Welcome Notes

Understanding Political Numbers

Jan 23, 2019

What are political numbers?

Unemployment Rate

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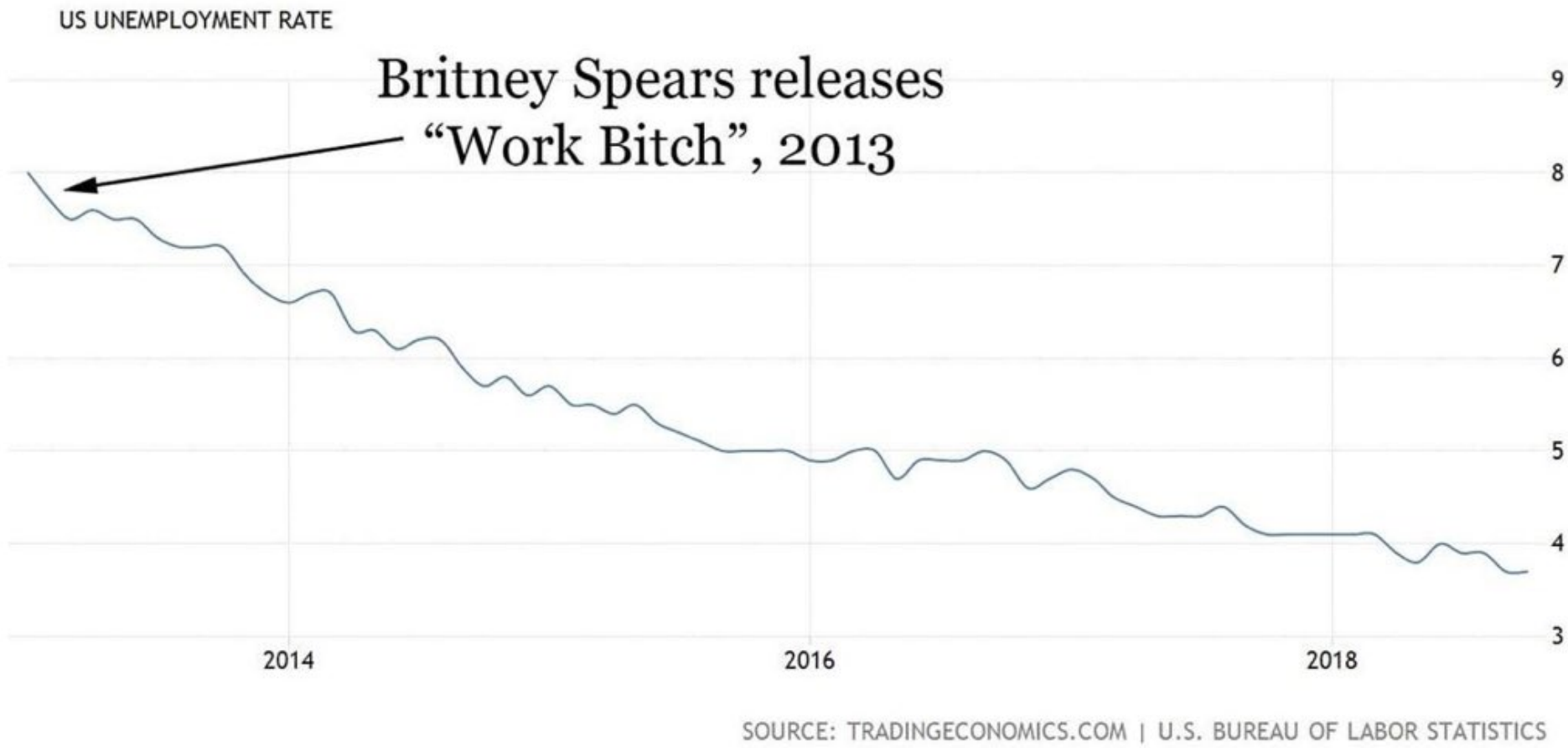
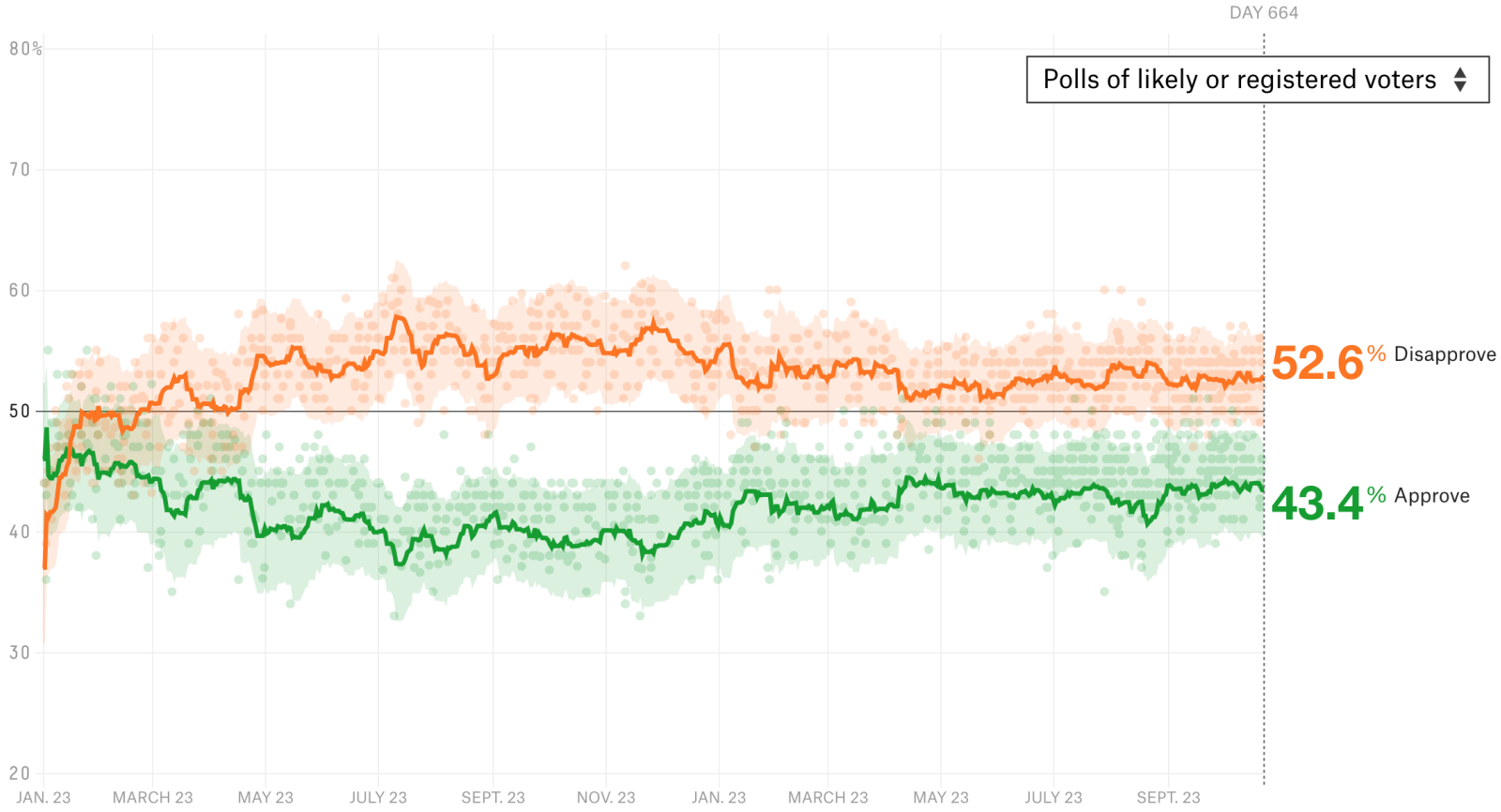


