

## #6 Data Visualization III

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# Up-to-date

- ▶ Again, **you know a lot!**
  - ▶ Fundamentals and R Data ✓
  - ▶ Data wrangling/cleansing ✓
  - ▶ Data visualization I & II ✓
  - ▶ Data summarization and MCT&D ✓
  - ▶ Hypothesis testing ✓
- ▶ HW #1, #2, and #3 done ✓
  - ▶ Graded!
- ▶ **Final Project**: in groups; idea/relationship/problem/data you want to explore

# Links to Use

- ▶ [Canvas chat](#) for attendance
- ▶ [PollEv](#) for live anonymous comments during lab
- ▶ [Survey](#) to share topics/phenomena/data you'd like us to work throughout the course when learning R

[PolLEv.com/ietchacq372](https://PolLEv.com/ietchacq372)

# Data Visualization

So far...

Data Visualization I and II → **Mainly descriptive**

- ▶ One variable:
  - ▶ Frequencies & tables
  - ▶ Basic scatter plots
  - ▶ Barplot
  - ▶ Histogram (with mean + other values)
  - ▶ Density plot (with mean + SD)
  - ▶ Boxplot
- ▶ Two variables (beginning to explore potential association):
  - ▶ Cross-tabs
  - ▶ Summary based on groups: mosaic plot & barplot by groups

# Today

Data Visualization III → Hypothesis testing + Exploring potential association

- ▶ Hypothesis testing:
  - ▶ One- and two-sample t-test density plots
  - ▶ Paired data before and after 'treatment'
- ▶ Multivariate graphs:
  - ▶ 2 & 3 variable scatter plots and line plots
  - ▶ Grouped kernel density plots
  - ▶ Box and violin plots by group
  - ▶ Mean/SEM plots

HW #4 posted, deadline next week

Exploring potential association of something you're interested in  
(starting to think about final group project)

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