Polical Science Scope and Methods

Observation, Measurement, and Political Implications

Onto the Nuts and Bolts...

- This week: Measurement (part 1)
- Important Concepts
  - Operationalization
  - Reliability and Validity
  - Unbiasness and Efficiency
  - Putnam Example

Measurement: An Introduction

- Steps in Measurement
  - Operational definition
  - Agreement?
  - Levels of measurement
    - Nominal
    - Ordinal
    - Interval
Reliability and Validity

- **Reliability**: Extent to which measurement procedure yields same result on repeated trials
  - Example: 2000 Presidential election
- **Validity**: How well the measure we use corresponds to the underlying concept
  - Face validity
  - Construct validity
  - Multiple measures – inter-item association

Unbiasness and Efficiency

- **Unbiased** Measure: estimate centered on the truth
- **Efficient** Measure: reducing the bound of uncertainty around a point estimate as much as possible

Threats to Unbiasness and Efficiency

- Measurement error
  - Non-random error
  - Random error
    - In DV: increases uncertainty
    - In IV: attenuates estimate of effect (but careful!)
- Omitted Variable Bias
  - If your IV of interest is correlated with another IV that is also correlated with your DV ⇒ **Bias**
Omitted Variable Bias: WWII Example

- Dislike Italian Immigrants
- Aid England in War
- Education

Taking it too far...
- Can’t control for every omitted variable
- Control for important plausible alternative hypotheses
- Tradeoff with efficiency
- Bottom line: data is precious, use it wisely

Putnam Example
- 12 Indicators in 3 areas
  - Policy process
  - Policy pronouncements
  - Policy implantation
- Is Putnam the model?
  - Validity?
  - Reliability?