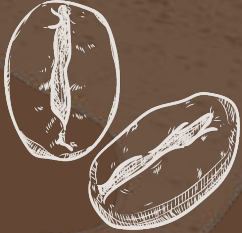


# Evaluation of Coffee Spending *by Work Location Status and Preferred Roast*

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BROUGHT TO YOU  
BY PROJECT  
*DREAM TEAM*

SPRING 2026



# INTRODUCTION

## TOPIC

- This project studies how monthly coffee spending relates to roast preference and work location
- Research Question: How is monthly coffee spending related to where people work and the roast they prefer?
- Hypothesis
  1. People who work from home more often will spend less overall on coffee
  2. People who prefer lighter roasts will spend more than those who prefer darker ones

## MOTIVATION

- We were interested in this topic because some of us are coffee drinkers and enjoy going to cafés
- We also noticed that coffee is something many freshmen talk about spending a lot of money — or food points — on. Coffee is a small daily purchase that can add up to a meaningful monthly expense
- That made us curious about what actually shapes coffee spending: daily routine, personal taste, or both



# DATA



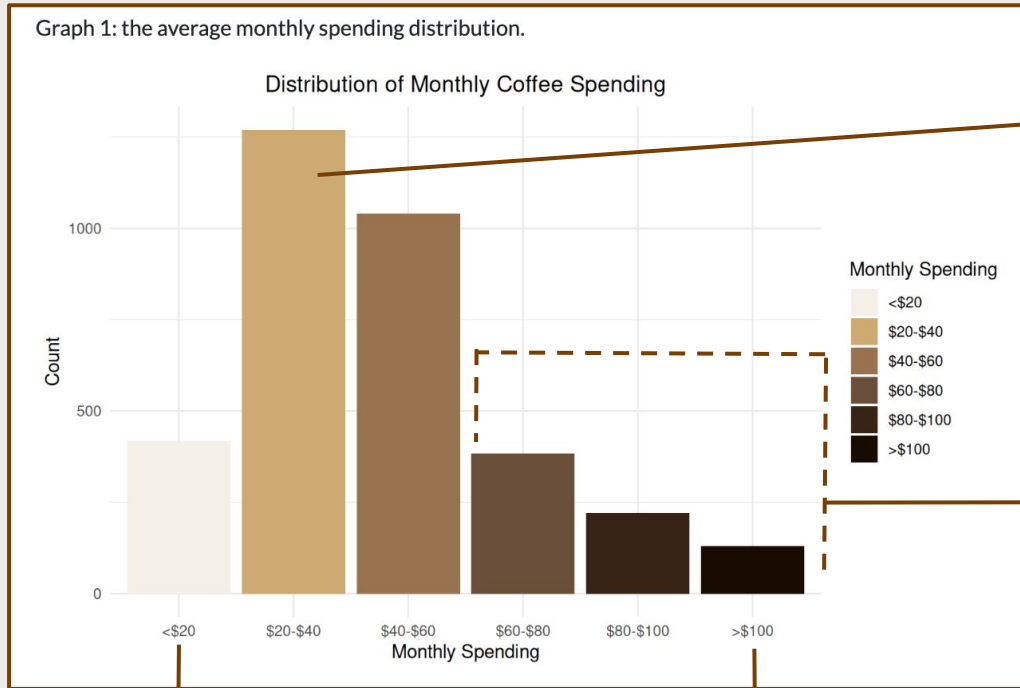
"The Great American Coffee Taste Test" from TidyTuesday on Github, collected by barista James Hoffmann and coffee company Cometeer; data set curated in May 2024

## coffee\_survey

1. **total\_spend**: How much money survey respondents typically spend on coffee per month
2. **roast\_level**: Preferred roast level of coffee: Nordic, light, blonde, medium, dark, French, Italian
3. **wfh**: Work location: home, in person, mix of both

# ANALYSIS 1:

## AVERAGE MONTHLY SPENDING DISTRIBUTION



**Unimodal** distribution, with highest frequency in the **\$20-\$40** spending category.

- Modal spending level: lower-to-middle spending range.
- Majority concentrated between **\$20-\$60 /mo**
  - Most respondents are moderate coffee spenders.

