Asking the Right Question: Qualitative Research Design and Analysis

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Learning Objectives

▶ To develop an understanding of different approaches to qualitative research

▶ To understand how to design and conduct qualitative study visits and perform data collection, including tips and practices for qualitative interviewing

▶ Review basic principles of qualitative data and thematic analysis approaches and techniques

▶ Discuss resources available to support development of qualitative research

What is Qualitative Research?

*"Qualitative research involves an **interpretive**, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings attempting to make sense of, or interpret, phenomenon in terms of the meanings people bring to them."*

-Denzin and Lincoln, 2003

Quantitative vs. Qualitative

Quantitative

- What? Who? Which? When? Where?
- Conducted during later phases of research
- Quicker data collection and analysis
- Close ended questions or scales (e.g. Yes/No, 1-10 scales)
- Larger sample sizes
- Objective data – precise measurements and analyses

Qualitative

- How? Why?
- Initial phases of research –exploratory
- Lengthy, tedious data collection and analysis
- Open ended questions
- Smaller and more focused sample sizes
- Subject data – experiences and interpretations of events

Quantitative vs. Qualitative Research Methods

Quantitative

- Close ended questionnaires, surveys, and checklists
  - Example: What is your race?
  - On a scale of 1-10, how severe is your anxiety?
- Large-scale data sets
- Random sampling
- Structured data

Qualitative

- Open ended questionnaires and surveys
- Focus groups
- Diaries
- Un-structured or semi-structured interviews
- Observations and field notes
- Case studies
- Drawings
- Videos

Quantitative vs. Qualitative Data

Quantitative

- Numerical – 9, 16, 3.5
- Categorical
  - Nominal – Sex, Language, Race
  - Ordinal – Scale of 1-10, Very satisfied to Very dissatisfied
- Statistics, p-values
- Clean data

Qualitative

- Text – visit summaries, office notes, interview transcriptions, journal entries
- Photos, videos, audio recordings, drawings, observations
- Narratives looking for a patterns

*Mixed Methods – Uses a combination of both

	Qualitative Research	Quantitative Research
Objective/Purpose	To gain an understanding of underlying reasons and motivations To uncover prevalent trends in thoughts and opinions	To quantify data and generalize results from a sample to the population of interest Sometimes followed by qualitative research to explore findings further
Sample	Small, focused	Larger number of cases representing population of interest
Data Analysis	Coding, looking for patterns	Statistical data, conclusive and descriptive findings
Example	Focus groups, interviews, group discussions	Surveys

Deductive vs. Inductive Research Processes

Deductive – Quantitative approach

Known idea or theory exists

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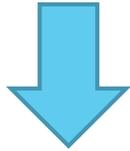
Form hypothesis

↓
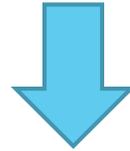
Test hypothesis and Observe results/data

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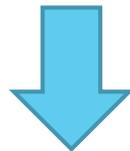
Confirm results

Inductive – Qualitative approach

Observation of phenomenon

↓

Detecting a pattern

↓

Develop tentative hypothesis

↓

Form a theory

*Mixed methods can allow for both processes to occur either simultaneously or be used in a cyclical manner.

So why conduct qualitative research?

- Understand behavior, beliefs, opinions and emotions from the perspective of participants

- Understand and explain views and behaviors

- Understand processes, such as how people make decisions

- Understand meaning people attribute to their experiences

- Understand social interactions among people and the values shared by them

- Identify social, cultural, economic, and physical context in which events take place

- Give voice to issues of certain populations that may be overlooked, and examine sensitive and complex issues in detail (e.g. sexuality, violence, drug use)

- Provide depth, detail, nuance, and context to research issues

Strengths of Qualitative Research

▶ Gain insider perspectives into issues that are often missed (subtleties and complexities)

▶ Building relationships, causes, and effects, and dynamic processes surrounding issues

▶ Allows for ambiguities/contradictions in the data, which reflect social reality and duality behind many major issues

▶ Descriptive, narrative style which provides rich data

Limitations of Qualitative Research

- Lengthy and complicated designs, which do not draw large samples

- Validity of reliability of subjective data

- Difficult to replicate study because of central role of the researcher and context

