Reading
- You should have read
  - Lewis (Moneyball)
  - Sheldrake (Dogs)
  - Chapters 1, 2, 7, 6
- For next class, read the Stewart Page article (on e-reserve). We will also have a homework assignment.

Agenda For Today
- Discuss independent and dependent variables some more
- Review causation and correlation
- Review Reading
- Download some data
- Talk about Research Design

Independent & Dependent Variables
- We’re interested in what leads to variation in something (we call that thing a variable)
- The dependent variable is what you’re trying to explain variation in.
- The independent variable is what “causes” the variation in the other variable to occur.
What do I want to explain?

More
- What is my hypothesis?
- What is my dependent variable?
- What is my independent variable?
- How could I “test” this?

Reviewing last class
- Causation vs. Correlation
- Correlation is a necessary, but not sufficient criteria for causality.
  - Causation = correlation plus:
    - A Proceeds B
    - There is not a third variable that’s causing the change in both A & B
    - “causation seems hard to demonstrate.” YES!

Why is it important?
- People who drive BMWs make more money than people who drive VWs.
- IV: whether a person drives a BMW (0,1; nominal)
- DV: income (in dollars; interval)
- Clearly the two are correlated, but does the IV CAUSE the DV?
What can help?
- Good research design!

Research in the Abstract
- Develop a research question
- Create a model
- Develop hypotheses
- Determine if variables are related

Research Design
- When and how often to collect data
- What data to gather
- From whom and how to collect data
- How to analyze data
- In sum: A blueprint for the final research project

Factors affecting the choice of a research design
- Purpose of the study
- Practical limitations
Research designs attempt to:
- Establish a relationship between two or more variables
- Demonstrate that the results are generally true in the real world
- Reveal whether one phenomenon precedes another in time
- Eliminate as many alternative explanations as possible

Quantitative & Qualitative Research
- Quantitative Research
  - Usually have lots of cases
  - Less detail about each case
- Qualitative Research
  - Data are not numeric (interviews, etc.)
  - Extensive information on each case and its setting

Examples of Research Designs
- Cross-sectional design
- Longitudinal design
  - Time-series design
  - Panel design

Cross-sectional design
- Used to collect data on all relevant information at one time
- Data represent a set of people or cases
- Most research is cross-sectional
Limits of cross-sectional designs

- Cannot measure change in values or variables over time
- Extremely difficult to demonstrate causal relationships

Longitudinal Design

- Collect information on each variable for two or more distinct time periods
- Examples include time-series designs and panel designs

Time Series Design

- Collects information at regular intervals
- If the National Election Study asks people a certain question each year.
Panel Design

- Examines the same cases individually at successive time periods

National Study of Political Socialization

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Will continue on Tuesday with…

- Experiments!!!!!!

Homework:

- Read the Page article (on e-reserve).
- Complete optional assignment if you want.
- Complete homework #2 whether you want to or not.
- Extra credit for homework #2: Identify the independent and the dependent variable in the Page article.
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?