Midterm

- Will be handed back next Tuesday
- Looks good so far! :)
- Questions?

Experiment vs. Correlation

- Correlation can't give **causal** info
  - Why?
- In an experiment, since you're manipulating an **independent variable** and seeing how if affects a **dependent variable**, you can get causal info!

Between-Groups Design

- Compares 2 or more groups
  - Experimental group(s)
  - Control group
  - Groups must be **randomly assigned**
- To find causal info, must be equivalent populations & free of confounds
  - Quasi-Experiment: can't get equivalent populations, *may* get causal info

Random Assignment

- Done to avoid **selection bias**
- Alternatively, sometimes use **matching**
  - Pretest subjects and find pairs (or triplets, etc) who score similarly & randomly assign them to different groups
  - What are the advantages and disadvantages?

Confounds

- Instrumentation Effects
- Sensitivity of DV
- Comparable treatment of groups
- IV is a subject variable (e.g., age or gender)
- Subject Attrition
  - **Non-systematic** attrition is ideal. Why?
- Experimenter bias/demand characteristics
  - Single-blind and double-blind

Concept Question 6.2

- Researchers identified individuals who regularly saved money and other individuals who rarely, if ever, saved money and asked both groups to rate their marital satisfaction. They found that those who saved money were more satisfied with their marriages and concluded that saving money causes this increase in satisfaction.
  - Are the researchers' conclusions well-founded?
  - Are there other explanations for the results?
  - How might the researchers design a true experiment that would test their hypothesis?

Concept Question 6.3

- A researcher investigates the effectiveness of a new diet program. Participants are randomly assigned to either the control group or the diet-program group. The control participants are told to try to lose weight on their own. The diet-program group is provided with educational material, complete menus, and free diet-program foods. After one month, each participant is weighed.
  - What are some potential confounds?
  - What improvements would you propose?

Chapter 6 Exercise 1

- To compare two methods for teaching statistics, an instructor taught using a lecture/discussion format during the fall semester but adopted a self-paced, independent-study approach in the spring. Each class was given the same final exam, and spring students performed better than the other group. The instructor concludes self-paced independent-study is better.
  - Was this a true experiment or a correlational study?
  - Are there any confounds and alternative explanations for the results?
  - Design a better study to test the instructor's question.

Chapter 6 Exercise 2

- To discover whether males or females spend more money in an average week, two students solicit information from a random sample of males and females on their campus. They find that males spent more money than females.
  - Why is this a correlational study and not an experiment?
  - Is it possible to test this question using between-groups design?