

## Field study at Grocery Stores

### Summary of Data Collection

#### Summary

Out of the three participants, two of them are aged between 18-30, and another above 50. While all the participants shopped by themselves, only one was buying for another person as well. Two of the participant was aware of what they had at home. Those same two participants are also the participants who are aware of how much waste they create and also has minimal waste (5-10% of what was bought that week, and only leftovers). The other participant (household of two) mentioned tossing out around 8kg of food, most being remade or takeout food that did not taste good.

Two of the participant had a list, one had a list on their phone using the app “Out of Milk”, while the other just had a mental list. Two of the participants chose to use the big cart, however, only one participant ended up feeling like overbuying.

All three participants picked what to grab first based on location, that is, they went to whichever item or aisle was closest to the entrance they entered from. When two of the participants were unable to find what they were looking for, they asked an employee for assistance. When picking out produce, one participant picked out the more bruised looking ones in order to ensure that the store does not end up tossing it out, while another checked only if he was buying the item for his girlfriend. Otherwise, the participants did not check their produce. Generally, they all grabbed the smaller option despite the bigger one being cheaper since they are aware they would be unable to finish it.

None of the participants added random items after they decided they were done shopping.  
None of them removed any items they got.

#### Interesting Notes

*Participant 1* has shopped her own grocery for at least 8 years and is a big environmentalist, bringing her own shopping bags, produce bags, and container to buy fish. While choosing produce, she takes the ones that are in bad shape but still edible as she did not want the grocery to toss it out and contribute to food waste. She had difficulty finding small single cucumbers and ended up skipping on buying the pack of cucumber since it was too much for her. She also mentioned frustration with buying herbs since they came in a big bulk and she never finishes them. Had to buy a fish bigger than what she wanted because they did not have a smaller size. She was also confused by two events; two rows of salmon being priced differently (reasoning given to her was that one was cultivated from Norway, and the other is not), and sausage that had unclear labels (see picture in appendix). This caused her to pick it up and almost buy it out of curiosity. She meal preps her food.

*Participant 2* has been shopping for himself for 4 years. Participant wandered around a lot due to having no grocery list and grabbed what he thought he might need for that night's dinner. Ended up buying more food than he expected. Mentioned that this usually happens when he buys groceries by himself because he ends up wandering around the whole supermarket (which is seen during the field study). He was also very close to buying Hot Flaming Doritos but decided against it because he does not know whether his girlfriend would like it. He also bought a grapes for his girlfriend because he knows she likes them, however, he did not call or text to confirm if she wanted some. Due to this, he also grabbed bananas for himself, even

though he does not usually buy fruits, and only did so because he feels like he should since his girlfriend is getting grapes. Generally ate out 1.5 times a day and buys groceries every time he decides he wants to cook.

*Participant 3* has been shopping for groceries for a long time. She shops for herself now. She knew exactly what she wanted and headed straight to the aisles that had those items, except for salt, which she had difficulty finding. She had also gone to a different grocery store beforehand and gotten a few stuff like cereals. She goes grocery shopping everyday. While following her, overhead a conversation between three people who were debating whether to grab the smaller syrup or the larger. They opted for the smaller one despite one of them mentioning that it's cheaper to get the bigger one overall. She also expressed wanting to be more environmentally conscious without being prompted about it.

### **Insight**

It seems that people who have more experience buying groceries for themselves created less waste. So far, the same trend can be seen if they are also environmentally conscious. Having a list also seems to reduce the amount of items participants bought. This is also corroborated by Ganglbauer, Fitzpatrick, and Molzer (2012). However, this might also be due to experience of knowing what they will be able to eat or not, and what they want to eat.

People also liked to either grab the biggest cart available or they do not use anything since they have their own bag. This does not seem to have any effect on overbuying. They also picked up items based on what is nearest to the entrance they came in from, unless they know what they need, then they head directly to the aisle that has the item they needed.

The most common food type most people are aware of tossing out are remade or precooked food, such as take-outs. This was true in 2 of the participants. All the participant did not opt for a bigger amount even though it is cheaper. However, they are generally forced to take bigger amounts of the items they want as the store does not sell them in smaller amounts. This is especially noticeable for produce (mainly certain vegetables and herbs). There was quite a few noticeable practices made by the grocery stores themselves that would reduce over-buying or food waste, however, solutions does not seem to work in their favour.

Gender did not seem to have any effect. However, this may be due to the small data pool.

### **Appendix**

#### **Participant 1 - Metro**

- 1) Time spent at the store? 20-ish min
- 2) Ethnic background: Dutch
- 3) Economic status: Student, part-time
- 4) Interpersonal or Personal space: shopping solo
- 5) Female
- 6) 18 or younger      **18-30**      30-50      50 or older
- 7) General Attitude: Relaxed
- 8) Verbal behaviour and interactions: Asked employees for unwrapped cucumbers and salmon
- 9) Contextual dynamics: What are they carrying in their carts? Bags, reusable bag, school backpack.

#### **Shopping Patterns :-**

1. Small basket or big carts?
  1. Big cart

2. What type of product did customer selected first?
  1. Picked whatever was nearest first. In this case, fruits
3. How much quantity of perishable food are they carrying?
  1. Oranges, avocado, bananas, salmon, and milk
4. Did they thoroughly examine the food item for any damages?
  1. Checked fruits and veggies for bad bruises
5. Did they check for expiry date of the food item? After checking did the customer let go the decision of buying that food item?
  1. Not within context
6. Are the customers picking larger packages of the product for lesser price?
  1. No
7. Are the customers picking food items according to their predetermined list or randomly?
  1. List, used Out of Milk for grocery list. Constantly checks back to see what she needed
8. Check whether families are buying food with or without communication or co-ordination with each other?
  1. n/a
9. Are any impulse actions or high points of engagement observed such as new product, last-minute add-ons?
  1. Got distracted while heading towards the milk section by the cheese section. Didn't pick up anything though
10. At the checkout during price tally, were there extra food add ons or removals?
  1. No

How many people are they shopping for?

1

Do they keep in mind what you have at home?

Keeps in mind

How long have they been shopping for?

8 years

How much food gets wasted in a week?

5-10% - bought more than needed

Do you eat out?

Foodara -once a couple months

1-2 times, convenience

Do you buy premade food at grocery stores?

Sometimes. pasta/chicken, only at night when there is clearance. Getting the less fresh and cheaper option.

Do you finish the food?

Small- in one go, bigger amount, eat for several meals. Yes.

Unless it taste bad

Do you eat before grocery shopping?

They try to

Notes:

very environmentally conscious person.

Asked for unwrapped cucumber

Placed produce in her own reusable bag

Brought food containers for salmon, which was refused by the store  
Noticed confusion between 2 Atlantic salmon, one priced at \$3.96 and the other at \$2.86.  
Not clear what the differences are. Asked employee, respond was that one was from Norway and the other isn't  
Containers not allowed due to health and law  
Didn't have the amount of fish wanted, so got one that was more than needed.  
Looked at sausages in the cheese aisle, confused by labeling. "ORIGINAL sausage" and "PARMESAN sausage", where the caps locked words were the main focus.  
Grabbed milk (last item) and head straight towards the cashier

Additional comments from participant:  
Recipes is for a larger serving. Never for just one person.  
Wants to eat healthier but half the time, they use obscure, expensive ingredients.

