

# Data Visualization with R and `ggplot2`

Data Visualization: Session 1

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Duke University, May 2023

# My Setup and Yours

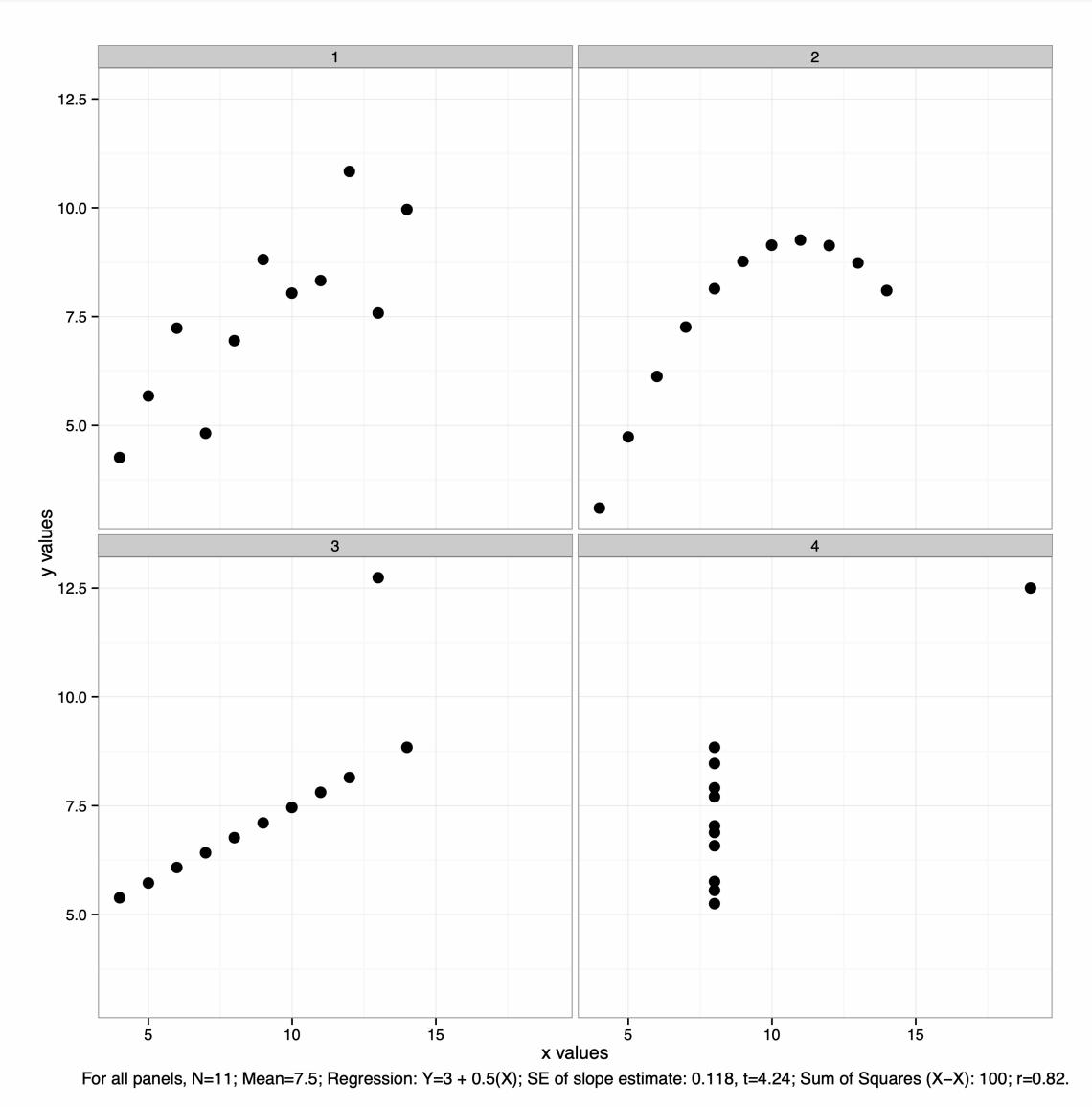
Talking, Slides, and Live-Coding in RStudio

Follow along and take notes in RStudio yourself

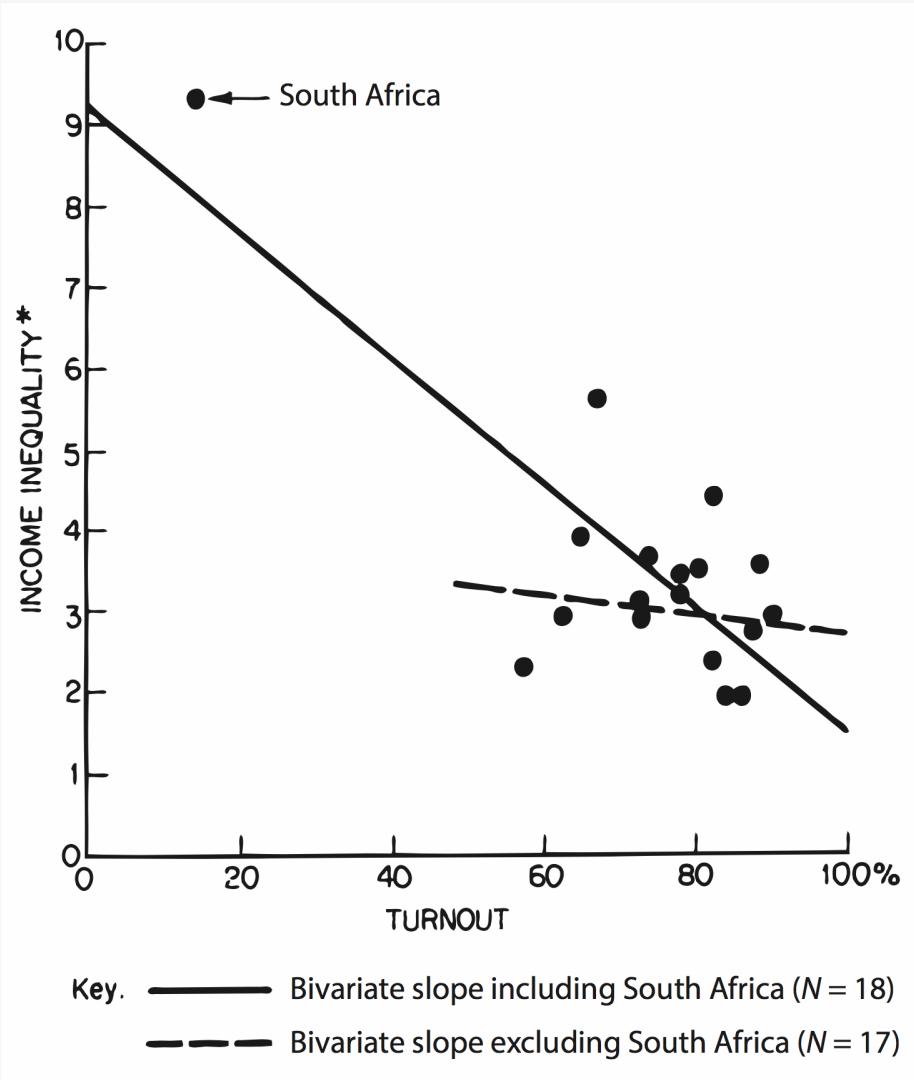
I'll make these slides and the code available

