

Unit 2 – Methods



Objective 1

Describe quantitative and qualitative methods such as surveys, polls, and statistics used in sociological research.

Objective 2

Evaluate various methods in terms of sampling techniques, bias, validity, reliability, applicability and ethics.

Social Scientific Method

1. Define the problem
2. Review the literature
3. Form a hypothesis
4. Choose a research design
5. Collect data
6. Analyze the data
7. Present conclusions

Hypothesis

- Confine to the scope of the problem you defined
- Reflect knowledge of existing research covered in the literature review
- Explain in terms of larger sociological perspectives and theories

- Must include a prediction of a relationship between variables
 - Ex. Grades and Drug use
- **Independent variable (IV)** = the characteristic you predict is causing change or differences between people
 - *Grades or Drug use?*
- **Dependent variable (DV)** = the characteristic you predict is affected by differences in the IV
 - *Grades or Drug use?*

- The predicted relationship must reflect careful thought about any other variables that may be at work
- **Spurious** = variables appear to be related but are actually affected by a 3rd variable
 - Ex. Hospitalization > Death is spurious, the real IV is Serious Illness
- **Control variables** = used to rule this out
 - Ex. Collect data about reason for hospitalization, then compare outcomes for the different groups
- *Other examples?*

Research Design

Type	Description <i>Quantitative or Qualitative?</i> <i>Primary or Secondary?</i>	Major +/- <i>Others?</i>
Survey	Mostly closed-ended questions asked of a larger sample	+ ability to generalize - difficult to create
Statistical	Statistical analysis of an existing data source	+ inexpensive, fast - limited to what is there
Content analysis	Coding text for frequency of words, symbols, etc.	+ inexpensive - potential source bias
Historical	Analyzing changes over time, correlation of trends/events	+ longitudinal - source bias, reliability
Case study	Intensive study of single group or individual	+ in-depth - not representative
Observation	Researcher observes and records behavior	+ authenticity - researcher bias
Experiment	Introduces a stimulus and records response to it	+ controlled - ethics

- Researchers sometimes use a combination
 - *Why?*
 - *Which combinations do you think are most common?*
- The most frequently used data in sociological research is collected through surveys conducted by the government, universities, and independent organizations

DO

- DO align all questions to variables in your hypothesis
- DO pre-test with a focus group
- DO make it confidential and anonymous
- DO keep it as short and simple as possible
- DO vary the way answers are asked
- DO design responses that are “mutually exclusive” (no overlap)
- DO allow don't know or not applicable when appropriate

DON'T

- DON'T be vague or ambiguous
- DON'T use acronyms or jargon
- DON'T ask value-laden or leading questions
- DON'T ask “double-barreled questions” (asking two things but requiring one answer)
- DON'T ask hypothetical questions
- DON'T require unnecessary calculations
- DON'T ask open-ended questions unless necessary

Data Collection

- **Population** = based on scope of hypothesis
 - Ex. All people, too broad > American teens
- **Sample size** = # of people you collect data from to represent your population
 - a large % is best for showing statistical significance and being able to generalize your findings
- **Random sample** = most representative, unbiased

Data Analysis

- Main goal of any type is to look for relationships between variables that support the hypothesis
- Qualitative analysis usually involves analyzing notes, recordings, etc. and coding them to match relevant variables
 - *What would make this difficult?*
- Quantitative involves statistical data analysis, like frequency and measures of central tendency
 - *What is required to show statistical significance?*

Correlation = a quantitative relationship is found between IV and DV

– If both variables are “quantitative” (can be ordered from highest to lowest), a **correlation coefficient** can be found:

- Direction
 - Positive = Same (Ex. Smoking > Lung Disease)
 - Negative = Opposite (Ex. Education > Unemployment)
- Strength
 - Close to 0 = very weak
 - Close to +1.0 or -1.0 = very strong

What if one or both variables are “qualitative” (cannot be ordered – ex. race or gender)?

Causation = Change in the IV has been proven to be the sole cause of change in the DV

1. Must be statistically significant data from a representative sample
2. Must prove a quantitative correlation exists
3. Must rule out:
 - Reverse causation (DV causes IV)
 - *Does dropping out of high school cause someone to live in poverty, or could living in poverty cause someone to drop out of high school?*
 - Multiple causation (Other IVs are also involved)
 - *What other variables would result in higher divorce rates in addition to changes in marriage laws?*
 - Spurious relationship – *Review...*
 - Coincidence – *Example?*

Conclusions

- Hypothesis = How strongly does the data support your predicted relationship?
- Limitations = Acknowledge weaknesses of research design (too narrow to generalize to greater population, low response rate, lack of sufficient control variables, etc.)
- Implications for further research = Is testing again with a modified hypothesis or design warranted, do your results show promise but need more data to confirm correlation, etc?