Raw Notes:  
App used: out of milk for looking at grocery list  
Uses cart  
Constantly checks app to see what to buy next  
Asks employee for non wrapped cucumbers. Environmentally conscious. Brought food boxes and own bags for veggies

Bought oranges, avocado, bananas, salmon and milk  
Confusion in Atlantic salmon. 3.96 and 2.86  
One from Norway, one not  
Doesn't allow using customers container for fish due to health reason.  
Don't have the right weight of fish. So bought one that's more than what she needs.  
Looked through cheese aisle (not on list)  
End up looking at sausages  
Confused by labelling. Original sausage and Parmesan sausage. But only original or Parmesan is in caps.  
Grabbed milk and headed towards cashier and paid. Didn't ask for a bag. Brought own bag

### **Participant 2- Metro**

1. Time spent at the store? 30min
2. Ethnic background: Chinese
3. Economic status: student
4. Interpersonal or Personal space: shopping solo?.
5. Male
6. 18 or younger    **18-30**    30-50    50 or older
7. General Attitude: Relaxed in the beginning and progressively confused
8. Verbal behaviour and interactions: Didn't talk to any employees
9. Contextual dynamics: Didn't carry anything with him into the store

### Shopping Patterns :

1. Small basket
2. What type of product did customer selected first?
  1. Whatever was near, yoghurt in this case.
3. How much quantity of perishable food are they carrying?
  1. Yoghurt, dish soap, ...
4. Did they thoroughly examine the food item for any damages?

1. Sometimes, but very briefly. Checked grapes for girlfriend but not the potatoes he was going to cook
5. Did the customer check for expiry date of the food item? After checking did the customer let go the decision of buying that food item?
  1. No
6. Are the customers picking larger packages of the product for lesser price?
  1. No. Choose a smaller package of pick despite 2/\$7
7. Are the customers picking food items according to their predetermined list or randomly?
  1. Randomly
8. Check whether families are buying food with or without communication or co-ordination with each other?
  1. No communication. Based it on likes and dislikes
9. Are any impulse actions or high points of engagement observed such as new product, last-minute add-ons?
  1. Very close to buying Hot Flaming Cheetos for girlfriend to try. But didn't because it was unhealthy
10. At the checkout during price tally, were there extra food add ons or removals?
  1. No

Do they keep in mind what you have at home?

No.

How long have they been shopping for?

4 years

How much food gets wasted in a week?

Forgets veggies in fridge. 8kg of any edible thing

Do you eat out? Any apps used?

Yes. Usually 1.5 meals per day. No apps used.

Do you buy premade food at grocery stores?

Yes

Do you finish the (premade) food?

No. They don't taste good

Normally takes cart. But none available

Raw Notes:

Basket

Looked at whats on sale

Yogurt

Dish soap. Didn't compare. Just grabbed one

Stopped at soy milk  
Usually eat leftovers  
Aluminium foil  
Want to buy cat food. He wants a cat.  
"Lots of things on sale"  
Doesn't grab anything though. Walked through each aisle.  
Looks at chips. Puts Doritos back cause it's not on sale. "I'll come back when it's on sale"  
Don't have grocery list. Just go buy based on hunch.  
Buys for himself and his girlfriend got her grapes. Didn't check in with her. Just knows that she likes grapes.  
Doesn't actually buy fruits when by himself. But his gf wants grapes. So he grabbed bananas.  
Return green grapes and took purple grapes. Glances at the bag really quickly.  
Potato. Doesn't check them.  
Usually buy from Costco but they go to waste cause there's too much. So bought 4.  
Wants herbs. But no cilantro and said it's too much.  
Goes shopping whenever he cooks.  
Doesn't have grocery plan.  
Lives nearby so it's easy to get anything he needs.  
Green beans. Doesn't check any.  
Rechecks what he needs by looking at his basket  
Looks at the beef on display.  
Looks at the sushi section and chicken section.  
Got mozzarella strip steak.  
Got precooked noodles  
Decided to make sandwiches  
Looks at bread.  
Got 2 bread. Gf has event at night though. Not eating.  
Got pickles. Only one jar even though there's a 2/\$7 cause he says he can't finish it.  
Got more meat.  
Done. But walked through the chip aisle again for doritos.  
Think that eating unhealthy is dumb. But getting it at full price is dumber.  
Was going to grab coke for gf. But refuses to get her coke.  
Doesn't usually buy this much.  
Got too much cause he wandered around.

### **Participant 3 - Sobeys**

1. Time spent at the store? 17 min
2. Ethnic background: Unsure
3. Economic status: used to be a nurse
4. Interpersonal or Personal space: shopping solo
5. Female
6. 18 or younger    18-30    30-50    **50 or older**
7. General Attitude: Very relaxed and sure
8. Verbal behaviour and interactions: Asked employee for direction to salt

9. Contextual dynamics: Didn't use a cart, but had shopped at another grocery store before hand and bought cereal

Shopping Patterns :

1. Neither
2. What type of product did customer selected first?
  1. Syrup
3. How much quantity of perishable food are they carrying?
  1. Not much, just syrup, salt and a fish
4. Did they thoroughly examine the food item for any damages?
  1. No
5. Did the customer check for expiry date of the food item? After checking did the customer let go the decision of buying that food item?
  1. No
6. Are the customers picking larger packages of the product for lesser price? N/a
7. Are the customers picking food items according to their predetermined list or randomly? No.
8. Check whether families are buying food with or without communication or co-ordination with each other? Buy for hrslef. Gets company sometimes. So buys more the.
9. Are any impulse actions or high points of engagement observed such as new product, last-minute add-ons?
10. At the checkout during price tally, were there extra food add ons or removals?

Do they keep in mind what you have at home?

Yeah

How long have they been shopping for?

A long time

How much food gets wasted in a week?

Leftovers get bad. Very little.

Do you eat out? Any apps used?

Hardly

Do you buy premade food at grocery stores?

Hardly.

Do you finish the (premade) food?

N/a

Extra Notes:

Try to be more environmentally conscious

Raw Notes:

Looks at drinks

Grabbed nocart or basket.

Looks at cereal.

Has no grocery list.

Grabbed syrup.

Saw and overheard a group of 3 deciding which syrup to buy, and they opted for the smaller one because only one of them uses it and she thinks the bigger one is too much.

Looking for salt. Asks emoyee for direction.

Found salt. Had difficulty finding it even though given direction. Said she's done. Went to meat aisle.

Already went grocery shopping elsewhere. Bought cereal there aming other things

Bought fish and looked at fruits.

Went directly to pay afterwards



The “Original” and “Parmesan” sausage which created confusion for one of the participants.

## **Consent Form: Grocery Shopping and Minimizing Food Waste**

I hereby consent to participate in a research study conducted by Sharene Thio, Pratyush Anwar, Kyle Osborne, Zhou Yufeng, Michael Le, and John Oabel for an assignment in University of Toronto Computer Science course CSC318 *The Design of Interactive Computational Media*.

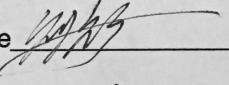
I agree to participate in this study the purpose of which is to understand food wastage and behaviours during grocery shopping.

I understand that

- The procedures to be used include being followed around while I do my groceries, as well as answering any questions they may have.
- I will receive no compensation for my participation.
- I am free to withdraw before or any time during the study without the need to give any explanation.
- All materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.

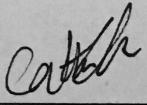
### **PARTICIPANT**

Name (please print) Vincent Lin

Signature 

Date Jan 23/2019

### **INVESTIGATOR(s)**

Name Sharene Carleen Thio Signature 

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### **PARTICIPANT**

Name (please print) Katya Meereboer

Signature Katya Meereboer

Date Jan 23, 2019

### **INVESTIGATOR(s)**

Name Sharene Thio

Signature C. Thio

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### **PARTICIPANT**

Name (please print) FATEMEH GANJAVI

Signature F. Ganjavi

Date 25 Jan 2019

### **INVESTIGATOR(s)**

Name Sharene Carleen Thio Signature C. Thio