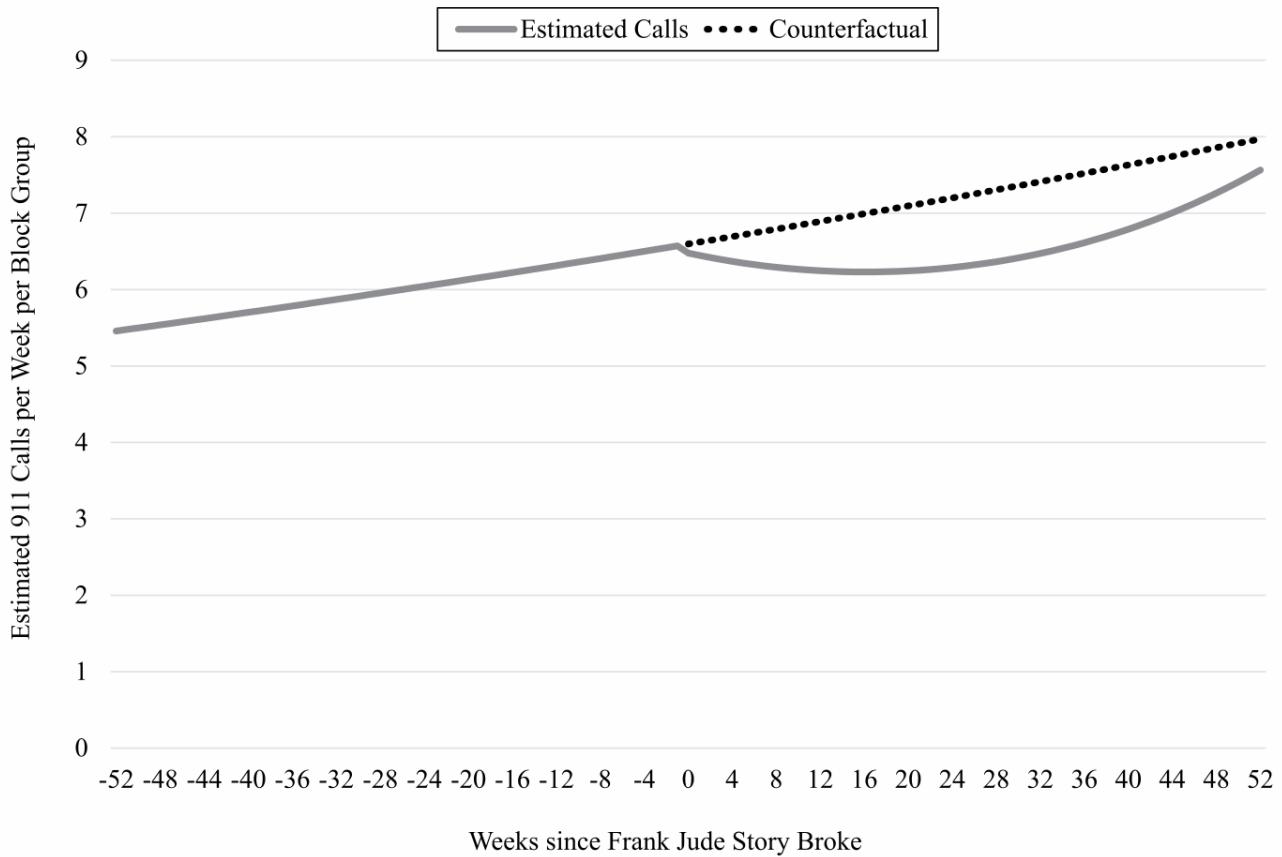
You should  
look at  
your data

# Seeing things

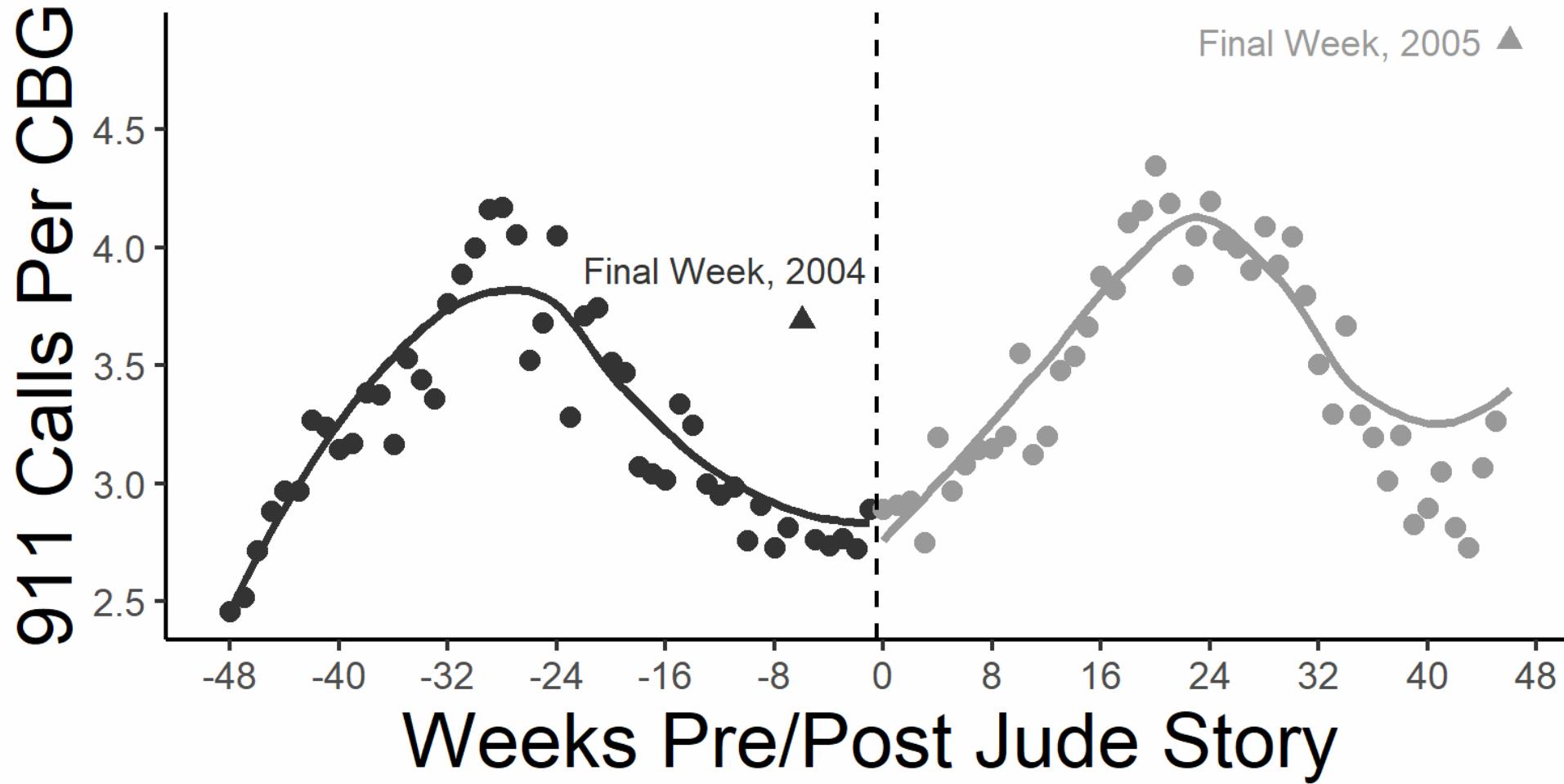


Anscombe's Quartet