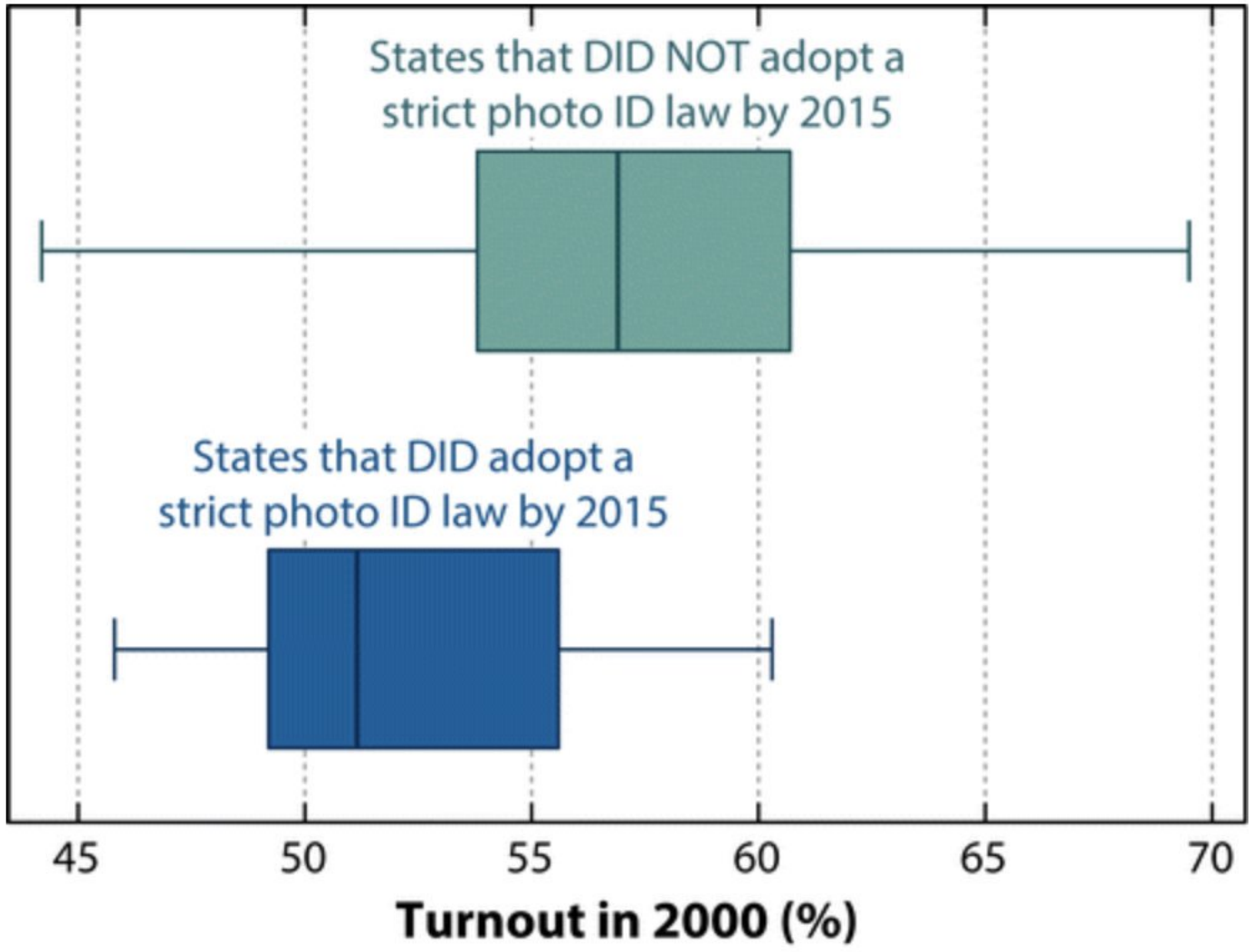
https://twitter.com/gloryoso

How popular is Donald Trump?

An updating calculation of the president's approval rating, accounting for each poll's quality, recency, sample size and partisan lean. How this works »



www.fivethirtyeight.com



Highton (2017), "Voter Identification Laws and Turnout in the United States"

Big questions

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How can we use data to learn about politics?

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How can *I* do data analysis?

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Good and bad examples? Problems (solutions?) with data?

