Ultra-Processed Caloric Intake vs. American Average

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

AUTHORS

Patrick Meade

AFFILIATIONS

METRO STATE UNIVERSITY

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%?

Null Hypothesis: percentage of Ultra-processed food intake=.55
Alternative: percentage of ultra-processed food intake =/= .55

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

METHODOLOGY

To collect the data, I recorded all of the food I consumed into a popular application "MyFitnessPal", breaking it down into two categories: unprocessed vs. ultra-processed, finally comparing the percentage of ultra-processed calories against the American average every day over a two week period.

CONCLUSION

What I have 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.

```
        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
```

p-value=0.0019 is less than 0.05. Therefore, at a 5% significance level, there is enough evidence to conclude that my intake of ultra-processed calories is less than the American average of 55%.

ANALYSIS

Day of Data	Total Calories	Unprocessed	Ultra-Processed	Percent of Ultra-Processed Calories
11/2	2467	1480	987	40
11/3	2113	888	1225	58
11/4	2580	1265	1315	51
11/5	2248	1237	1011	45
11/6	1976	790	1186	60
11/7	2185	961	1224	56
11/8	2360	1227	1133	48
11/9	2291	1054	1237	54
11/10	2140	1241	899	42
11/11	2045	1104	941	46
11/12	2123	998	1125	53
11/13	2402	1489	913	38
11/14	2516	1610	906	36
11/15	1935	1161	774	40

Figure 1

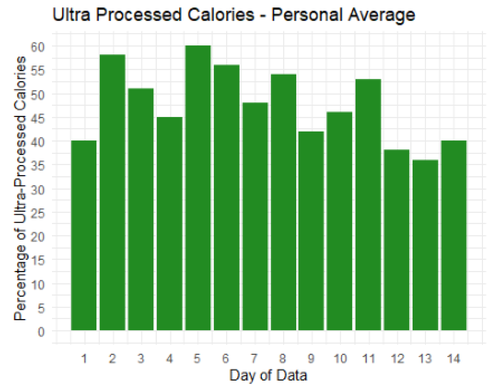

Figure 2