Reading
- You’ve already read *Moneyball*, *Freakonomics*, *Dogs*, and chapters 1, 2 and 7 in the book.
- For next class, read chapter 6

Agenda For Today
- Review last class
- Presentations
- Handout
- Dogs
- Causation vs. correlation

Reviewing last class
- Measuring variables
  - Nominal
  - Ordinal
  - Interval
- Independent and dependent variables
The independent variable in a hypothesis is the presumed cause of the dependent variable (pg. 139 in your text).

Practice Makes Perfect
If at first you don’t succeed, try, try again
You are what you eat
Too many cooks spoil the broth

Example #1
Practice Makes Perfect
- IV: Amount of practice
- DV: Degree of success

Example #2
If at first you don’t succeed, try, try again
- IV: Number of tries
- DV: Degree of Success
Example #3
- You are what you eat
  - IV: What you eat
  - DV: What you are

Example #4
- Too many cooks spoil the broth
  - IV: Number of cooks
  - DV: Quality of broth

Presentations
- Using the Washington Post Articles, Identify:
  - Research Question
  - Independent Variable(s)
  - Dependent Variable
  - Conclusions

Some Examples
- Identify the:
  - Independent Variable(s)
  - Dependent Variable
  - Unit of measurement for both
A little more on hypotheses

- What’s a hypothesis?
  - Can be:
    - Directional
      - The more big Macs you eat, the more weight you gain
    - Not directional
      - Big Macs consumption affects weight gain

Do dogs know when their owners are coming home?

Dogs

- What is the hypothesis?
- What is the evidence?
- What data does he use?

Causation vs. Correlation

- Just because two things go together doesn’t mean one causes the other.
- Requirements for showing causality
  - Variable A & B go together
  - Variable A comes before variable B
  - There is not a third variable, say variable C that makes A & B go together (spurious relationship)
Causation vs. Correlation

- As ice cream sales rise, the number of rapes increases
  - Do they go together? Yes
  - Does one proceed the other? Possibly
  - Is there another third variable driving the correlation? Yes
- Therefore we have correlation, NOT causation

People who have college degrees make more money later in life than people who do not have college degrees

- Do they vary together?
- Does the IV proceed the DV
- Is there an underlying third variable that’s driving the relationship?

People who get their news from USA Today are less politically informed than people that get their news from the NY Times.

- Do the go together?
- Does the cause precede the effect?
- Is there an underlying third variable?

Money buys votes by members of Congress

- Do the two go together?
- Does the cause proceed the effect?
- Is there an underlying third variable?
Wrapping Up

- What was the most important point from today?
- What would you like to know more about?
- What was the muddiest thing from today?