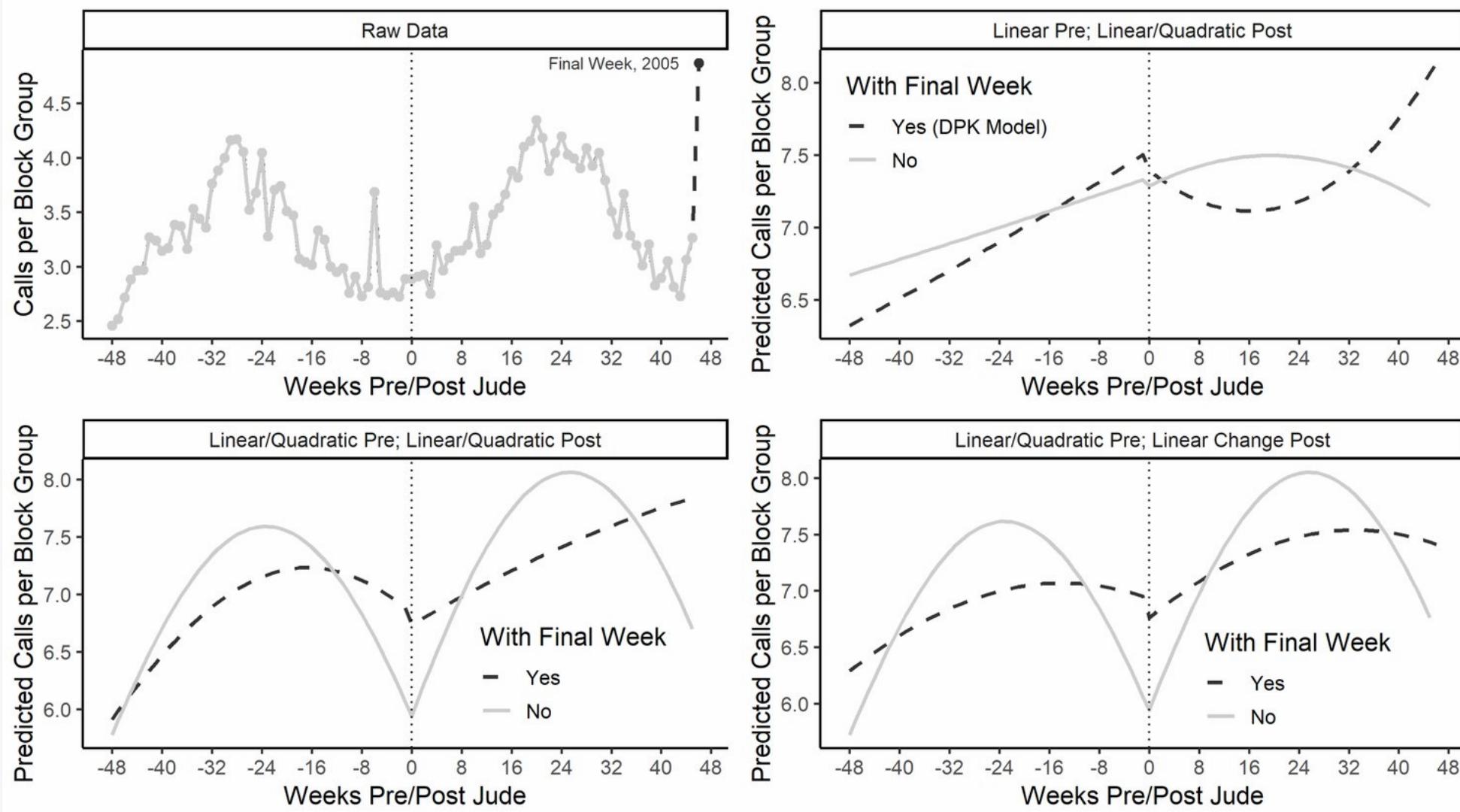


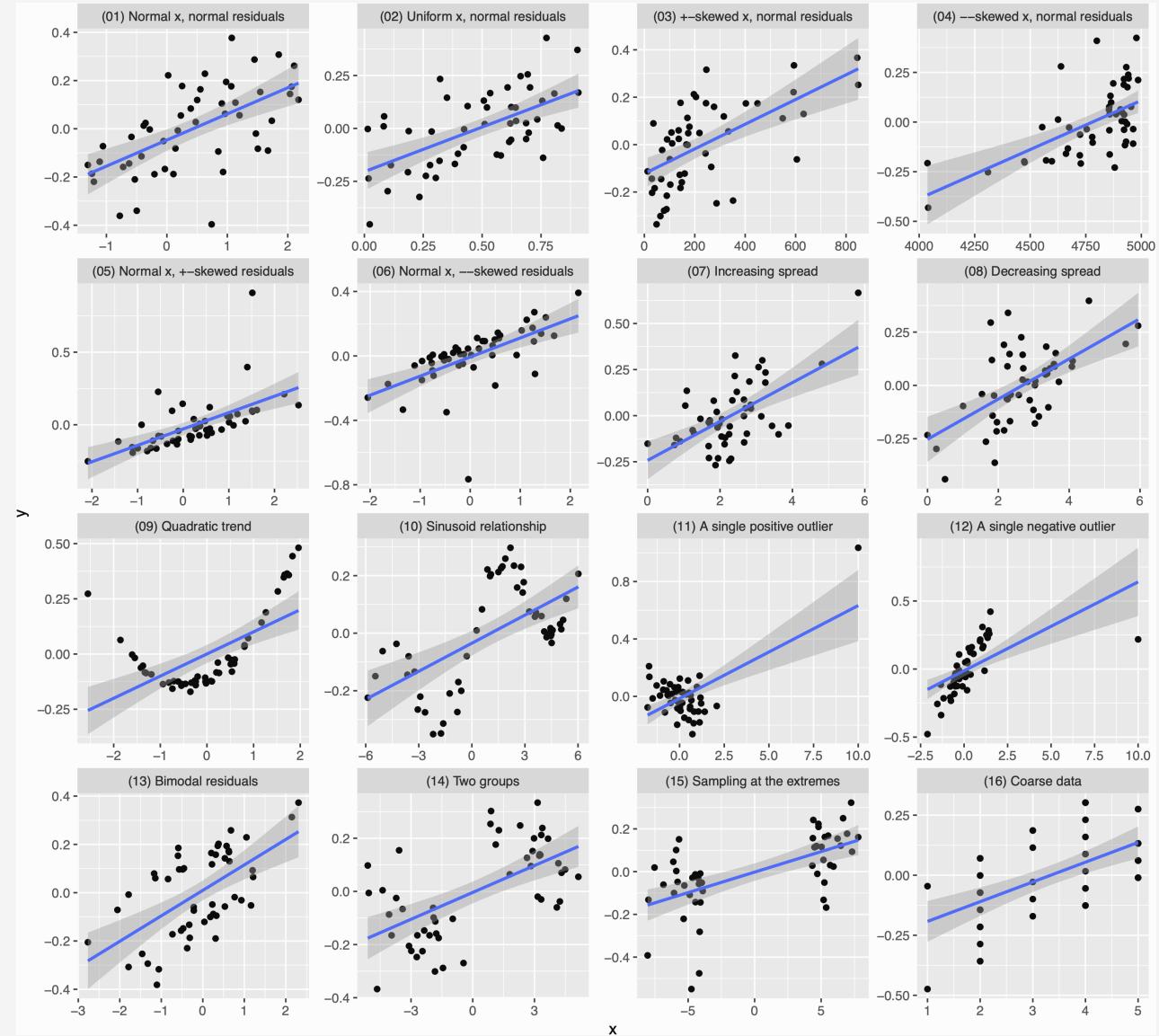


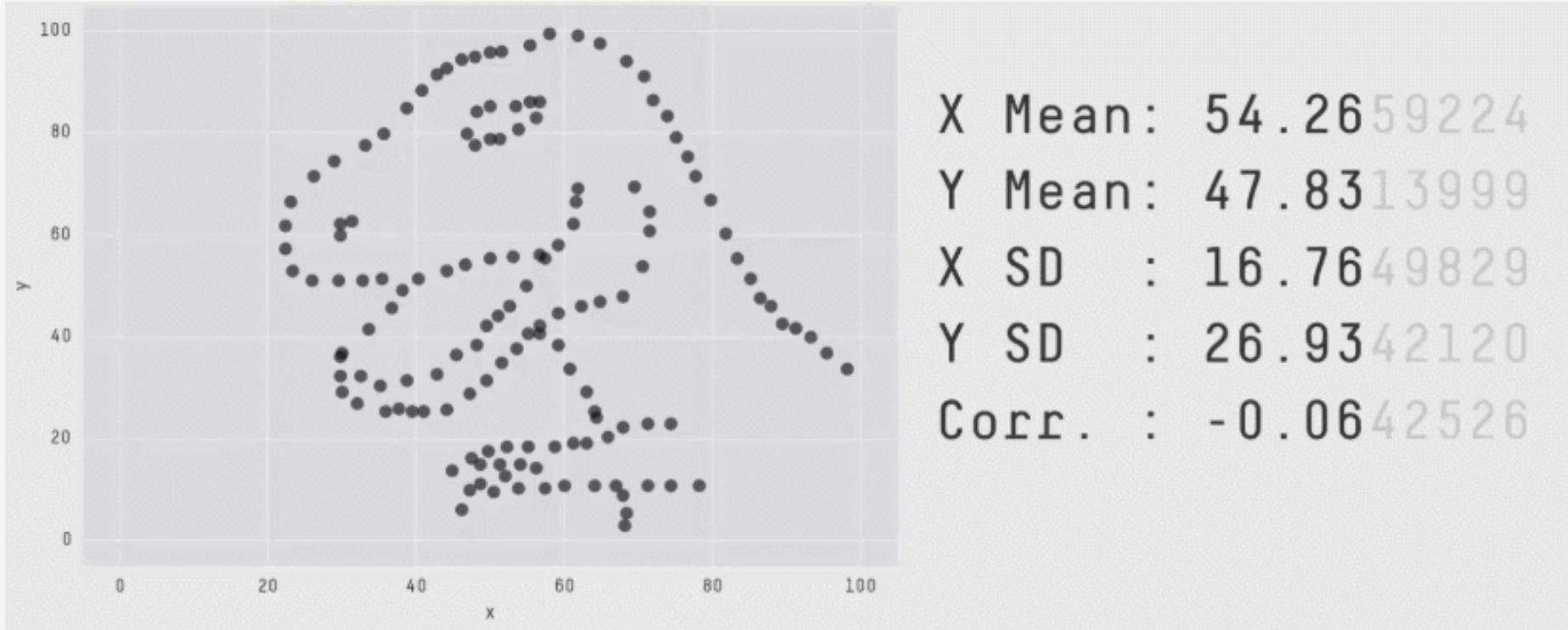
# All Neighborhoods



Zoorob (2020)

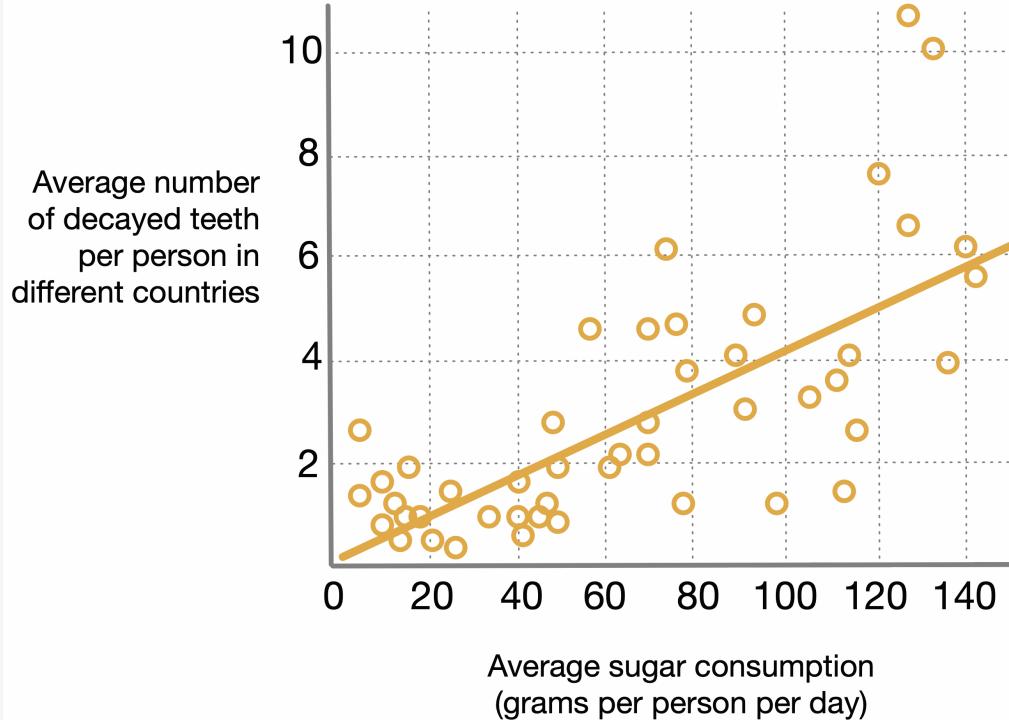






