

## W241 – Experiments & Causality Project Progress Report

# Going Green - With Envy or Education?

Team: Ram Balasubramanian, Tarun Chopra, Cynthia Hu, YangYang Qian

### Project Overview

Our group will conduct experiment on whether educating people and social comparison will impact their recycling rate. The experiment has one control group and two treatment groups. The first treatment group focuses on communication tailored to educating consumers about the benefits of recycling to the environment and includes what can be recycled and how to do it. The second treatment group focuses on motivating consumers to recycle more through social comparison. The control group receives no additional information.

### Implementation Plan

Based on initial research and discussion, we plan to execute this experiment in one location (Montgomery County, MD). We will pick a recycling route with lower recycling rate. Generally, one route covers about 600-700 houses and we plan to treat 400 houses (200 in each treatment group). Due to the challenging of measuring volume and content of garbage, we will measure recycling participation: 1/0 indicator for whether a household made materials available for recycle pick-up on the day of collection each week. That means we will count whether there is a recycle bin by the street side for each house. Since the experiment will be done where Ram lives, he will drive and take videos weekly and the others will process the video and record whether the house has a recycling bin, and which group the house belongs to.

### Progress

Below is a summary of our task and timeline. Thanks to Ram who has done a lot of preliminary research on this topic, including talking to recycling coordinator for Montgomery County and a baseline run.

StartDate	EndDate	Duration	Task	Dependency	Comments
1. pick location and get					
Monday, March 5, 2018	Thursday, March 8, 2018	4	home address		
Thursday, March 8, 2018	Sunday, March 11, 2018	4	2. randomly assign to treatment (keep the list)	1. pick location and get home address	before print mailing labels
Friday, March 9, 2018	Thursday, March 15, 2018	7	3. collect and clean pretreatment data (once)	1. pick location and get home address	can be in parallel with mailing material
Monday, March 5, 2018	Sunday, March 11, 2018	7	4. prepare material	1. pick location and get home address	follow the local regulations of solid waste management division
Monday, March 12, 2018	Thursday, March 15, 2018	4	5. print material (color), labels and prepare envelopes	2. randomly assign to treatment (keep the list) 4. prepare material	
Friday, March 16, 2018	Friday, March 16, 2018	1	6. mail the material	5. print material (color), labels and prepare envelopes	assume it takes about a week to deliver
Friday, March 23, 2018	Thursday, April 5, 2018	14	7. collect and clean raw data (twice, once per week)	6. mail the material	
Friday, April 6, 2018	Thursday, April 19, 2018	14	8. Analyze data and complete the final paper	7. collect and clean raw data (twice, once per week)	
Friday, April 20, 2018	Friday, April 20, 2018	1	9. Presentation	8. Analyze data and complete the final paper	assume we do presentation on the last week

## Challenge

- It's very complicated to weigh each bin and determine whether the recycle rate has gone up instead we will be looking at if the consumer has started to use a recycle bin after the treatment has been performed
- Difficult to map the recycling bin and the house number and which house is in treatment group from the video.
- Impossible for us to get current recycling rates by neighborhood or routes for the social comparison. We will try to look for data at higher level such as country or state.

## Cost Estimation

If we treat 400 houses, the total estimated cost is \$676. If we treat half of it due to the data unavailability for social comparison, the cost will be \$338. We hope for a grant to help cover expenses of the experiment up to \$500.

Treatment Units	400		
assume 400 house	unit price	total cost	notes
color print (one page)	0.42	168	use OfficeDepot
print labels	\$58 / 100	232	use OfficeDepot
envelop & label	\$9 /100	36	buy self seal
postage stamp	0.6	240	
glue		5	for mailing label
Total		<b>676</b>	

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<https://customprinting.officedepot.com/CategoryLandingpage.aspx?categoryid=690>