

Why Do Science?

Soc 357

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Max Weber Says...



- Science *cannot* tell us “what shall we do and how shall we live”
- Science *can* help us to see the consequences of our actions

--From “*Science as a Vocation*”

Why learn research methods?

- To find out about the world
- To become literate in an important source of information & argumentation

The Boston Herald, June 13, 2006:

“The United States saw a 5 percent jump in the homicide rate, and Boston played into that statistic by marking 73 homicides in the FBI's Uniform Crime Report, up from 61 in 2004.”

“The actual number of people slain on Hub streets in 2005 was 75, according to Boston police, up from 64 in 2004. It remains unclear why the Boston Police Department's statistics do not match the FBI's.”

“In Boston, violent crimes increased overall by 8.1 percent, going to 7,479 last year from 6,917 in 2004, according to the FBI numbers released yesterday.”

Science is a Social Product

- Research is about making decisions
- Research Methods is about learning how to understand those decisions, and make them
- There are some shared guiding principles

What is “being scientific”?

- ***Observation*** and ***Verification***
- Need agreed-upon concepts
- In short, Science is about 1) Asking particular kinds of questions 2) looking for evidence 3) building a theory

1. Scientific Questions

- Questions or statements that can be verified ***empirically***, ie. That you can try to confirm or disconfirm by using evidence of the senses
- Statements are given an ***operational definition***, ie. There are clear rules that we can apply to new cases
 - ***Eg. Durkheim's Suicide***
 - ***Eg. "Men are more aggressive in the classroom than women"***

Other kinds of statements

- Unsupported assertions
 - E.g. “Violent crime is the highest it has been in 20 years”
- Appeals to authority
 - E.g. “4 out of 5 dentists agree...”
- Definitions
 - E.g. “A bachelor is an unmarried man”
- Tautologies or Assumptions
 - E.g. “People act in a self-interested way”

Values

- Statements of what ought to be
 - Eg. “Young people shouldn’t drink to excess”
- BUT they shape the questions we ask

2. Scientific Evidence

- Observed empirically
- Objective
- Controlled for bias
 - Eg. Inaccurate observation
 - Overgeneralization
 - Selective observation

3. Scientific Theory

- A set of ideas relating one class of events to another class of events
- In social science these are not “laws;” these are ***probabilistic*** statements

E.g. Women are less likely to binge drink than men

E.g. Extroverted students are more likely to speak up in class

Approaches to social research (1)

- ***Positivism***: The belief that there is a reality that exists apart from our own perception, that can be understood by observation, that follows general laws
 - Different scientists see the same social reality, and can document it
 - Science is about searching for regularities or patterns; documenting methods rigorously; maintaining a skeptical stance towards knowledge
 - Scientists try to maintain distance from the object of study
 - How would a **positivist** approach the issue of campus binge drinking?

Approaches to Social Research (2)

- ***Postpositivism***: The belief that there is an external reality but scientific understanding is limited by its complexity and by biases and other limitations of researchers
 - The goal of science is to achieve ***intersubjective agreement***
 - How would a ***postpositivist*** approach the issue of campus binge drinking?

Approaches to Social Research (3)

- ***Interpretivism***: Reality does not exist apart from the meanings that people give to that reality
 - Look at stakeholders around a common issue
 - Focus on understanding reality from the research subject(s)' points of view
 - Focus on comparing and/or reconciling different points of view
 - How would an ***interpretivist*** approach the issue of binge drinking?

Synthesis

- Many social scientists respect the contributions of each approach
 - Take a postpositivist view that we can find out reliable information using agreed-upon concepts & methods
 - Understand the importance of understanding the perspective of the people we observe in order to understand causal processes.

Tentative & Serendipitous Knowledge

- Tentative Knowledge: we believe our knowledge is incomplete; nothing is “proven”
- Serendipitous knowledge: knowledge acquired by chance, accident, unforeseen outcomes.
 - E.g. The Hawthorne Effect
 - Adler & Adler study of upper level drug dealers

Debates about Doing Science

- The Ideal vs. the Messy Reality
- Is Social Science a “Science”?

The Scientific Attitude

- Knowing is better than not knowing
- It's about OTHER people
- Accepting revision and imperfection
- Respecting the facts & evidence
- Honest reporting of research
- Knowing limitations