Cairo; Matejka & Fitzmaurice

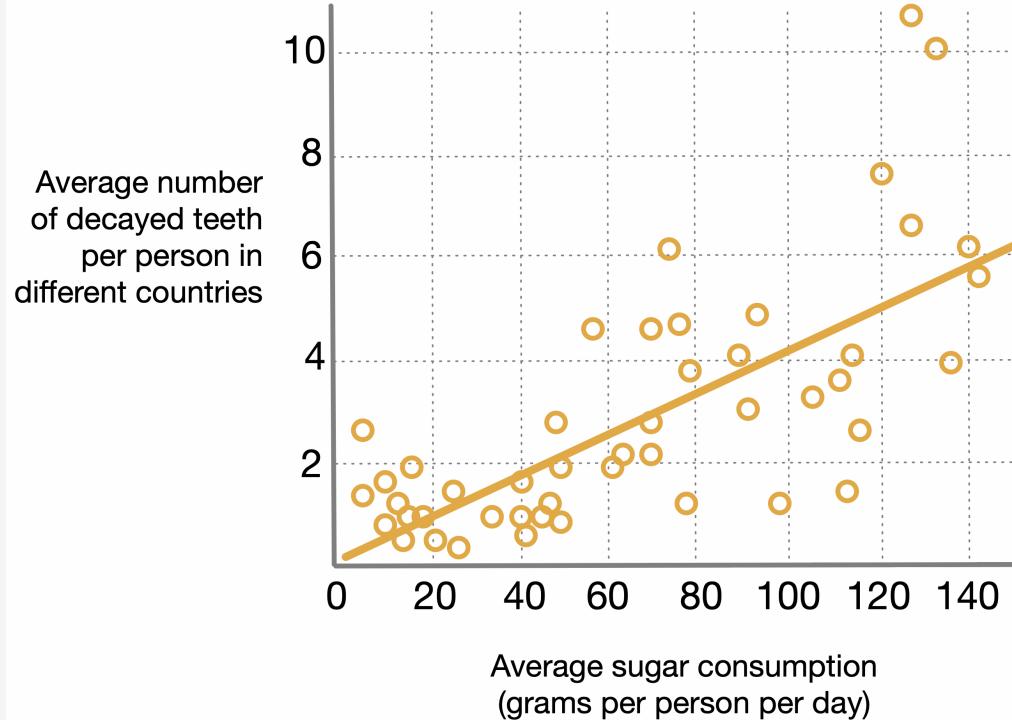
*Which of the following statements best describes the data in the graph below?*



Pew Research

- A. In recent years, the rate of cavities has increased in many countries
- B. In some countries, people brush their teeth more frequently than in other countries
- C. The more sugar people eat, the more likely they are to get cavities
- D. In recent years, the consumption of sugar has increased in many countries

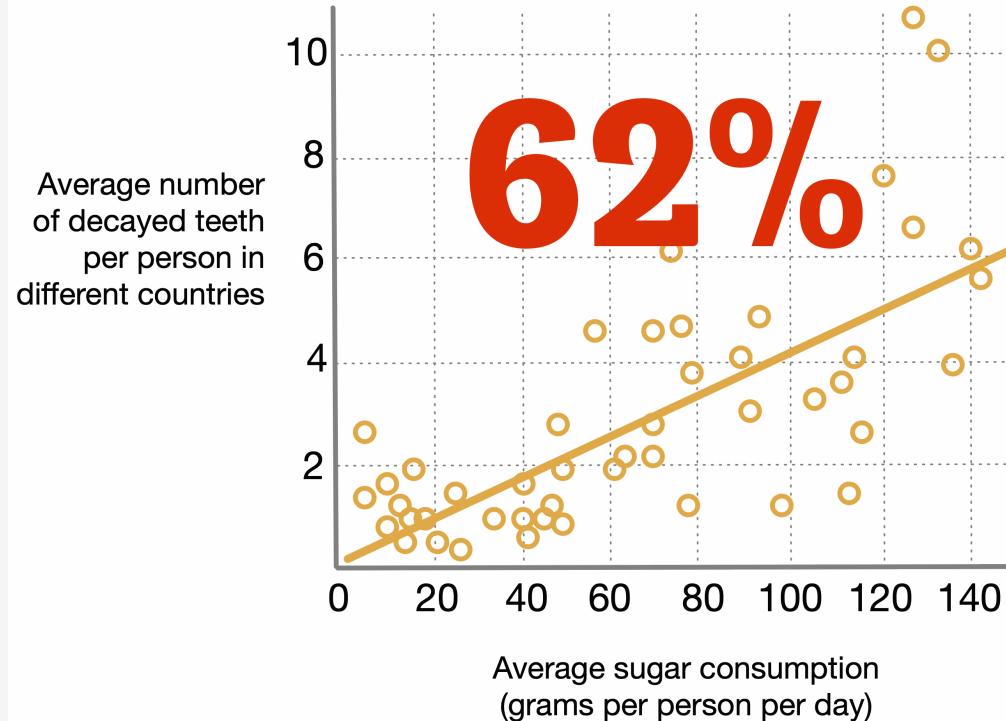
Which of the following statements best describes the data in the graph below?



Pew Research

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- D. In recent years, the consumption of sugar has increased in many countries

Which of the following statements best describes the data in the graph below?

