

This is Your Brain Off Coffee...

Jackson Baker (ME), Liam Cox (CHE), Joseph Cumming (Undecided), Howard Zheng (ME)
PLA: Troy Bergeron (AE)

Professor Traver (UGS) and Professor Johnson (MA)

Problem

WPI undergraduates drink coffee to alleviate fatigue and stress. However, too much coffee is unhealthy.

Project Question

If students admit their habit and choose a healthy substitute, will they reduce the amount of coffee they drink?

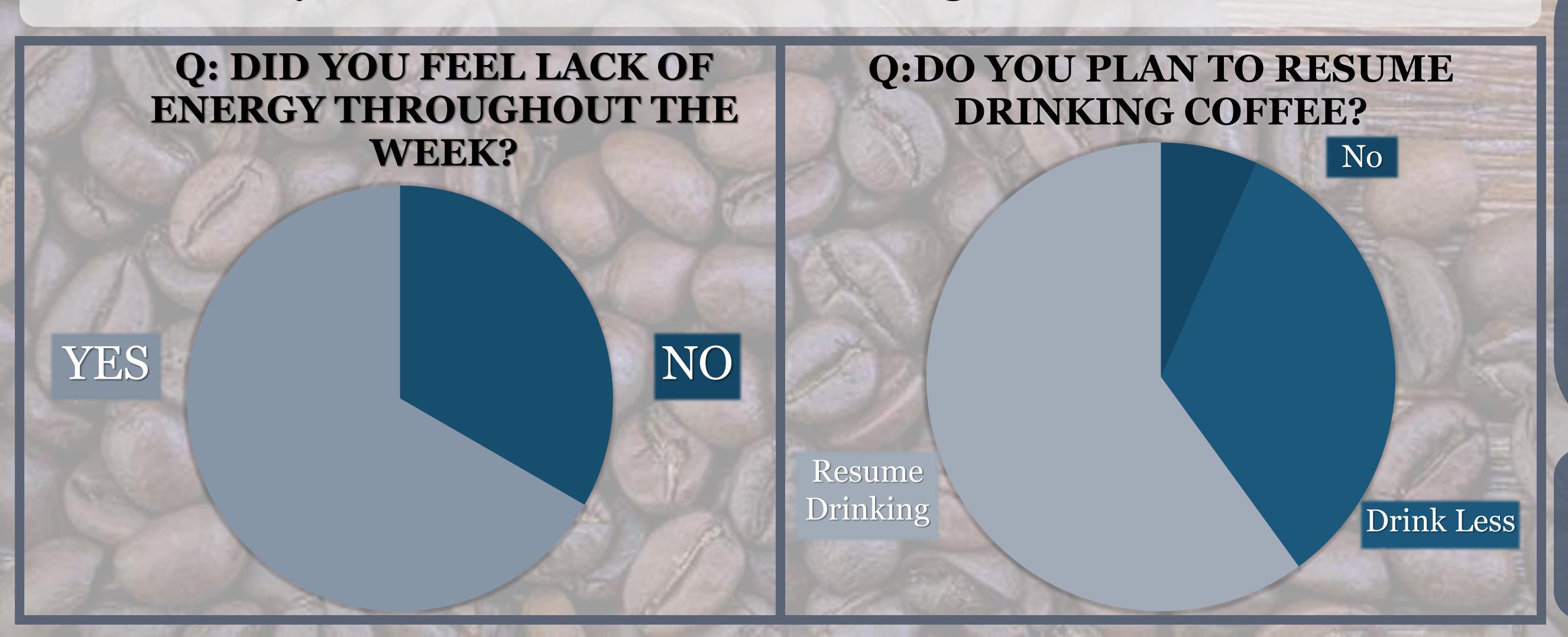
Methodology

Select 20 Undergraduates at WPI who admit to drink coffee excessively.

Survey volunteers to establish a baseline of frequency, amount, time of day, additive, and how they intend to replace coffee.