- Data analysis and interpretation is time consuming

- Subjective – open to misinterpretation
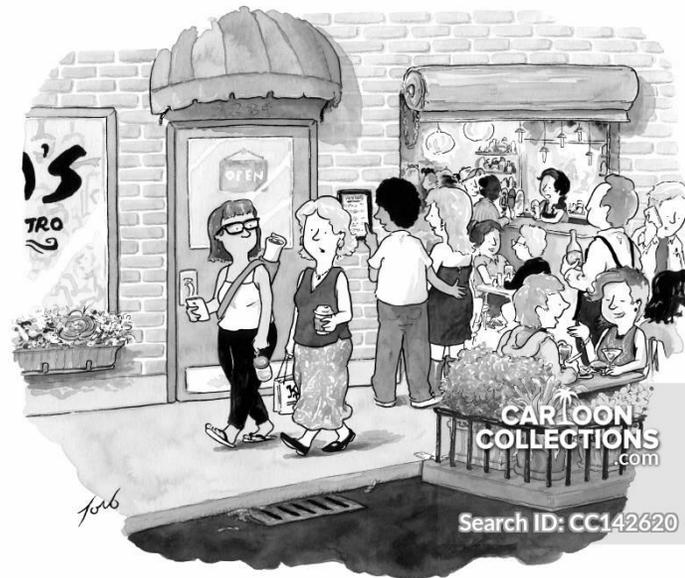
"I once mistakenly thought I was dating someone for a whole month because I couldn't tell that his texts were sarcastic."

Developing a Qualitative study – Types of Qualitative Methodology

	In depth interviews	Focus Group Discussion	Observation
Objective	Individual perceptions, beliefs, feelings and experiences	Range of opinions on specific issue, community norms, or evaluation	Observe how people act and interact in certain social situations or environments
Research instrument	Semi-structured Interview guide	Discussion guide	Observation guide
Advantages	Gain in depth information Identify personal experiences Useful for sensitive issues Identify context	Group interaction provides range of issues and opinions Discussions provide detail, justification, and clarification A lot of information collected quickly	Unobtrusive Contextual information Supports data from other sources Identify people's actual behavior
Disadvantages	No interaction or feedback from others Individual perceptions only Multiple interviews may be needed to identify range of issues	Less depth of information Less suitable for personal experiences Managing group dynamics	Interpretation of observations may be subjective Distinction between participation and observation is needed

Developing your qualitative interview/focus group guide

- The interview guide is a _guide_
  - Typically qualitative visits are unstructured or semi-structured
  - Does not need to be read verbatim
  - Interviewer needs a very good understanding of the **research question** and **probe**
  - Create a certain amount of order on topic areas that your question covers and then follow in a reasonable order (but you can jump around depending on how the participant leads the conversation)
  - Types of questions
    - Background
    - Behaviors or experiences
    - Opinions or beliefs
    - Knowledge
    - Sensory experiences
  - Focus on research question and formulate questions that are concretely oriented to answer to it (but avoid specific questions)
  - Use language that is relevant and understandable to participants

Qualitative Study Visit Tips and Practices
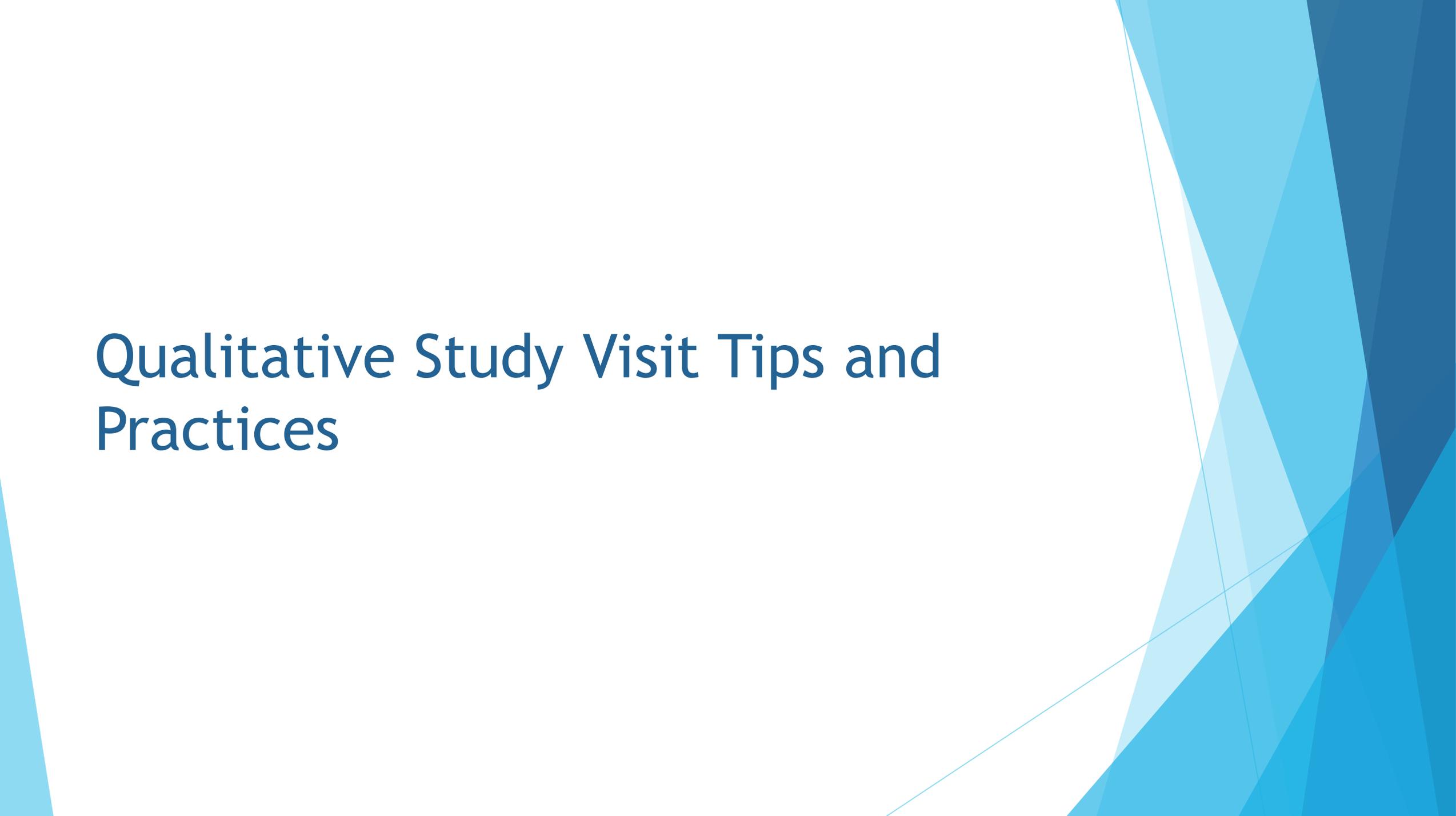
Do's and Don'ts of Qualitative Study Visit

- Do know your guide
- Do ask open ended questions
- Do leave your assumptions at the door – You know nothing!
- Do take notes
- Do validate and empower
- Do maintain eye contact
- Do rephrase questions
- Do Probe Probe Probe!

- Don't ask closed questions
- Don't interrupt/tell your own story
- Don't lead/put words in their mouths
- Don't judge
- Don't be afraid to re-direct
- Don't be afraid of the silence

Open ended vs. Closed ended Questions

Example: Study looking at how experiences with stigma affect people with mental health conditions

Closed ended question – All participants answer same questions for comparisons

Have you experienced stigma? Yes, No

Does stigma affect your decision to seek care for your mental health condition?

Open ended question – Participants respond in their own words

How has your experience with stigma affected your daily functioning?

Please describe how your experience with stigma has affected your decision to seek care for your mental health condition

DON'T lead/put words in their mouths

Example: Study looking at differences in parent and child attitudes surrounding social media

Participant: Sometimes my mother and I fight when I want to go on Facebook.

Interviewer: So tell me more about how you hate your mother.

VS.

Participant: Sometimes my mother and I fight when I want to go on Facebook.

Interviewer: Can you describe more about what you and your mother fight about?

DO Take Notes

▶ One important piece of the interviews are the notes, observations, or memos that the interviewer/researcher marks down

▶ Notes should be used more for contextual information rather than content

    ▶ Example: Participant is teary-eyed at this question, participant is agitated, participant avoids eye contact, participant tenses up and rocks back and forth. Anything that would not be captured on the audio recording (e.g. body language)

▶ You do not need write down everything the participant says

▶ Take notes both during study visit and analyses

One important thing to remember: Qualitative data is transcribed verbatim!

▶ One limitation of qualitative is it can be easily misinterpreted

For example: These kids are driving me crazy.

▶ The tone/impression of the statement changes depending if the participant is speaking in a sad, angry, or joking manner. Notes and memos are very important!

CONVERSATION #1

I just fell down the stairs!

Oh no! Do you need help?

CONVERSATION #2

I just fell down the stairs! 😂

I did the same thing yesterday! 🙂

CONVERSATION #3

I just fell down the stairs! 🙁 🚑

Where are they taking you? I will be right there!

DON'T be afraid of the silence

- Some participants may not volunteer very much information and may say, "I don't know" or "I'm not sure" repeatedly.

- The interviewer should try to elicit more information using probes such as, "Can you give me an example of a time when…" or "Can you tell me more about that?"

- Sometimes, if the interviewer stays silent, this will encourage the participant to volunteer more information as it is a natural human tendency to want to "fill the silence"

DO Probe

- In a quantitative survey collection, the data is what it is.

Over the last two weeks, how often have you been not able to stop or control worrying?