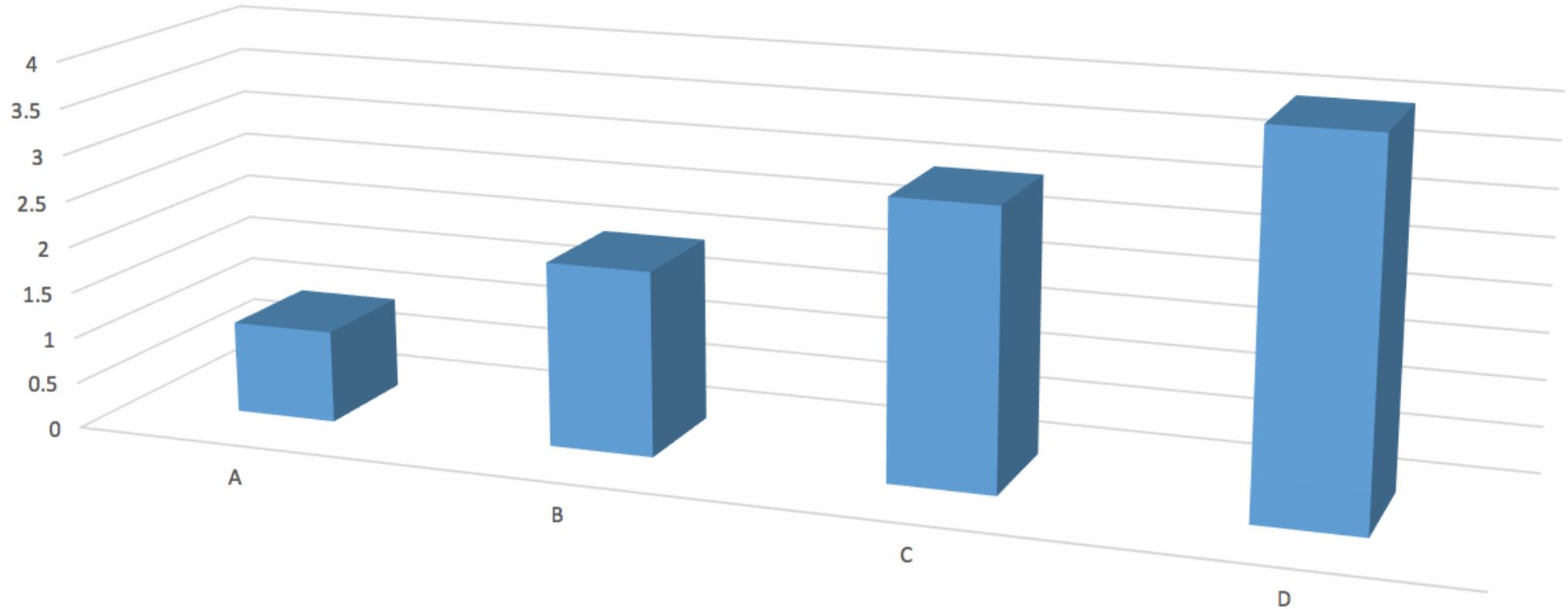


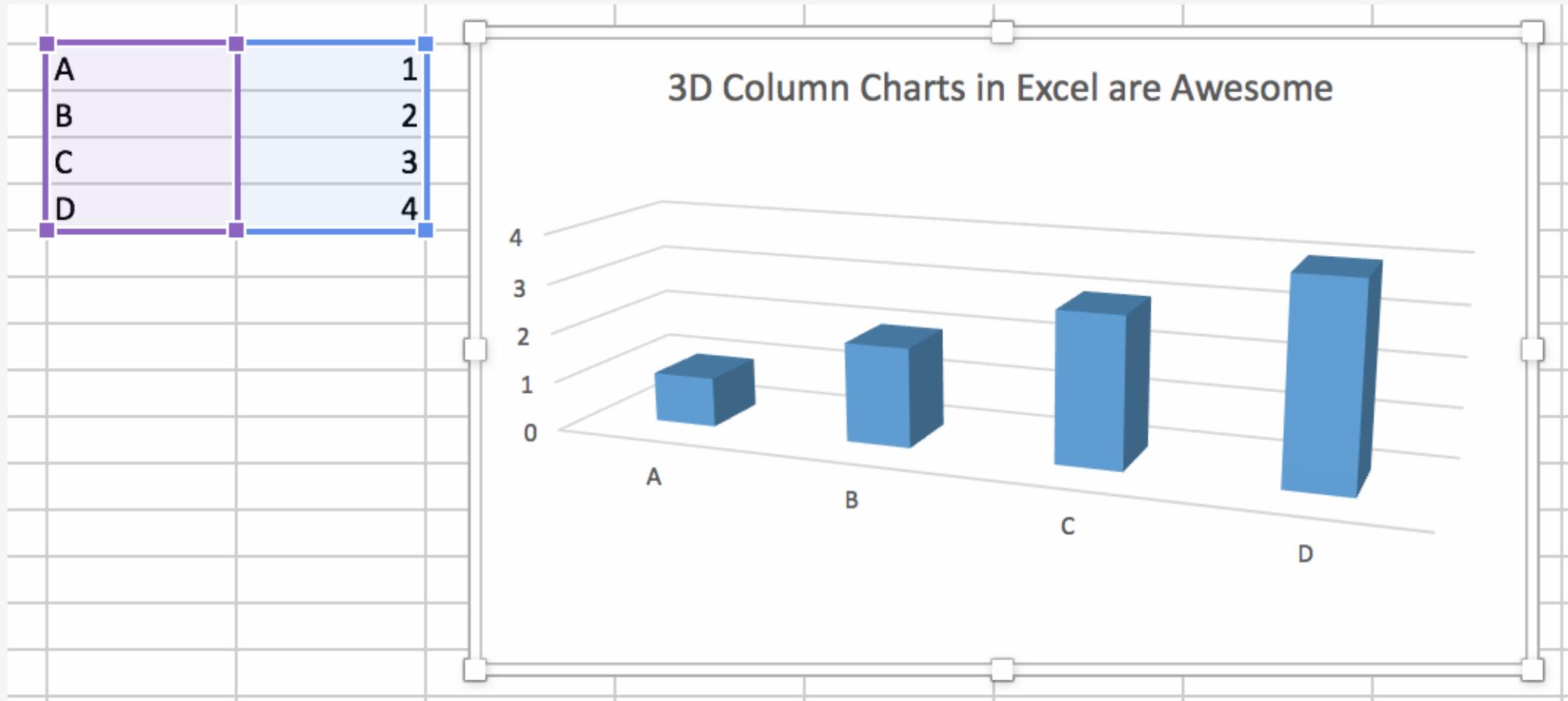
Pew Research

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# Not Seeing Things

## 3D Column Charts in Excel are Awesome





# Bad Taste

# Bad Taste

# Bad Data

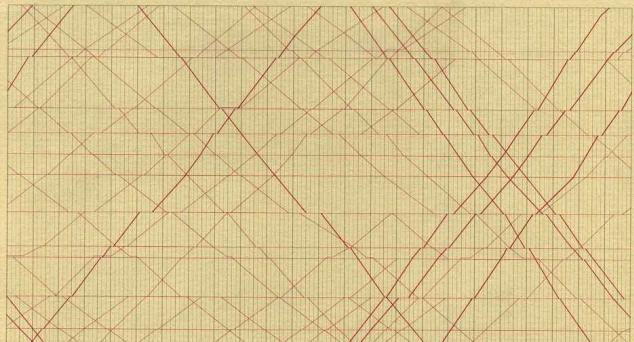
**Bad Taste**

**Bad Data**

**Bad Perception**

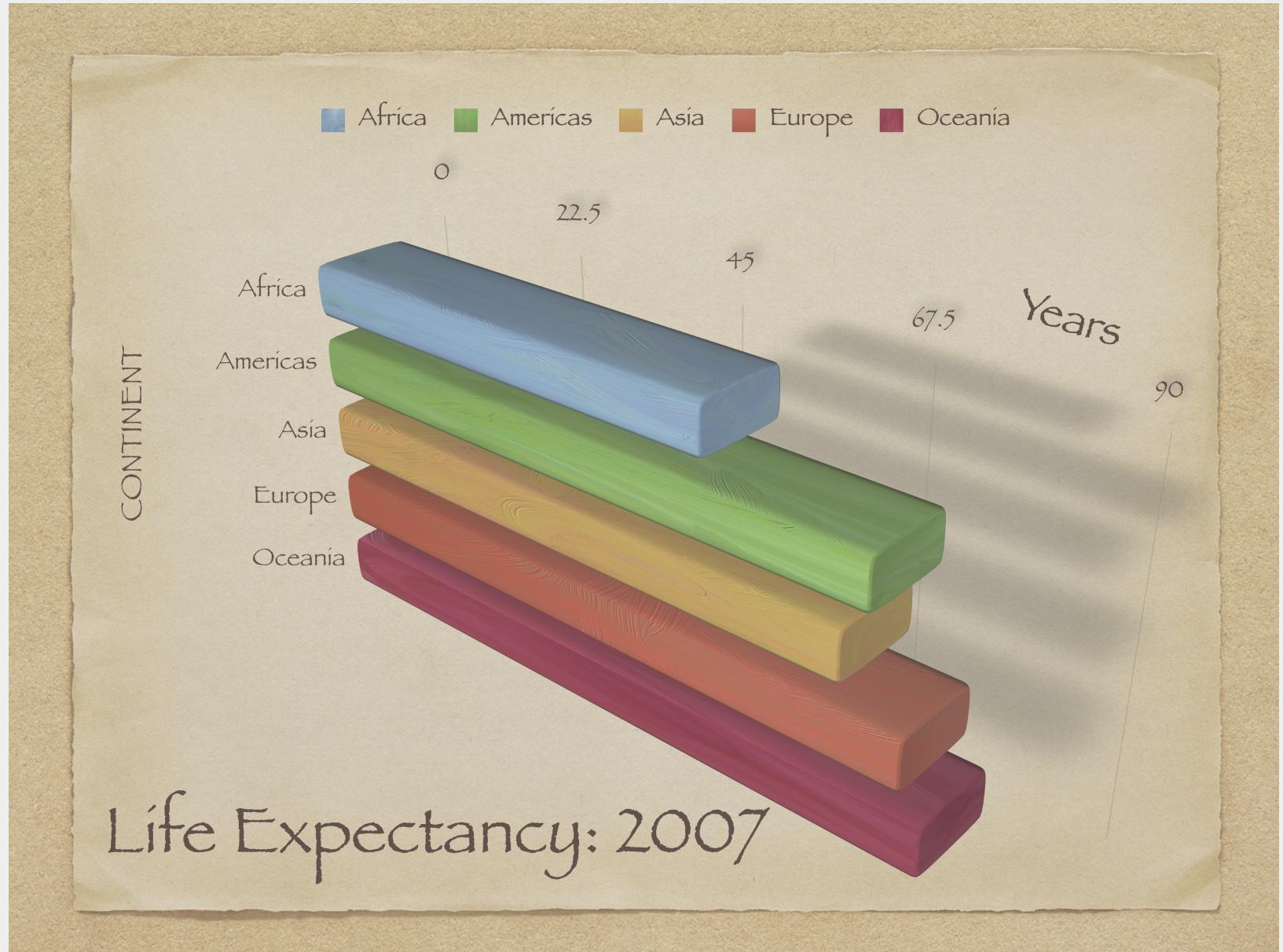
# Taste: Simplify, Simplify?