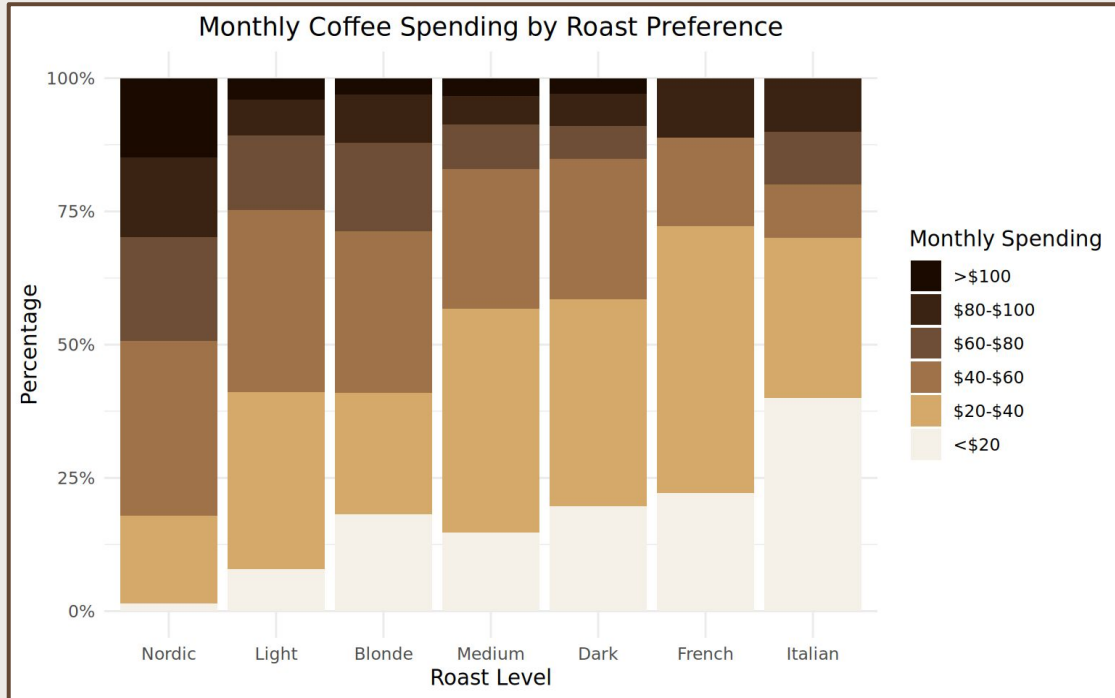
**Right skewed**, frequencies decline as spending increase.

- The relatively small counts in the upper categories suggest a long right tail, driven by a smaller group of high-spending individuals.

**Substantial variability** in spending, spanning from **<\$20** to **>\$100 /mo.**

# ANALYSIS 2:

## MONTHLY COFFEE SPENDING BY ROAST PREFERENCE



### Stacked bar chart

- Bar: monthly spending distribution
- X-axis: Light to Dark roast continuum

### Negative association between preferred roast darkness and spending

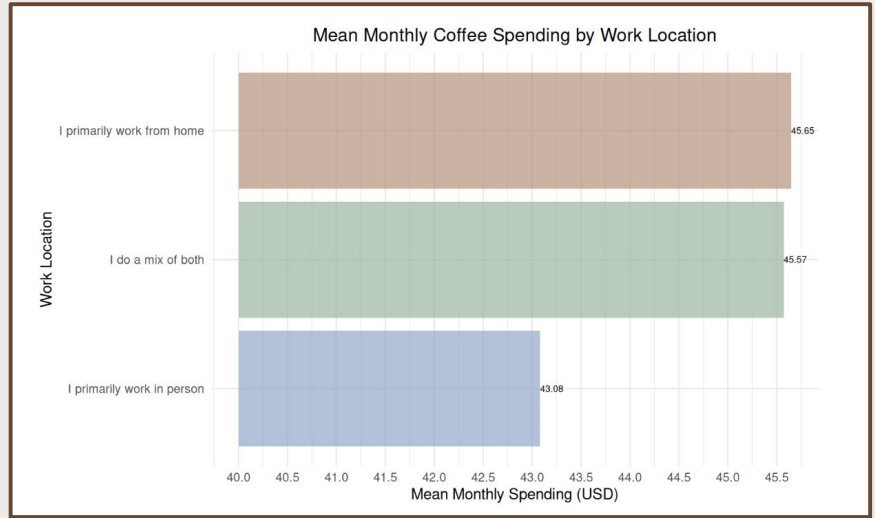
- Decreasing high spender proportion
  - Eg. >\$100: 14.9% (Nd) -> 3% (Md & Dk) -> 0% (Fr & It)
- Increasing low spenders
  - Eg. <\$40: 17.9% (Nd) -> 70% (Fr & It)
- *Deviation: Blonde*

### Align with our hypothesis & coffee culture

- Light roast: premium experience
- Dark roast: mainstream consumption

# ANALYSIS 3: MONTHLY COFFEE SPENDING BY WFH STATUS

Weak positive correlation : more working from home -> slightly higher spending



## Jitter + box plot

- Median: \$30 (on-site) < \$50 (mix & WFH)
  - BUT: nearly identical IQR spans & whisker ranges across
  - Spending variability consistent

## Bar chart

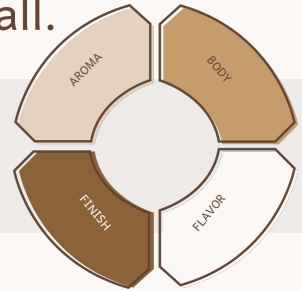
- Mean: \$43.08 (on-site) < \$45.57 (hybrid) < \$45.65 (WFH)
  - BUT:  $45.65 - 43.08 = \$2.57$ : difference < \$3

## Linear Regression Model

- $r = 0.04$ ,  $R^2 = 0.002$ ,  $p = 0.012$ 
  - Trend statistically significant but practically negligible

# CONCLUSION

Coffee, in general, tends to vary more by roast preference than work location. People with light roast preferences spent more than those with dark roast preferences, while the work-from-home groups looked fairly similar overall.



# DISCUSSION

1. Coffee spending is reported as **categorical variable**; converted numerical means are estimates that may hide variation within each WFH category
2. Survey data are **self-reported**, introducing the possibility of human error/inaccurate responses
3. Observations contain large number of **missing (NA)** values