survey attempts to disclose the root to the attitudes toward food waste.

Visuzations and Analysis:

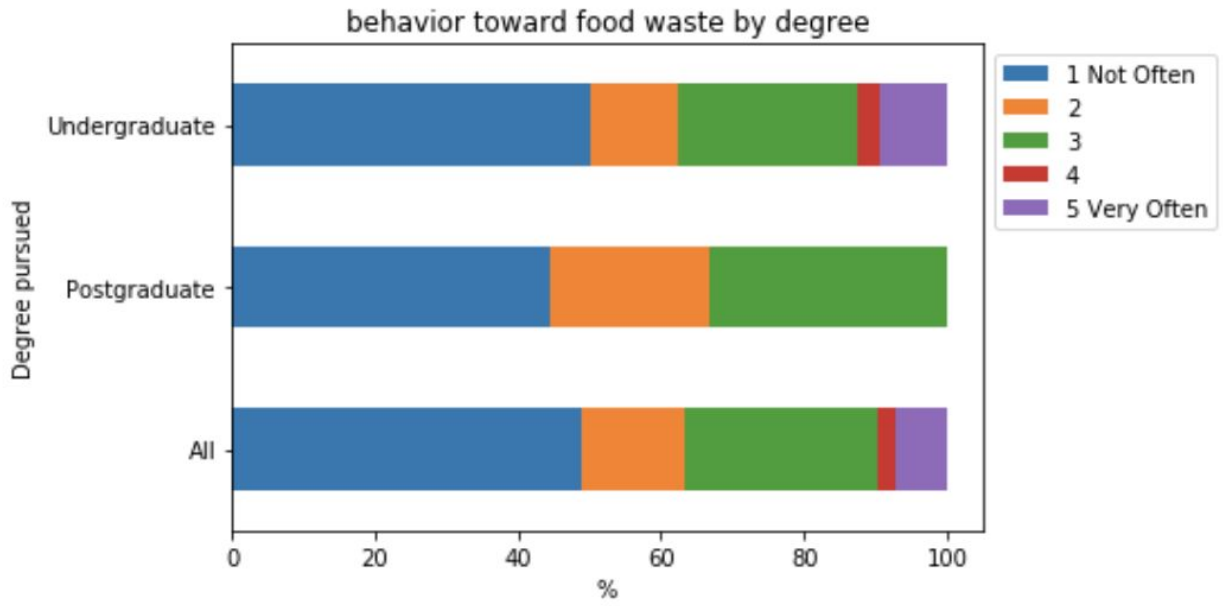
Despite the unbalanced ratio in the responses' demographics, we will observe for any correlations in behaviors towards food waste to demographics.



[Graph 6]

Key finding 1:
According to Graph 6, there is a clear pattern between the two specific genders. While all male answered scales between 'not often' to 3, females varied throughout the scale but mainly focused at the neutral 3.