# Tufte's "Data to Ink Ratio"



The Visual Display  
of Quantitative Information

EDWARD R. TUFTE

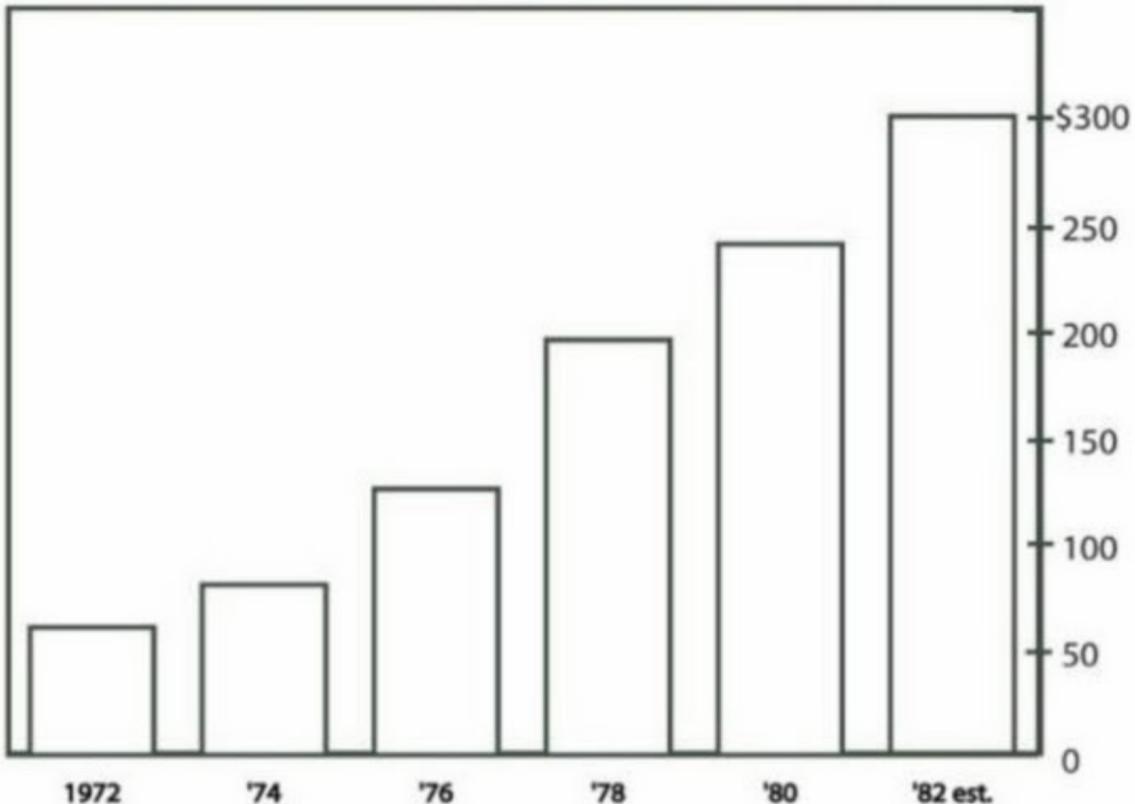


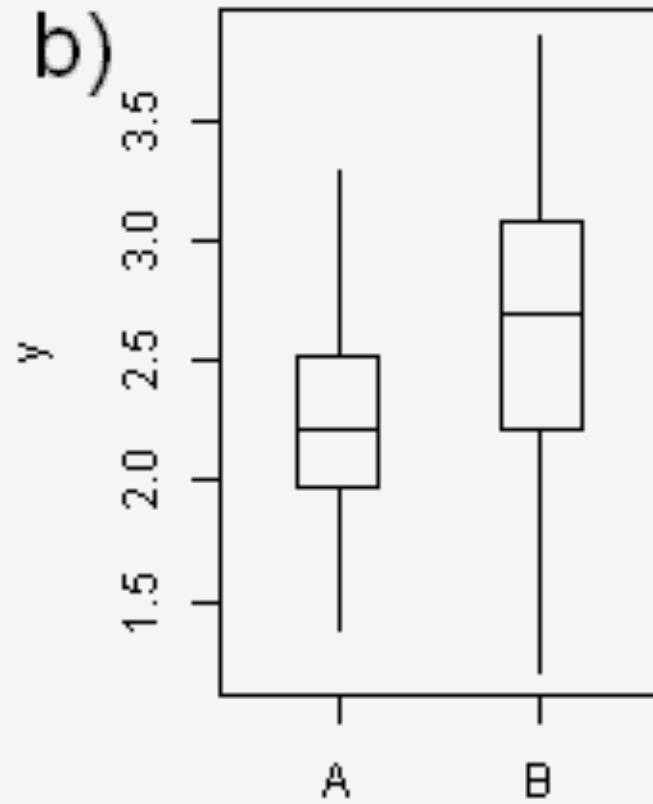
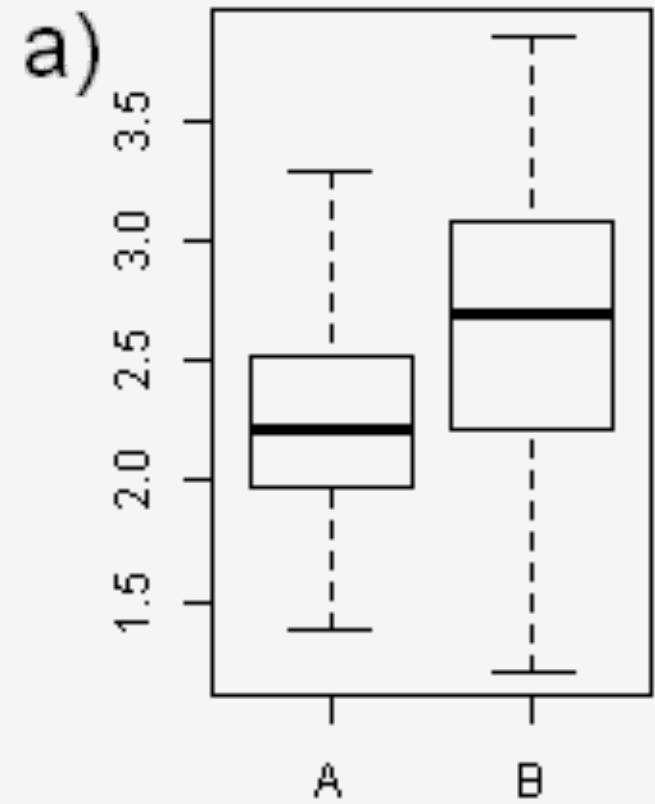
## MONSTROUS COSTS

