Ultra-Processed Caloric Intake vs. American Average

A two week observation and comparison between personal and national average caloric intake of ultra-processed calories.

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INTRODUCTION

According to Williams et al., 55% of the average American's diet comes from ultra-processed foods, which has been associated with higher risk of cardiovascular disease and higher rates of mortality. I make an intentional effort to eat whole foods most of the time, but after an initial bout of research into the topic, I am very interested to see how my own diet compares to the average American. Through my data collection I hope to glean insight on now only my own consumption of food, but also to compare to the average.

QUESTION/HYPOTHESIS

How does my intake of ultra-processed foods compare to the American average of 55%?

H_0: mean percentage of Ultra-processed food intake=55%
H_1: mean percentage of ultra-processed food intake≠55%

METHODOLOGY

- To collect the data, I recorded all of the food I consumed into a popular application "MyFitnessPal" , separating values into unprocessed and ultra-processed.
- Input the data into an excel spreadsheet (Figure 1), introduced the data into R to filter and format the data.
- Finally I created the graphs in Figure 1 and Figure 2, as well as performing the t-test shown below to test my hypothesis.

CONCLUSION

What I found from my observations over the two week period is that my personal percentage intake of ultra-processed calories is approx. 47.6%, lower than the national average, as shown in the below t-test. Through the process of this project I have gathered a greater understanding of ultra-processed food and their presence in everyday eating, and how easily these calories are consumed.

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        One Sample t-test

data:  NewCalories$`Percent of Ultra-Processed Calories`
t = -3.5153, df = 13, p-value = 0.001901
alternative hypothesis: true mean is less than 55
95 percent confidence interval:
     -Inf 51.34927
sample estimates:
mean of x
 47.64286
```

ANALYSIS

- My results show a wide range in personal percentage of calories, with the minimum percentage being 36% and the maximum being 60%.
- Though my own percentage of 47.6% was lower than average of 55%, it was closer than originally expected.

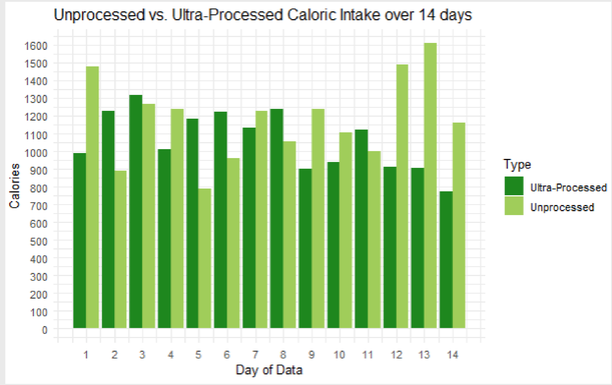

Figure 1

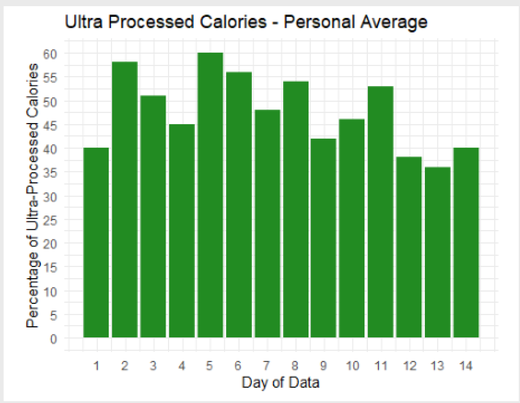

Figure 2

RELATED LITERATURE

Williams AM, Couch CA, Emmerich SE, Ogburn DF. Ultra-processed food consumption among youth and adults: United States, August 2021-August 2023. NCHS Data Brief. 2025 Aug;(536)1-11. DOI: https://dx.doi.org/10.15620/cdc/174612