Political 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?