Big questions

How can we use data to learn about politics?

How can *I* do data analysis?

Good and bad examples? Problems (solutions?) with data?

Why data? Why now?

Have a syllabus...

Who am I?

Who is your TA?

Let's talk about stats, baby

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$$\mathbf{x} = \begin{bmatrix} 12 \\ 5 \\ 4 \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix}.$$

We refer to x_i as the ith value of x. What would x_i be if $i = 2$?

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(where N is the number of data points)

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$$\bar{x} = \frac{x_1 + x_2 + x_3}{N} = \frac{12 + 5 + 4}{3} = 7$$

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Point being, we need to express intuitive ideas (like averaging) in their mathematical form

"I'm not a math person"

What is R?

What is RStudio?

What questions do we have?

Grades

Exercises are accountability mechanisms for learning `R` and data work

Short Essays are for demonstrating critical thinking about data

The Research Paper is a data-driven project of *your choosing*

No attendance. No exams

Schedule

Science and Social Science

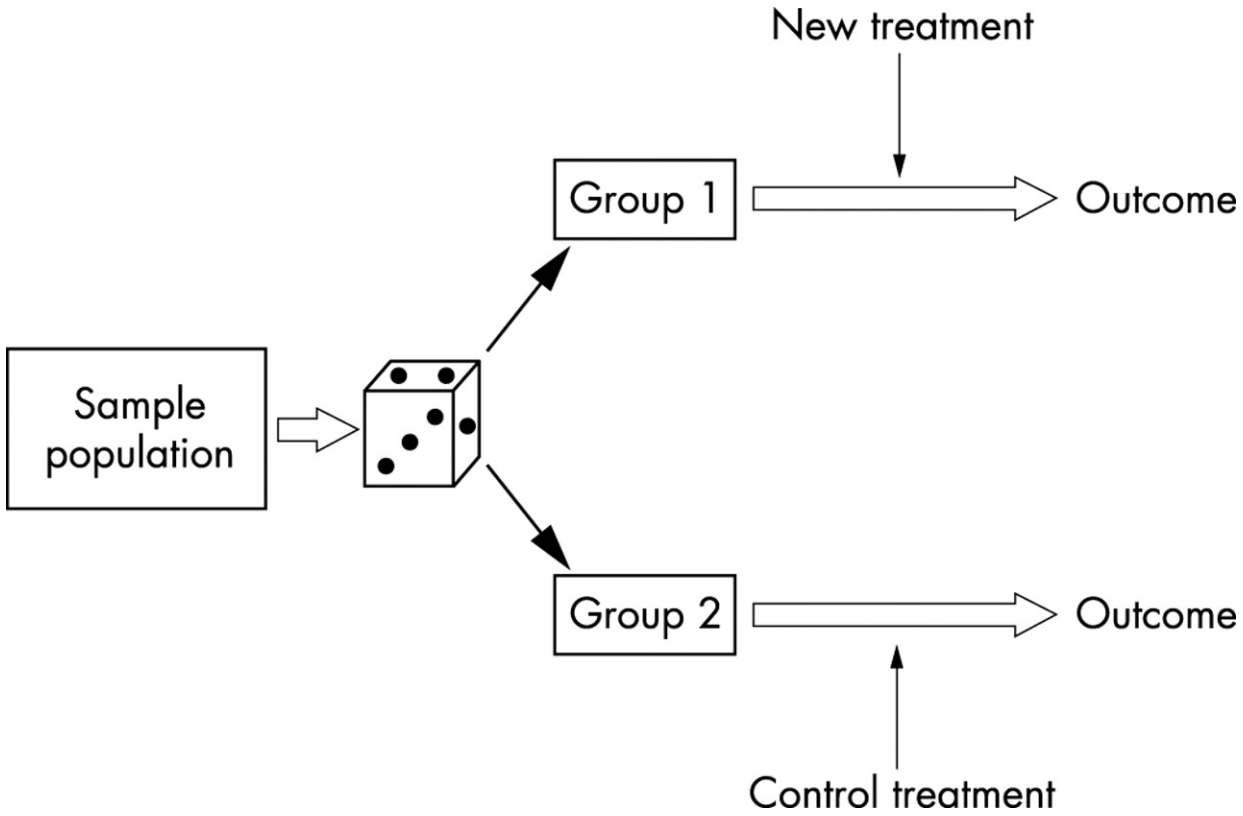
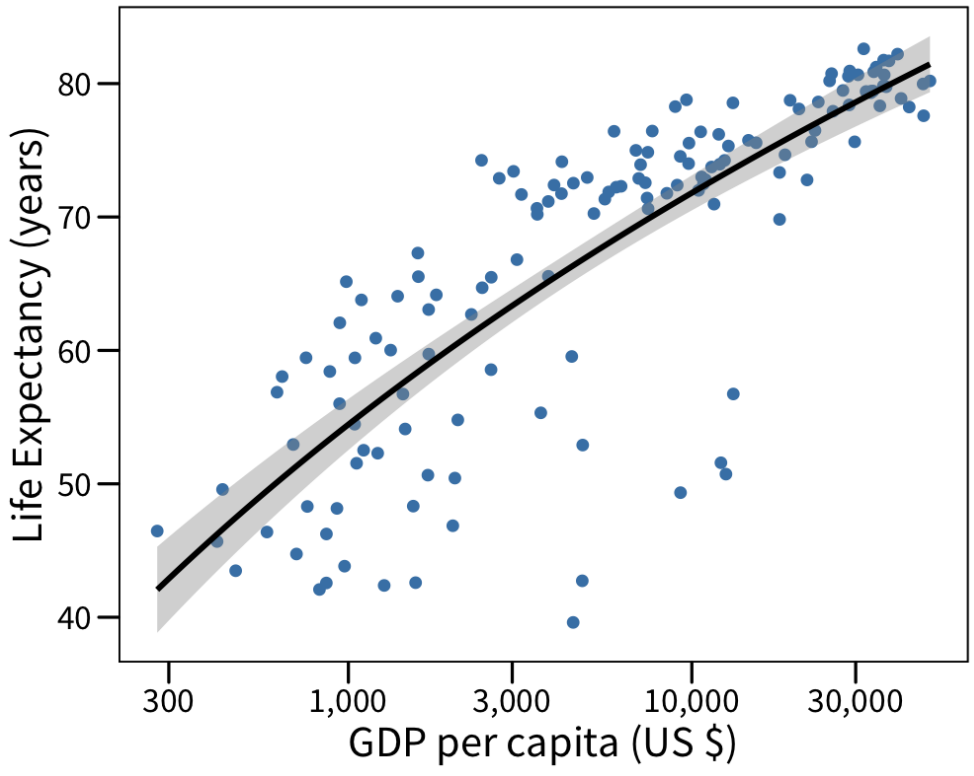


