

Reading

- BPS Chapter 5.7, 5.8, Chapter 8, Chapter 9, Chapter 10

Exercises

BPS - Check your skills Chapter 8 # 17, 18, 20, 21, 24, 25. Chapter 9 # 19-28. You do not need to turn these in.

BPS Chapter 5 # 19, 48, 49, 53. Chapter 8 # 27, 28, 45, 46. Chapter 9 # 32, 38, 46, 50

1. Watch this brief Mythbusters video in which Jamie and Adam test whether driving while talking on a hands-free device is less dangerous than driving while holding a cell phone.

<http://www.discovery.com/tv-shows/mythbusters/videos/hands-free-vs-handheld-minimyth>

Just focus on the second part of the video, with 30 people using the driving simulator.

- (a) What are the explanatory variable(s) and the response variable(s)?
 - (b) Is this an observational study, or an experiment?
 - (c) Outline the design of the study.
 - (d) What is the population? How was their sample selected? Can you think of any sources of bias coming from their sample selection?
 - (e) Was this blind? Was there a control group? How does this affect the results of the study?
2. This uses `area-codes.csv` (on our web site), data from the North American Numbering Plan Administration (NANPA) on area codes. It's a big dataset with many variables. For this, only two matter:
 - `NPA_ID` : The 3-digit area code
 - `ASSIGNED` : If the code has been assigned.
 - (a) Choose a simple random sample of 10 area codes. List them. Which ones are assigned?
 - (b) Choose a simple random sample of 10 assigned area codes. List them.
 3. Suppose you are running an experiment with four treatment groups and a control group. You have fifty rats, whose names are stored in the file `people.rda` (on our web site). Randomly assign them to the five groups.

Show the code you used to accomplish this. You don't need to list the groups if you're not printing anything else.