Motivational Tools for Household Composting

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INTRODUCTION

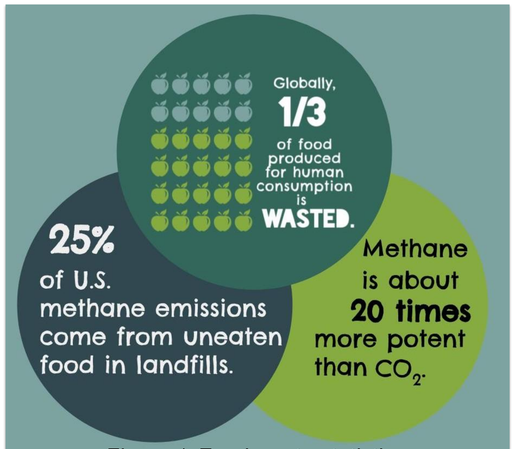


Figure 1: Food waste statistics

Composting is a solution to the food waste problem presented in Figure 1, because food that is composted breaks down in an aerobic environment and produces carbon dioxide rather than methane (US Composting Council, 2008). Methane is produced when food that is buried under trash in landfills breaks down anaerobically (CARB, 2015).

Every Palo Alto resident was given a compost bin, but not every resident uses it.

So how can people be effectively motivated to compost at home?

DATA AND FINDINGS

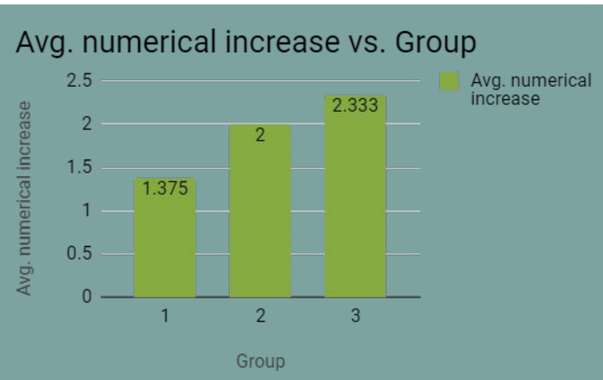


Figure 3: The average difference in personal rating of composting habits on a scale of 1-10 before and after participating in the study, compared in groups.

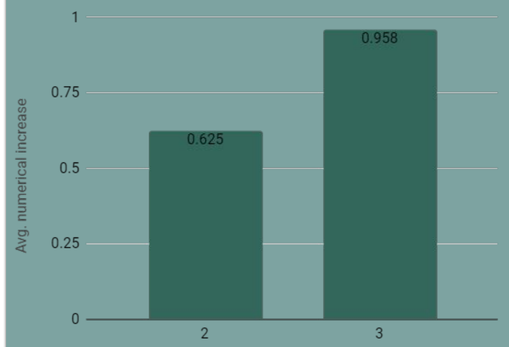


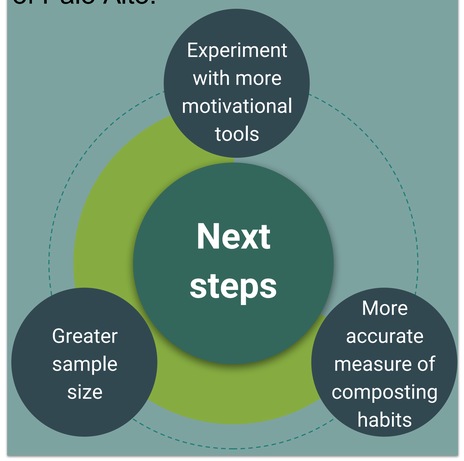
Figure 4 (left): The average difference in personal rating of composting habits on a scale of 1-10 before and after participating in the study, with control data taken into account.

Reasons cited for increased compost	Reasons cited for no change in compost
Group 1	
• Increased compost amount • Conscious awareness of compost (x2)	• Continued as usual
Group 2	
• Conscious awareness of compost • Increased compost amount (x2) • Building new habits • Easier than once thought • Accountability	• Continued as usual
Group 3	
• Conscious awareness of compost • Increased compost amount • Building new habits • Accountability	• Time commitment

Table 1: Reasons participants cited for an increased compost amount or for no change in amount of compost in the follow-up survey after participating in the study.

CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS

These results indicate that while Palo Alto's green bin program has resulted in many residents composting, there is still more that can be done to increase the extent to which households compost. This is important because we should be trying to maximize the impact Palo Alto can have on helping the environment, especially since composting is supported by the City of Palo Alto.



RESEARCH METHODOLOGIES

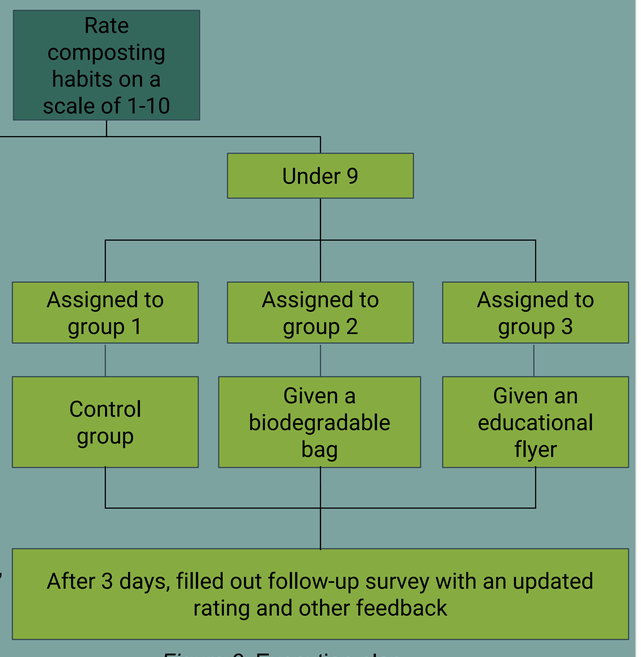


Figure 2: Execution plan

Figure 2 shows the execution plan of this action research project. Group 1 consisted of 4 participants, and groups 2 and 3 each had 3 participants. The final survey asked for an update on composting habits rating and feedback, both of which are used in the data section.

DISCUSSION, ANALYSIS, AND EVALUATION

According to Figure 3, the greatest change in composting habits was shown in group 3, which was the group given educational flyers at the beginning of the study. However, the control group also saw an improvement in composting habits. When this was accounted for by subtracting the average difference in scale rating in the control group from the other two groups, as seen in Figure 4, the difference between the averages for groups 2 and 3 is small enough to be statistically insignificant. **This means that while providing an incentive to compost had an effect on composting habits, there is no conclusion as to which incentive was the most motivational.**

According to Table 1, the most common reasons participants felt that they had composted more was that the study gave them accountability, made them consciously aware of composting, motivated them to increase their compost, helped them build new habits, and that composting is easier than originally thought. **This indicates that the motivational tools may not have been a primary reason for participants to increase their compost, but may have helped with the other reasons.**

ACKNOWLEDGEMENTS / REFERENCES

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Works Cited:

California Air Resources Board Staff. (2015, September 2). Compost emissions work group. Retrieved from California Air Resources Board website: https://www.arb.ca.gov/cc/compost/compost.htm

Gruber, V., Holweg, C., & Teller, C. (2016). What a waste! Exploring the human reality of food waste from the store manager's perspective. *Journal of Public Policy and Marketing, 35*(1), 3-25. Retrieved from EBSCO Host database.

Munesue, Y., Masui, T., & Fushima, T. (2015). The effects of reducing food losses and food waste on global food insecurity, natural resources, and greenhouse gas emissions. *Environmental Economics and Policy Studies*, *17*(1), 43-77. Retrieved from EBSCO Host database.

US Composting Council Staff. (2008). *Greenhouse gases and the role of composting: A primer for compost producers* [Pamphlet]. Reston, VA: The United States Composting Council.

Zero Waste Staff. (2017, September 13). Recycling and composting ordinance. Retrieved October 29, 2017, from City of Palo Alto website:http://www.cityofpaloalto.org/gov/depts/pwd/zerowaste/projects/ordinance.asp