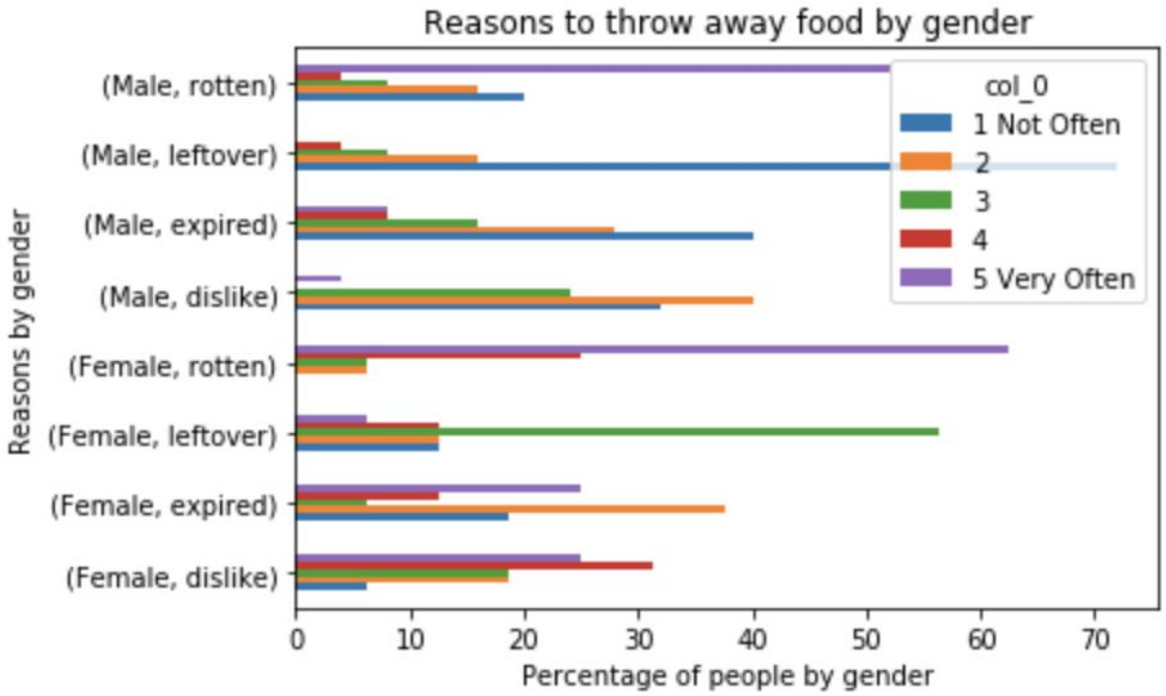
Though degrees pursued by students may not offer explicit correlation to such behavior, the graph below displays its analysis.



[Graph 7]

Key finding 2:

As expected, there are no significant distinctions found but postgraduate students seems to be less frequent to waste food.



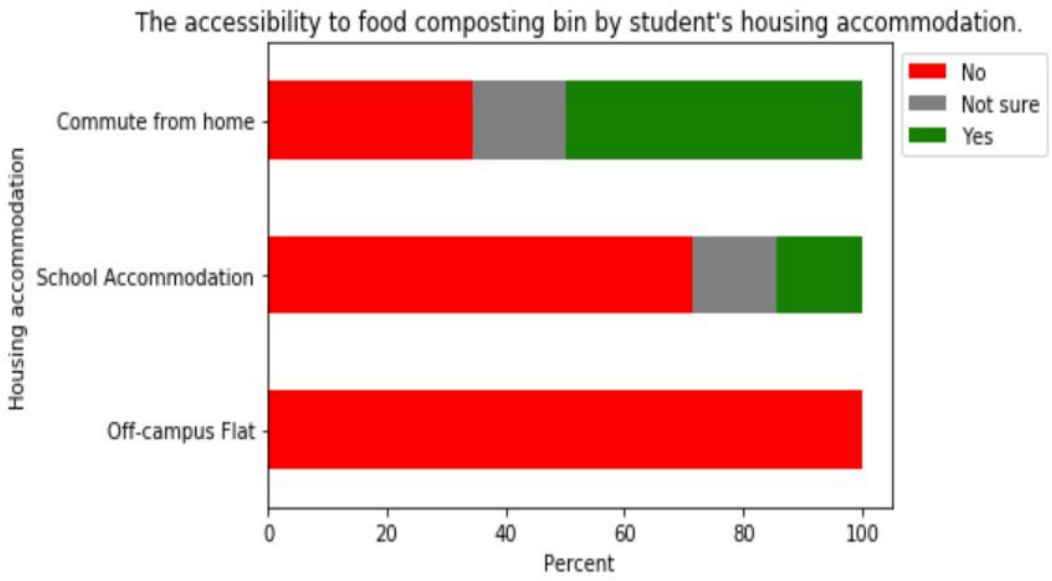
[Graph 8]

	col_0	1 Not Often	2	3	4	5 Very Often
gender	reason					
Female	dislike	6.25	18.75	18.75	31.25	25.00
	expired	18.75	37.50	6.25	12.50	25.00
	leftover	12.50	12.50	56.25	12.50	6.25
	rotten	0.00	6.25	6.25	25.00	62.50
Male	dislike	32.00	40.00	24.00	0.00	4.00
	expired	40.00	28.00	16.00	8.00	8.00
	leftover	72.00	16.00	8.00	4.00	0.00
	rotten	20.00	16.00	8.00	4.00	52.00

[Table 5]

Key finding 3:

Looking at the graph 8, we see that the males are likely to not waste food, especially when leftover and rotten.



