

Chapter 1: Human enquiry and Science

Key words:

Agreement reality: what we 'know' as a feature of the culture we share with those around us

Epistemology: science of knowing systems of knowledge

Methodology: science of finding out throughout scientific investigation - subfield of epistemology

Replication: repeating an experiment to reduce error

Gambler's fallacy: believing that an event in the future is influenced by the past

Theory: reasoning for observations that relate to a part of life

Social regularities: number of norms in society

Recursive quality: some aspects of society change once we learn new ones

Attribute: a characteristic of a person or a thing

Variable: a logical set of attributes

Independent variable: values are not problematic to a problem

Dependent variable: a variable that depends on another

Dialectics: fruitful tensions between complementary concepts

Idiographic: explanation to exhaust the individual causes of a particular condition

Nomothetic: explanation to identify a few causal factors that impact a class of conditions

Induction: general principles are developed from specific observation

Deduction: specific expectations are developed on the basis of general principles

Tolerance for ambiguity: the ability to hold conflicting ideas in your mind simultaneously, without denying or dismissing any of them

Looking for reality

Ordinary Human Inquiry

- Aims at answering 'what' and 'why' questions

2 ways of predicting future circumstances:

- Causal reasoning
 - Future circumstances are caused or conditioned by present ones
- Probabilistic reasoning
 - Effects (Y) occur more when effect (X) has happened
 - E.g. Studying hard (X) = better grades (Y)

2 ways of ordinary human inquiry:

- Prediction

The practice of social research

- Does the proposed study have practical significance?
- Does it contribute to the construction of social theories
- Literature review
 - What have others said about this topic?
 - What theories address it, and what do they say?
 - What previous research exists?
 - Are there consistent findings?
 - Does the body of existing research have flaws that you think you can remedy?
- Subject of study
 - Whom or what will you study in order to collect data?
 - Identify the subjects in general, theoretical terms, and in specific, more concrete terms, identify who is available for study and how you'll reach them
 - Will it be appropriate to select a sample? If so, how will you do that?
 - If there is any possibility that your research will affect those you study, how will you ensure that the research does not harm them?
- Measurement
 - What are the key variables in your study?
 - How will you define and measure them?
 - Do your definitions and measurement methods duplicate or differ from those of previous research on this topic?
- Data-collection methods
 - How will you actually collect the data for your study?
 - Will you conduct an experiment or a survey?
 - Will you undertake field research or will you focus on the reanalysis of statistics already created by others?
- Analysis:
 - Indicate the kind of analysis you plan to conduct.
 - Spell out the purpose and logic of your analysis.
 - Are you interested in precise description?
 - Do you intend to explain why things are the way they are?
 - Do you plan to account for variations in some quality, such as why some students are more liberal than others?

Chapter 9: Survey research

Key words:

Respondent: a person who provides data for analysis by responding to a survey or questionnaire

Questionnaire: a document containing questions and other types of items designated to solicit information appropriate for analysis

Open-ended questions: questions for which the respondent is asked to provide his or her own answers

Close-ended questions: survey questions in which the respondent is asked to select and answer from among a list provided for the researcher

Bias: the quality of measurement device that tends to result in a misrepresentation of what is being measured

Contingency question: a survey question intended for only some respondents, determined by their response to some other questions

Response rate: the number of people participating in a survey divided by the number selected in the sample, in the form of a percentage

Interview: a data-collection encounter in which one person asks questions of another

Probe: a technique employed in interviewing to solicit a more complete answer to a question

Secondary analysis: a form of research in which the data collected and processed by one researcher are reanalysed by another

Introduction

Survey research is the administration of questionnaires to a sample of respondents selected from some population

Topics appropriate for survey research

Surveys can be used:

- For:
 - Descriptive purposes
 - Explanatory purposes
 - Exploratory purposes
- With:
 - Individual people
 - Groups

The practice of social research

Frequency distribution is a description of the number of times that the various attributes of a variable are observed in a sample (like the cumulative frequency)

Central tendency

You can present your data in the form of an average

Types of averages:

- Mean
- Mode
- Median

Dispersion

Averages offer readers the advantage of reducing the raw data to the most manageable form: 1 number. However, readers cannot reconstruct the original data from an average

Dispersion refers to the way values are distributed around some central value e.g an average

Ways of measuring dispersion

- Range: the distance separating the highest from the lowest value
- Standard deviation: an index of the amount of variability in a set of data
 - The higher the standard deviation, the data is more dispersed

Continuous and discrete variables

2 different types of variables:

- Continuous variables: increases steadily in tiny fractions e.g age (increments over time)
- Discrete variables: jumps from category to category without intervening steps e.g gender (you go from one to the other)

Subgroup comparisons

Univariate analysis describes the units of analysis of a study and allow us to make descriptive inferences about the larger population

Bivariate and multivariate analysis are aimed at explaining

It is sometimes appropriate to describe subsets of cases, subjects or respondents.

'Collapsing' response categories

Problem:

- Tables have few too many numbers for an easy interpretation
 - Simplify by collapsing the extreme and moderate categories for each candidate

Handling 'don't knows'

It is appropriate to report your data in both forms - With and without the 'don't knows'

Lecture 4: Experiments and case studies

Experiment

What is an experiment?

A research strategy that can be used to test something, normally the causal relationship between the dependent and independent variable

Classic experiment (RCT) has the following requirements:

- 2 groups - experimental and control group
- Treatment (stimulus, manipulation)
- Randomisation
- Controlled environment
- Pre-test and post-test

Main benefits of classic experiment:

- To establish causality
- To rule out other explanations (research has full control of the situation)
- But: limited number of variables (1 independent, 1 dependent)

When to use experiments?

- Hypothesis testing (deductive research)
- Theory development (mechanisms, causality)
- Limited number of variables

Types of experiment:

- Lab experiment
- Artifactual experiment
- Field experiment
- Natural experiment

Subjects:

- Sampling: randomisation or matching
- Measurement effects (threatening validity), naïve (not knowing whether you are being observed or not), deception and debriefing (telling the subjects that they have been observed)

Methodological considerations:

- Experimenter effects, observer bias, subject bias
- Double blind, placebo
- Ethical considerations, permission from ethical committee for deception (informed consent)

Lecture 8: Ethics and impact

Research ethics and integrity

Ethics and integrity play a role in doing research in different ways:

1. The treatment of respondents /subjects
2. Collection and analysis of data
3. Writing publications

That is why we have a code of conduct

Treatment of respondents/subjects

- Obtain informed consent
- Ensure anonymity
- Do not harm and/or deceive subjects

Analysis of data and writing publications and ethics

Academia has come under pressure:

- Incidents with fraud
- Alternative facts movement

Fraud in academia

- Plagiarism
- Manipulation
- Wrongful conduct

Frequency has increase, but still small % of total

- Causes - pressure for performance, financial interests, better software to detect fraud
- Consequences - loss of reputation, prosecution, resignation

Countermeasures to prevent unethical behaviour

- Publish or perish culture is under attack
- Research data management - protocols for collecting, storing and making data available for re-use
- EU directive on privacy protection (AVG) to safeguard informed consent and ethical approval of research
- Ethics/integrity committees, review boards
- Restriction watch (website for news on retracted articles)
- Open science, open access