Image from Kendall (2003), "Designing a research project"

Skills (statistics, R)

```
# life expectancy as f(GDP per capita)
ggplot(filter(gapminder, year == max(year)),
       aes(y = lifeExp, x = gdpPercap)) +
  geom_point(color = "steelblue") +
  # estimated fit line: y = f( log(x) )
  geom_smooth(method = "lm",
              formula = y ~ log(x),
              color = "black") +
  scale_x_log10(labels = scales::comma) +
  labs(x = "GDP per capita (US $)",
       y = "Life Expectancy (years)")
```

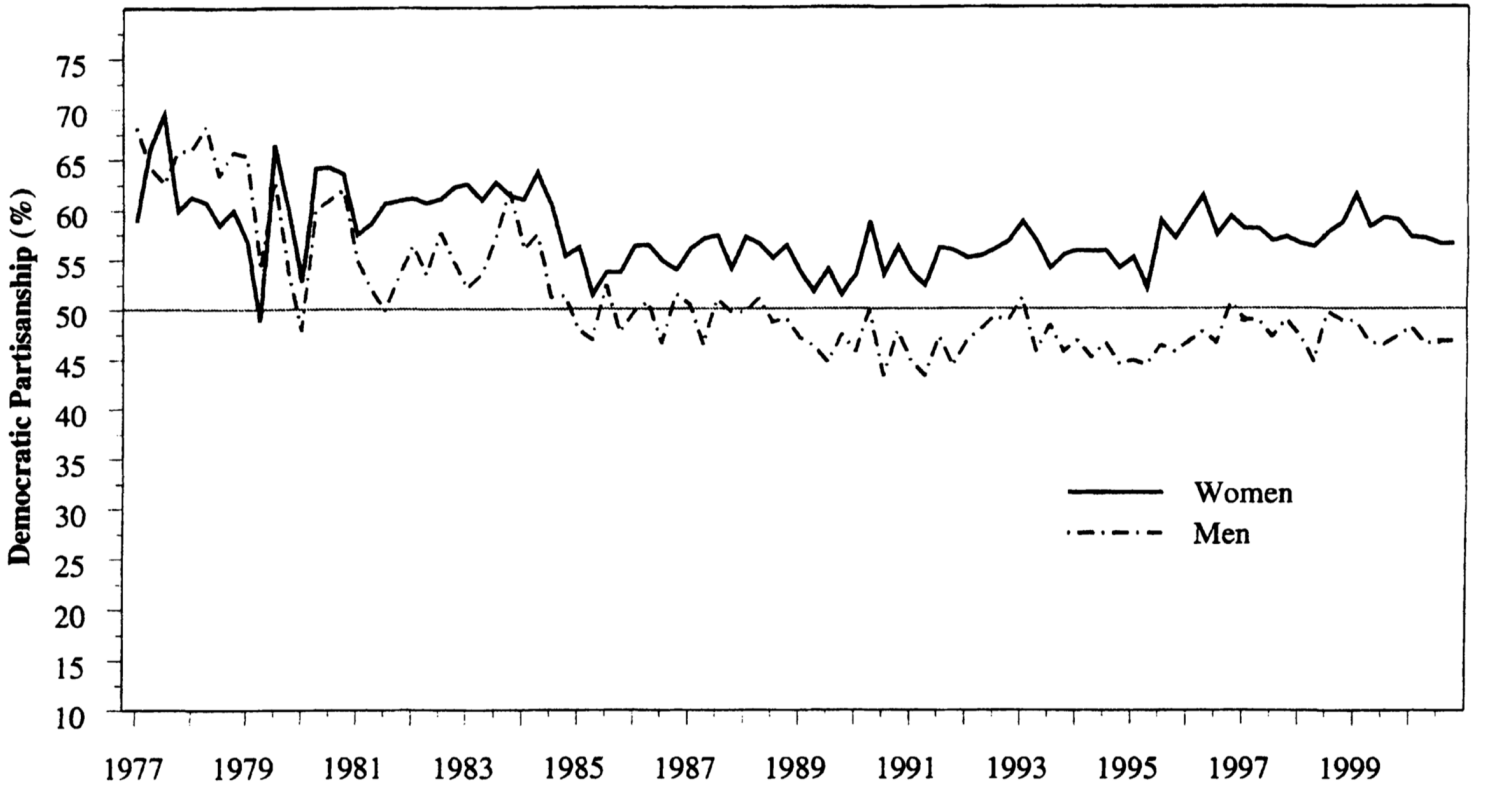
$$\text{LifeExp}_i = \alpha + \beta \log(\text{GDP}_i) + \epsilon_i$$



Applications

Applications

FIGURE 1. Democratic Partisanship by Gender



Box-Steffensmeier, De Boef, and Lin (2004), "The Dynamics of the Partisan Gender Gap"

What's next

In Section: Install `R` and RStudio

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Next week: Science!

- Monday: *empiricism* and the value of evidence

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In Section: Install `R` and RStudio

Next week: Science!

- Monday: *empiricism* and the value of evidence
- On Wednesday: Theorizing and hypothesizing
- In Section: Getting started with `R`

Parting notes

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Facts and evidence, not beliefs and opinions

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Positive, not *normative*

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Content disclaimer

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Asking for help

(Questions?)

See you Monday!