Total House and Senate campaign expenditures,  
in millions



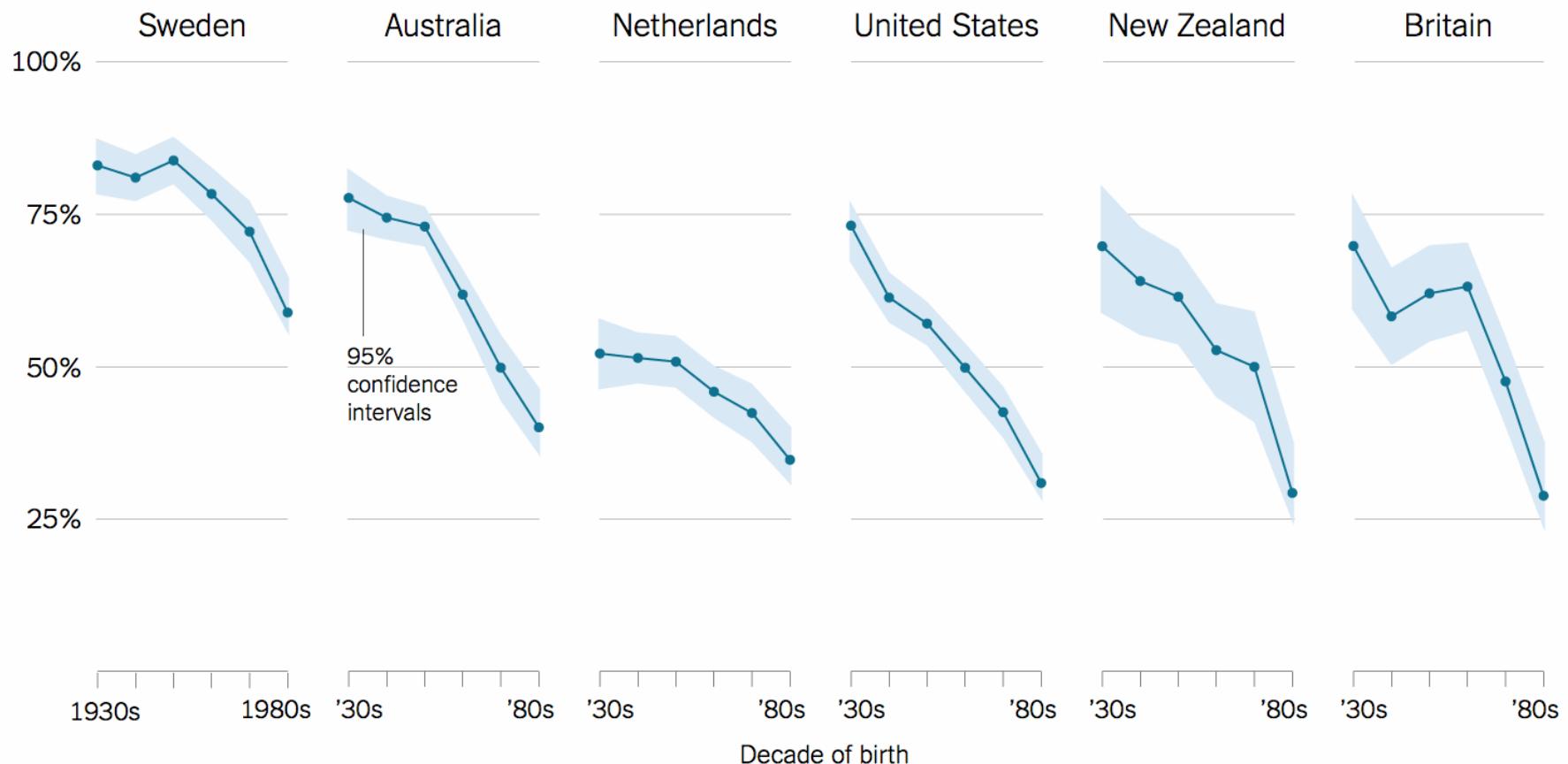
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Total House and Senate campaign expenditures, in millions



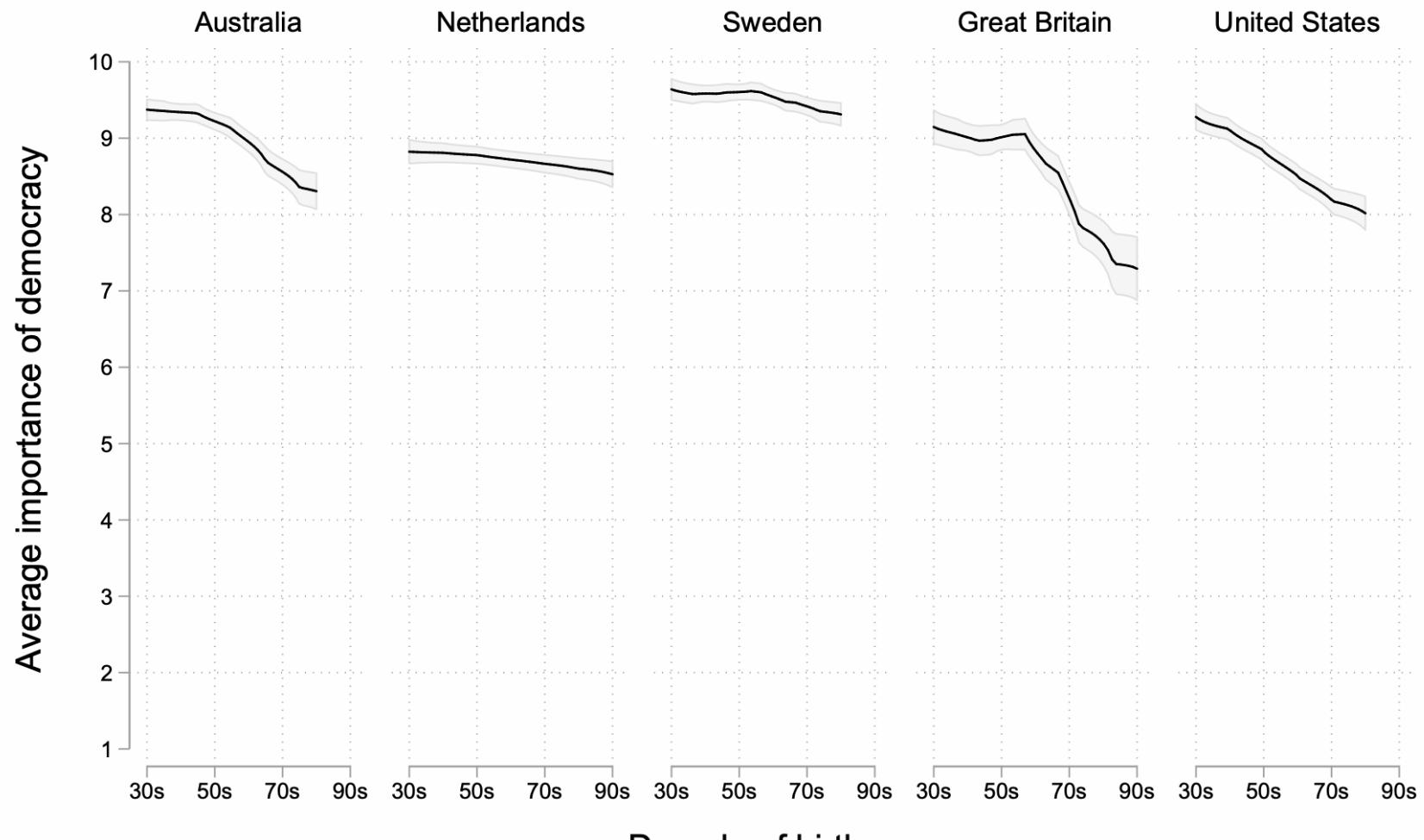


# Data: **Junk-Free Junk Charts**

## Percentage of people who say it is “essential” to live in a democracy



Source: Yascha Mounk and Roberto Stefan Foa, "The Signs of Democratic Deconsolidation," Journal of Democracy | By The New York Times



Graph by Erik Voeten, based on WVS 5