

## OVERVIEW OF RESEARCH METHODS

Research Methods= the ways we collect data to answer a research question  
 data collection techniques including how we get respondents, how we ask questions, role of researcher in research and in the respondents/participants lives', how we analyze the data

Research Design= plan for how to answer the research question

- determine which methods are best used for answering the question
- map out how each method will be utilized
- determine limitations of each method for a particular research project

### Why do we need a research design:

1. To systematically/scientifically answer research question
2. To control variance:
  - a. Maximize experimental variance (variance of key concepts)
  - b. Minimize extraneous variance (confounding variables, msmt error)

Textbook vs. Real research

Academic vs. Applied research

Data Collection + Data Analysis = Research Methods and Research Design

Quantitative vs. Qualitative Paradigms: Data Collection Methods

<u>Quantitative</u> : distinct methods Inductive, apriori hypotheses, Positivism, Durkheim, functionalism, researcher separate from participants	<u>Qualitative</u> : fluid lines btw methods Deductive, no apriori hypotheses, Interpretivism, Weber, Symbolic Interactionism, researcher interacts with participants
Experiments: true, quasi	Observation: participant, non-participant
Surveys: f-to-f, mail, phone	In-depth interviews: structured, unstructured
Cross-sectional vs. Longitudinal	Advanced Qualitative Methods
Longitudinal:	case study, extended case study
a. trend: follow 1 variable over time	Ethnography (critical observation of a culture)
b. cohort: follow a pop over time c. panel: follow same group over time	ethnomethodology: study small interactions (moments, situations), look for rules/methods of interaction
	phenomenology: study experiences

d. Time series	
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Other data collection methods: historical, document analysis, existing data

### **Unnecessary Dichotomy of Quantitative and Qualitative Methods**

Multi-methods: Using more than one research method

Evaluation research, applied, action research = use qual + quant research methods

Mixing Methods: Usually this works well, but depending on the topic/population, there can be limits:

Ex: Doing Grounded Theory with Survey data: really impossible because whomever developed the survey had to have some theory/thoughts to even come up with questions

Ex: Ethnography and experiments do not work together

Exploratory research often draws on elements of both qual and quant data collection:

Can be qual or quant. Most qualitative research is exploratory. The results of exploratory research often guide additional studies on the topic.

- no literature to draw on
- developing a theory/model
- small sample, not representative

### Rationale Quantitative Research

There is one reality/truth that exists independent of the research. We can know it before observing reality. We can summarize it in words. We can measure it and test it objectively (free from researcher bias, values).

“Based on my particular explanation of how the world works, this is what I expect to observe. If I find evidence supporting expectation then the explanation is correct.”

Positivism

Quantitative Relationship between theory and method: theory → research q → method → theory



## Rationale Qualitative Research

There is no one reality for a theory (as quantitatively known) to capture. There is no one understanding. Meanings and reality change across people, place and time. Need to let reality drive understanding (grounded theory). Researcher values enhance/shape the study.

Interpretivism

Qualitative Relationship between theory and method: research q    method    theory

**Which methods you use depends on: research question, researcher, theory, resources, study participants, goals**

### 1. Research Question

Examples of qualitative research questions:

- Why don't men go to the doctor when they are sick?
- How does economic status shape a person's beliefs and values?
- How do boys play different than girls?

Examples of quantitative research questions:

- What is the effect of information seeking on health status?
- How many women in Pitt County have been raped in their lives?
- What is the effect of race on women's career success?

### 2. Researcher

Some people only do one method or do only qualitative or quant

- Training
- Politics
- Interest: the types of RQs they ask are best studied with that particular method
- Skills

### 3. Theory: **All RQ's begin with some theory (except grounded theory)**

Theory: theory shapes concepts, theory determines what is important, previous research leaves holes in understanding:

Theory = Symbolic Interaction, Sample RQ = does taking the role of other lower prejudice?

Theory= Feminist Theory, Sample RQ = how do men subordinate other men in everyday life?

#### 4. Research Goals

Do Quant if:

- Need to generalize
- Need to answer “what” questions, estimate prevalence, incidence of a phenomenon
- Need to do research quickly (1 year)

Do Qualitative if:

- Need to answer how or why questions
- if it is a process
- if too complicated of a phenomenon to operationalize questions
- if you don't know enough about the phenomenon to develop questions that would reflect the entire the phenomenon
- If you think people wouldn't or couldn't tell the truth on a survey or experiment
- Impossible to reach the people you need to study by survey/experiment
- You want to learn about people's understandings, experiences

#### **Developing/writing Research questions**

Choosing/developing a research question is influenced by researcher, theory, importance of topic to discipline and society

Develop research question by:

- reading lit
- talking to people who know about subject
- talking to people who live the subject

Start out broad and get more narrow as you become familiar with literature and then more narrow when you choose your research design

Writing Research questions: written clearly, no unnecessary words, no fancy words

1. Free from ambiguity
2. Central ideas, key concepts identifies
3. Express relationships btw. Concepts
4. It is an empirically answerable question
5. Terminology reflects design: Qualitative = shape, explore / Quant = cause, relationship, influence, affect/effect

You will need to refine your research question as you learn more about it from the scientific literature and from experts.

With qualitative research: you might refine the question during the study:

With quantitative research, you can not change RQ once data collection has started. So you need to spend a great deal of time upfront nailing down RQs. Your hypotheses can be developed during research, somewhat.

## **Hypotheses**

Hypotheses in quantitative research:

1) Conceptual hypotheses follow from research question

ex. The more experiences a person has with taking the role of other, the less prejudice they are.

2) Operationalized hyps follow from conceptual ones after methods are selected:

Ex. Respondents who have higher scores on the role taking scale will have lower scores on the prejudice scale than respondents who have lower scores on the role taking scale.

3) Statistical hypotheses follow from operationalized hyps: mean group 1 < mean group 2

Hypotheses in qualitative research: Do not have hypotheses. You may have expectations.

## **RESEARCH PROCESS: HOW A RESEARCH PROJECT UNFOLDS**

Quantitative Research Process: impersonal relationship between researcher and study, and between researcher and study participants

Theory → research question → conceptual hypotheses → choose methods → operationalized hypotheses → collect data → test data → interpret results (support/refute theory)

Theory = explanation

Theory guides every step in the research process: question, choice of methods, msmt of concepts

Several studies support theory, theory becomes more credible

All studies support theory, theory becomes a law (rare in the social sciences)

### Biases:

1. Theory determines every part of research process. Variable selection and msmt. Build model to test based on theory. Predisposes data to support theory. (Ex. Gender models, measure gender with sex)
2. Operationalizations, msmt error
3. Variable sociology: build unrealistic “models” and then play god, talk about relationships between variables, differences between variables,
4. Context free: doesn't always translate to anything real or meaningful about real life

### Sections to a Quantitative paper

Abstract, Introduction (statement of problem), Lit Review, Methods, Results, Discussion, Conclusion (either summarize paper or review limitations of study)

Qualitative Research Process: not a set pattern like quantitative research, process depends on method used

Grounded theory: research question choose methods collect data revise research question collect data results (look for patterns) build theory from patterns draw on lit to further develop/validate explanation (Theory is built from data)

Ethnography: same as grounded theory or:  
research question choose methods collect data revise research question collect data results (look for patterns) draw on theory/lit to explain patterns (draw on theory/lit at end rather than at beginning)

Phenomenology: research q methods results (No theory)

General qualitative: similar to quantitative process: Theory research question choose methods lit review collect data revise research question collect data results (look for patterns, do they support theory)

#### Bias:

1. generalizations poor (“Here is how the world looked when I observed it.”), impossible to do true grounded theory
2. Only micro topics

Sections to a Qualitative paper: no 1 format, depends on method, writing personal

Ethnography: Abstract\* (not always with qual paper), Introduction/Theory/Research Q, Methods, \*Results/Discussion (These sections are usually combined, explain findings as you present them drawing on theory and lit to explain)

Grounded Theory: Abstract\*, Intro/ Research Q, Methods, Results/Discussion (draw on lit, explain theory that is built from data)

General Qualitative: same as quantitative



## Research Proposal Sections

1. Introduction: make reader care, written plainly, no fancy words

statement of problem

initial research question

why important: how important to society, discipline

2. Literature Review: Summarize findings of previous or related research

explain theory

review previous work on research question

a. What do we already know: Findings, how studied, concepts and methods, limitations/problems,

Identify your narrowed down research question, how your study will be different from previous work, conceptual hypotheses (if quant)

only review articles which are directly related to your research question. Exception: there are no other studies on your question (not recommended for thesis)

3. Research Design

- data collection methods: why chose this method
- sampling: who observed/interviewed, unit of analysis
- variables/questions/measurement (interview guide),
- data documentation (video, audio)
- length of data collection,
- role of researcher,
- operationalized specific hypotheses,
- data analysis plans,
- statistical hypotheses (\*bridge to results in papers)
- potential limitations of methods
- appendices: diagram of research design, survey, interview guide, informed consent, timeline of data collection, statistical model to be tested