Designing Research

- Research Questions
- Theories and their Observable Implications
- Rival Hypotheses
- Measurement
Theories and their OIs (4):
The Form of Observable Implications (c)

- If cities restrict the abortion right, the number of abortions will decrease.

- Women are more likely than men to favor environmental regulation.

- If a person is a strong political partisan, the likelihood that she will campaign for her party’s candidate will increase.

- Crime rates are higher in states with strict gun control laws than in states without strict gun control laws.

- The lower the education level, the higher the odds of smoking.

- In comparing voters, those whose economic situations have gotten better will be more likely to vote for the incumbent candidate than are voters whose economic situations have gotten worse.
Designing Research

• Research Questions
• Theories and their Observable Implications
• Rival Hypotheses
Rival Hypotheses (1)

- You must consider alternative explanations—those that do not square with the theory they are offering (i.e., rival explanations or hypotheses).

- In all likelihood, you will have to incorporate these rival variables into your analysis (i.e., “control” for them).

- Two examples
Rival Hypotheses (2)

- Example 1: From theories flowing out of the gender and politics literature, scholars have developed the following observable implication: Women are more likely than men to favor environmental regulation.
  
  - What is the dependent variable? What is the chief independent variable?
  
  - What rival explanations (other independent variables) should I consider (control for)?
  
  - Why?

- Example 2: From a patriotic theory of voting, Epstein et al. develop the following observable implication: Judges will vote for the federal government in civil liberties cases during times of war.
  
  - Same questions as above.
Designing Research

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• Measurement
Measurement (1)

Observable Implication
(Independent Variable X is related to Dependent Variable Y)
Example: Ideology is related to voting

Operationalization:
Delineate how the implication can be observed in the real world
Example: The party of the appointing President is related to voting in death penalty cases

Measurement:
Delineate the values of the variables
Example: The party of the President= Democratic or Republican
Voting in death penalty cases= for or against the death penalty since 1976
Measurement (2)

How do we evaluate measures/ measurement methods?

- Reliability: The extent to which it is possible to replicate a measure, reproducing the same value (regardless of whether it is the right one) on the same standard for the same subject at the same time.

- Validity: The extent to which a reliable measure reflects the underlying concept being measured.
  - Facial validity: consistent with prior evidence or knowledge
  - Approximately unbiased: produces measures that are right on average across repeated applications.
  - Efficiency: indicates the degree of reliability for unbiased measures
Measurement (3)

Comparing 2 Measures of Ideology:

Party of Appointing President versus Nominate Scores

- Reliability: The extent to which it is possible to replicate a measure, reproducing the same value on the same standard for the same subject at the same time.

- Validity: The extent to which a reliable measure reflects the underlying concept being measured.
  - Facial validity
  - Approximately unbiased
  - Efficient
## Measurement (4)

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