Not at all   Several days   More than half the days   Nearly everyday

- In qualitative, you can probe for more context (e.g. what they've been unable to stop worrying about, how that's affected their everyday functioning, how does the worrying manifest?)

- You can probe depending on where the participant is leading you

- Probes can include Who? Why? When/In what circumstances? How did it feel (physically, emotionally)? Severity? How do you feel now? How often were you experiencing it? How much did it impact your daily life? How did friends/family/community react?

Qualitative Data Collection

► Audio recordings

► Memo-ing– reflective notes about what you are learning from the data

► Interviewers impressions, thoughts

► Drawings, Pictures

► Journal entries

► Interview transcriptions

Saturation

When do I stop interviewing?

- The most new information about your study will be gained in the initial interviews or focus group discussions

- May add new topics/issues in subsequent interviews

- **Saturation**: The point in which information begins to repeat itself, based on the research topic and variation in study participants

Qualitative Analysis

Qualitative Analysis Approaches

▶ No specific method – different methods are based on different philosophical approaches (e.g. linguistics, analytic philosophy, structuralism)

▶ Categorisation

▶ Recognising relationships and developing the categories you are using to facilitate this

▶ Developing and testing hypotheses to reach conclusion

▶ Different approaches can be used together

Qualitative Analysis Process

Identifying, coding, categorizing themes

Thematic Analysis
Codes qualitative information
Process of identifying themes
Identify why specific categories chosen

Eg. What is the meaning of the lived experience of this phenomenon?

Grounded Theory
No preconceived framework or hypotheses
Data provides abstract concepts
Researcher builds 'theory'
Theoretical saturation

Eg. How does the basic social process of X occur in the context of Y ?

Discourse Analysis
Language beyond sentences
What and how people communicate
Visual communication

Eg. How does communication shape identities/ activities?

Grounded Theory

- "The grounded theory approach is a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon".

- Contains both inductive and deductive thinking.

- The questions you keep on asking are "What's going on?" and "What is the main problem of the participants and how are they trying to solve it?"

- Resembles what many researchers do when retrospectively formulating new hypotheses to fit data.

- Grounded theory is based around developing an overarching theory that *explains* the findings within the data

- **Emphasizes systematic analysis of data**

  - Theoretical sampling

  - Coding

  - Theoretical saturation – All data can be coded into a category; new categories are not emerging, and the existing category structure appears stable

  - Constant comparison

Coding

- **Coding**
  - Naming the segments of your data with descriptive words or category names
  - Provide a descriptive name for each category and develop a definition about what is included in the category and what is excluded
  - Means to organize data and reduce material into organizes categories
  - Main categories may be broken into subcategories and sub-sub categories.
  - Interpreting categorical material still needs to be made – interpretations develop during the coding process
- **Co-occurring codes**
  - Codes that partially or completely overlap
  - The same lines of text may have more than one code attached to them

Coding, continued

- **Relational/Axial codes**
  - Look for patterns and connection both within and between categories
    - How themes relate
    - Direction of relationship
    - What factors contribute to the issue
    - Develop a table or matrix to illustrate relationships across categories
- **Inter-coder reliability**
  - Consistency among different coders

Axial Coding

Context
1. Social influence
2. Secondary resources

Causal conditions
Attitudes towards technology

Action
Use of technology
Non-use of technology

Consequences
1. Utilitarian outcomes
2. Hedonistic outcomes
3. Social outcomes

Intervening conditions: facilitators
1. Positive self-evaluative attitudes
2. Training
3. Assistance
4. Encouragement
5. Adaptive design

Intervening conditions: barriers
1. Situational barriers
2. Dispositional barriers
3. Technological barriers

Analyzing Data

▶ **Thematic Analysis** – Inductive method of identifying and analyzing themes/patterns.

▶ **Content Analysis** – Quantify and analyze the presence, meaning and relationships of certain words, themes, or concepts.

▶ **Discourse Analysis** (Conversational analysis)- Analyze patterns of speech, language use

▶ **Ethnography** (Participant observation) – Analyze social setting, customs and culture

Visualizing Codes, Categories and Themes

▶ Word Cloud – displaying word frequencies

▶ Concept Map – displaying relationship between categories and themes

Resources

Technology – Coding software packages

- Nvivo, Atlas.Ti

Books

- "Qualitative Inquiry and Research Design: Choosing Among Five Approaches" by John W. Creswell

- "Qualitative Data Analysis: A Methods Source Book" by Matthew B. Miles, A. Michael Huberman, and Johnny Saldana

- "Qualitative Research Methods" by Monique Hennink, Inge Hutter, and Ajay Bailey

Thank you!