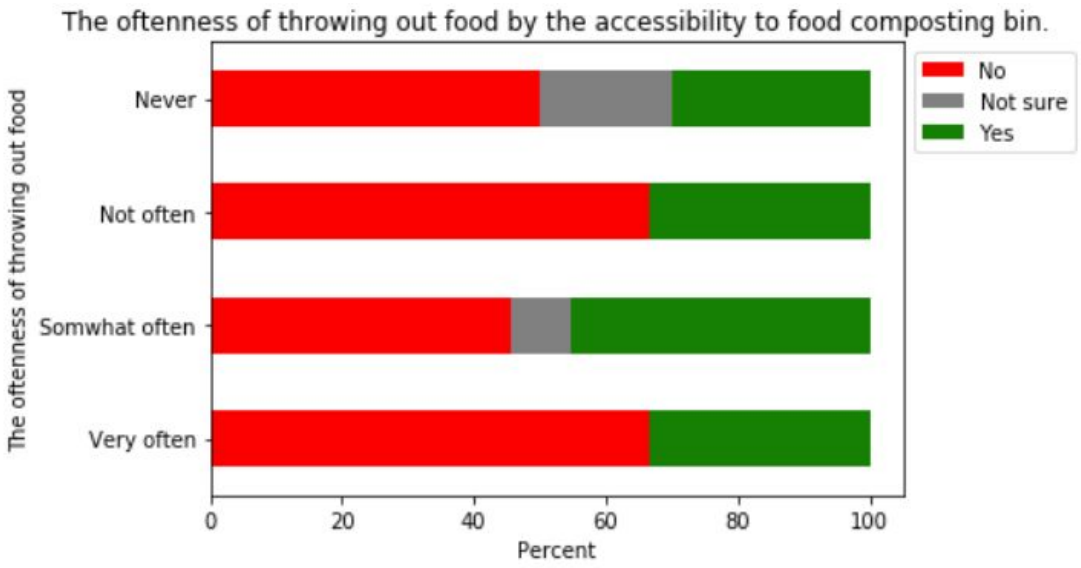
[Graph 9]

Do you have composting bin?	Commute from home	Off-campus flat	School accommodation
Yes	13	0	1
Not Sure	4	0	1
No	9	0	5

[Table 6]

Key finding 4:

From graph 9 and table 6, we learned that every student that lives in an off-campus flat does not have a food composting bin; whereas the majority of students that commute from home do own one.



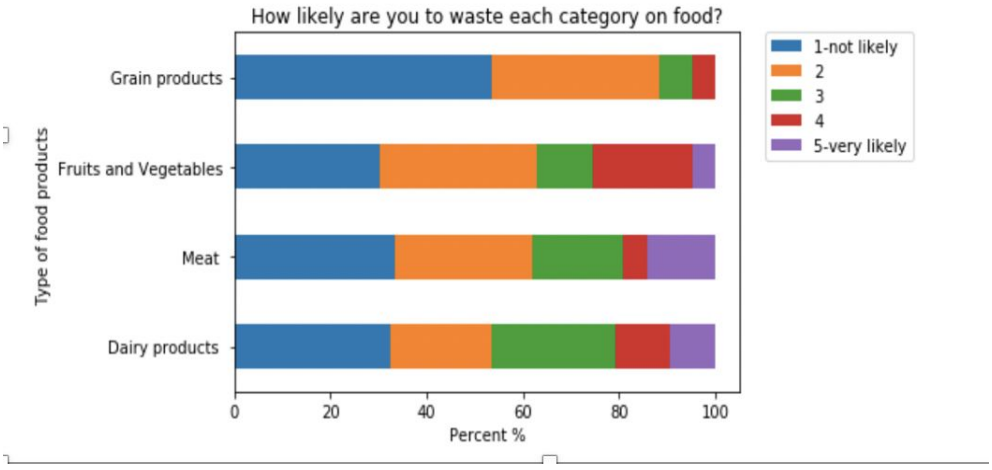
[Graph 10]

Do you have composting bin?	Never	Not often	Somewhat often	Often	Very often
Yes	6	2	5	0	1
Not Sure	4	0	1	0	0
No	10	4	5	1	2

[Table 7]

Key finding 5:

From table 7, we can see that while most students don't have a composting bin, the ones that do have are less likely to throw away food. In the graph, we omitted the 'Often' option because there is only one response and it could be misleading.