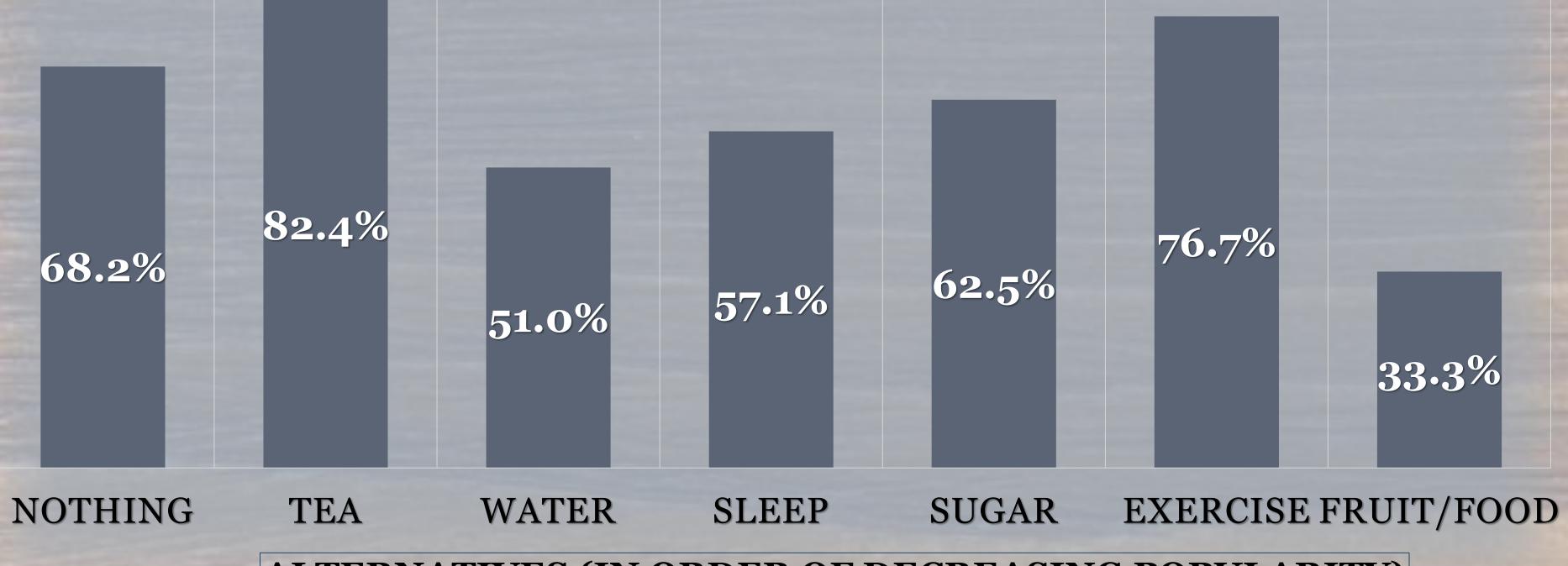
Monitor volunteers progress for seven days through daily emails.

Survey volunteers to determine changes in their coffee use.



4		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	Person 1	Sleep	Sleep	Nothing	Nothing	Sleep	Sleep	Sleep
	Person 2	Nothing	Nothing	Nothing	Nothing	Nothing	Tea	Nothing
	Person 3	Water	Sugar	Sugar	Water	Food	Sugar	Sugar
	Person 4	Exercise	Tea	Exercise	Tea	Exercise	Sleep	Sleep
	Person 5	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
	Person 6	Tea	Tea	Tea	Tea	Tea	Tea	Tea
	Person 7	Tea	Tea	Tea	Tea	Tea	coffee	Sleep
	Person 8	Nothing	Tea	Tea	Tea	Tea	Tea	Tea
	Person 9	Tea	Exercise	Exercise	Tea	Exercise	Tea	Tea
	Person 10	Water	Water	Water	Tea	Tea	Water	Water
	Person 11	Water	Water	Water	Water	Tea	Tea	Tea
	Person 12	Fruit	Water	Water	Fruit	Water	Sleep	Sleep
	Person 13	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
	Person 14	Nothing	Nothing	Sugar	Nothing	Nothing	Sugar	Sugar
	Person 15	Water	Water	Sugar	Water	Water	Water	Water

EFFECTIVENESS OF ALTERNATIVES



ALTERNATIVES (IN ORDER OF DECREASING POPULARITY)

Discussion

In a follow-up study, a more rigorous experiment could be used to investigate the effect of the substitutes. An example would be using a randomized experiment to test whether substituting tea for coffee has significant correlation with reduction in coffee consumption.

Reference

Kamiloglu, S. (2019). Authenticity and traceability in beverages. Food Chemistry; Food Chemistry, 277, 12-24. doi:10.1016/j.foodchem.2018.10.091 Klag, M. J., Wang, N. H., & Meoni, L. A. (2002). Coffee intake and risk of hypertension. the johns hopkins precursors study. ACC Current Journal Review, 11(5), 29-29. doi:10.1016/S1062-1458(02)00779-1

Lee, Y. J., You, J. S., & Chang, K. J. (2013). Dietary habits score, nutrients intake and dietary quality related to coffee consumption of college students in incheon. Journal of
Nutrition and Health, 46(6), 560. doi:10.4163/jnh.2013.46.6.560
https://www.google.com/search?q=coffee+background&source=lnms&tbm=isch&sa=X&ved=oahUKEwiNz7rF8PneAhVCZN8KHZQACRUQ_AUIDigB&biw=1396&bih=664#i

m=isenæsu=næved=bane i mgrc=_iXHPIjpeXfJhM: