Qualitative & Quantitative Research Methods

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Setting the stage…

- **Discussion rather than lecture**
- **Zoom etiquette for a productive and engaging session**
- **Objectives of session**
  1. **Provide an overview**
  2. **Provide additional resources**
  3. **Provide opportunity to share experiences and ask questions**

Roadmap

- Qualitative Research
  - What & Why
  - QRM Methods
  - QRM Software Options
- Quantitative Research
  - Purpose
  - How to Choose a Statistical Test
  - Statistical Software Options

What is qualitative research (QRM)?

- Is a form of inquiry that is more exploratory rather than hypothesis driven
  - Grounded Theory = research Q → data → theory

- Involves in-depth analysis of participants' experiences

  *"Development of concepts which help us to understand social phenomena in natural (rather than experimental) settings, giving due emphasis to the **meanings**, **experiences**, and **views** of the participants" (Pope & Mays, 1995)*

Why use qualitative research methods?

"Not everything that can be counted counts, and not everything that counts can be counted."

– Einstein

- Exploring topics that cannot be quantified
  - Why patients and healthcare providers behave in certain ways
  - Patients' and providers' perceptions, feelings, and experiences

- Example
  - *The 'lived experience' of palliative care patients in one acute hospital setting – a qualitative study*

Most Common Qualitative Research Methods

Interviews

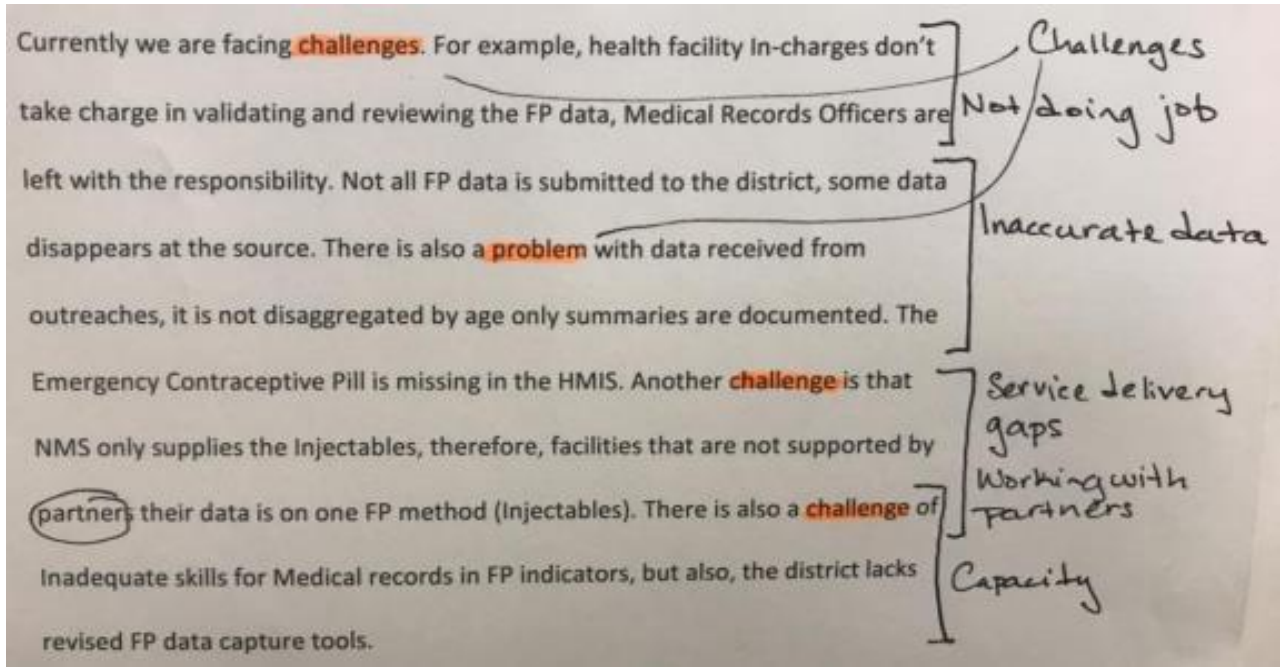
- Most common
- 1-on-1
- Structured to semi-structured
- Recording & transcribing
- Most in-depth

Focus Groups

- 1-2 facilitators
- ~5-12 participants
- Structured to semi-structured
- Recording & transcribing
- When group meaning-making is important

Qualitative Data Analysis

Raw Data → **Analysis** → Interpretation → Application

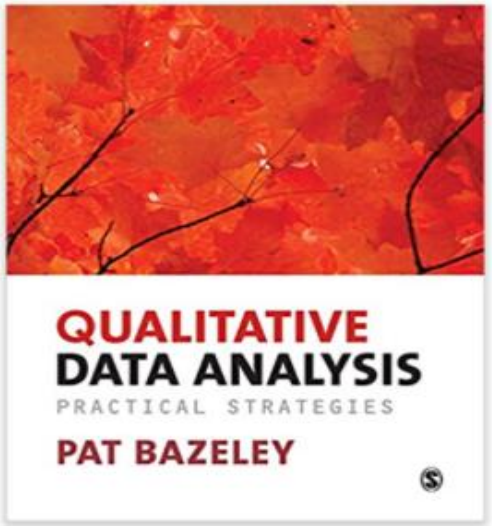


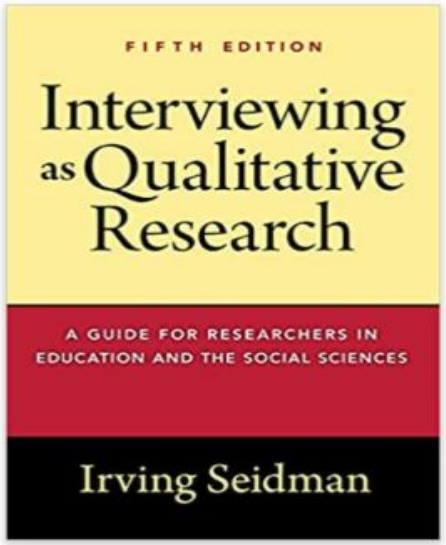
What coding software to use?

What coding software to use? (cont.)

Software	Student Cost	Pros	Cons
MS Word	$0	Easy learning curve	No bells and whistles
Dedoose	$120 (1 year)	Cloud-based; intuitive	Need internet connection; smaller community of users
Nvivo	$85 (1 year)	Advanced features	Difficult for group work; not intuitive
Atlas.ti	$99 (2 years)	Advanced features; lite mobile app versions	Original files are not stored within program
MAXQDA	$95 (2 years)	Advanced features; good for teams	Not intuitive

Additional Resources





- **UCLA Labor Center**
  https://www.labor.ucla.edu/what-we-do/research-tools/qualitative-research/
- **UCLA Graduate Writing Center (GWC)**
  https://gwc.gsrc.ucla.edu/resources/qualitativeresearch
- **YouTube, Google (of course! :P)**

Purpose of Quantitative Research

- Test hypotheses and make predictions using measured amounts
- Uses experiments or quasi-experiments
- Objective* and generalizable

How to Choose a Statistical Test

- Data available to you
- Type of dependent variable (DV)
- Type of independent variable (IV)
  - Number of IVs
- Meets assumptions of the statistical test
  - E.g., normal distribution

UCLA Institute for Digital Research & Education
Statistical Consulting

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CHOOSING THE CORRECT STATISTICAL TEST IN SAS, STATA, SPSS AND R

The following table shows general guidelines for choosing a statistical analysis. We emphasize that these are general guidelines and should not be construed as hard and fast rules. Usually your data could be analyzed in multiple ways, each of which could yield legitimate answers. The table below covers a number of common analyses and helps you choose among them based on the number of dependent variables (sometimes referred to as outcome variables), the nature of your independent variables (sometimes referred to as predictors). You also want to consider the nature of your dependent variable, namely whether it is an interval variable, ordinal or categorical variable, and whether it is normally distributed (see What is the difference between categorical, ordinal and numerical variables? for more information on this). The table then shows one or more statistical tests commonly used given these types of variables (but not necessarily the only type of test that could be used) and links showing how to do such tests using SAS, Stata and SPSS.

Number of Dependent	Nature of Independent Variables	Nature of Dependent	Test(s)	How to SAS	How to Stata	How to SPSS	How to R

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What Statistical Software to Use?

Software	12 Month Student Cost	Syntax	Point and Click
R (along with R Studio)	$0	Yes	No
Python (along with Spyder or Jupyter Notebooks)	$0	Yes	No
Excel	$0*	Yes	Yes (but clunky)
SPSS	$45	Yes	Yes
SAS	$99	Yes	No
Stata	$179-$275	Yes	No

Where to Learn Statistical Software

- IDRE Zoom Trainings (Free)
  - Introduction to SPSS on 10/26/2020 from 1:00-4:00 PM
  - Introduction to R on 11/02/2020 from 1:00-4:00 PM
  - Introduction to Stata on 11/09/2020 from 1:00-4:00
- DataCamp (Free/Fee)
- Laerd Statistics (Fee)
- Stack Exchange/YouTube/Google (Free)

Statistics Consulting

- IDRE via Zoom (free)
  - https://stats.idre.ucla.edu/ucla/policies/
- UCLA CTSI (free)
  - https://ctsi.ucla.edu/researcher-resources/pages/biostats
- UCLA Department of Statistics Consulting (fee)
  - http://scc.stat.ucla.edu/

Discussion Questions/Topics

1) What types of research projects have you been involved with or are interested in pursuing?
2) What have been some of the challenges/benefits of using a particular method?
3) What advice would you give to a student embarking on a research project?
4) Mixed methods