[Graph 11]

Type of food products	1-not likely	2	3	4	5-very likely
Dairy products	32.6	20.9	25.6	11.6	9.3
Meat	33.3	28.6	19.0	4.8	14.3
Fruits and Vegetables	30.2	32.6	11.6	20.9	4.7
Grain products	53.5	34.9	7.0	4.7	0.0

[Table 8]

Key finding 6:

Looking at the graph 11 and table 8, meat products is the most waste food category that students waste and grain products is the least food category that students waste.

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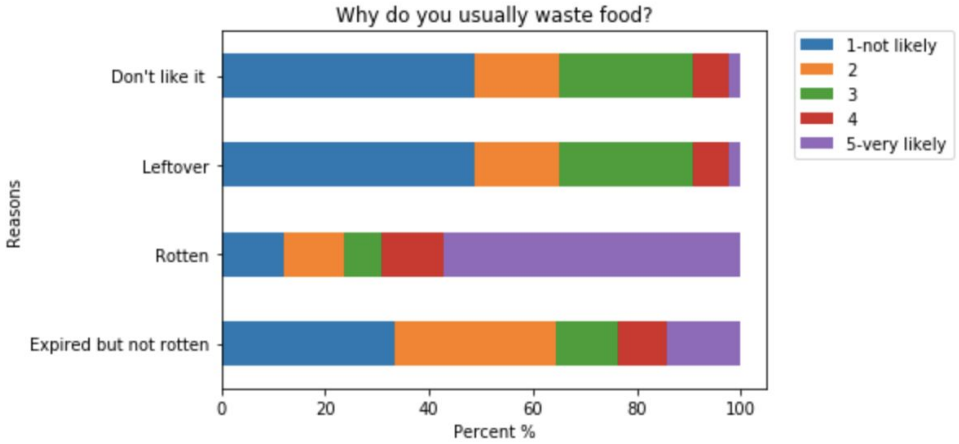

[Graph 12]

[Graph 13]

Reasons	1-not likely	2	3	4	5-very likely
Expired but not rotten	33.3	31.0	11.9	9.5	14.3
Rotten	11.9	11.9	7.1	11.9	57.1
Leftover	48.8	16.3	25.6	7.0	2.3
Don't like it	48.8	16.3	25.6	7.0	2.3

[Table 9]

Key finding 7:

By looking at the graph 12 and 13 we have found out that nearly half of the students are very often to throw away rotten foods than expired foods. Moreover, it shows that students don't throw away leftovers that often.

Conclusion and evaluation:

As analyzed in graph 7, it was expected to see no significant correlations to the attitudes toward food waste. However, according to Graph 6 and 8, there is a difference between the attitudes by gender. While males are less likely to waste food, females are mostly distributed throughout the frequency scale. Graph 8 further displays some similarities but also the differences in the reasons in which the students throw away food. Major difference found is the frequency in which the two genders throw away food because it has been leftover or expired.

Looking at the graph 9 and 10, we conclude that there is a slight correlation between accessibility to composting bin and food wasting. We see from graph 9 that majority students who own a composting bin commute from home and that could be due to their parents rather than the students themselves. Although there isn't a clear correlation between accessibility and behavior variables, we did discover that students that don't often throw away food have a higher chance of owning a composting bin. As a result, by increasing the accessibility of food composting, especially in student housing, can potentially decrease food waste in University.

From the research we have learnt that students waste meat and dairy products the most plus grain products the least. By looking at the graph 12 and 13 we can tell that the reason why students waste meat and dairy products the most is because it gets rotten quickly and easily. However, grain products are the food type that is unlikely to get rotten quickly. To find more accurate data we could have asked about what food type the students buy the most so we can collect another reason why students waste these food types.

For any future research, we recommend expanding the survey to a wider population and potentially include a variety of university to gain a more accurate result.

References:

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http://www.bbc.co.uk/climate/evidence/methane.shtml

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Loopstra, R., Taylor, A. (2016). "Too Poor to Eat Food insecurity in the UK."
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