



STATISTICS AND METHODS

**SAM LAB**

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# Qualitative Research

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**“Not everything that can  
be counted counts, and  
not everything that  
counts can be counted.”**

**-William Bruce Cameron**

A reminder that quantitative approaches are not the only (or sometimes best) ways to measure data

# What is Qualitative Research?

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- A systematic strategy of collecting, analyzing, and interpreting textual data in order to understand opinions
- Focuses on qualities or meanings of experiences
- Answers “why” and “how” events occur
- Focuses on lived experiences
- Reflects participants’ stories in their own words

- What is qualitative research? It is a systematic strategy of collecting, analyzing, and interpreting textual data in order to understand opinions. We use this method of research on non-numerical data like text but it can also include audio recordings and videos (that are later transcribed) or photographs. Many critics tend to view qualitative research as a random approach to data, but there is definitely a systematic strategy behind it that ensures we obtain the most accurate results.
- Can be used to gather information on a problem or explore new ideas for research
- Focuses on qualities in order to capture the essence of the human/lived experience
- Quantitative research answers numeric related questions such as “how much?,” “how many,” “how often?,” or “to what extent?” but cannot answer **why people behave certain ways, how opinions or attitudes are formed, or in what way an event unfolds**
- Focuses on personal experiences in the context of a phenomenon
- Helps us collect data that reflects a participant’s own point of view instead of a researcher’s interpretation of it
- Stories are told narratively and allow for chronological telling of stories. We can capture which events led to certain consequences

## Qualitative

## Quantitative

Expressed in words

Expressed in numbers

Smaller sample size

Larger sample size

Summarizing, categorizing, interpreting

Statistical analyses

Explores ideas and forms theories and hypotheses

Tests theories and hypotheses

Open-ended questions

Closed questions

Understand, describe, discover

Predict, control, confirm

How does qualitative research compare to quantitative?

- The data we collect through these methods are expressed differently. As previously mentioned, qualitative methods capture responses primarily through text whereas quantitative data is collected numerically
- Qualitative research generally uses much smaller sample sizes than quantitative. The goal of qualitative data is to (1) gather enough participants to explain and describe the phenomenon being studied and (2) attain saturation. Saturation occurs when the addition of new participants no longer provides new information.
- Data analysis. Qualitative methods analyze data by systematically identifying themes in participants responses. We do this by summarizing, categorizing, and interpreting data while quant research approaches this by running statistical analyses
- Focus of qual is more exploratory as opposed to quant which intends to test existing theories and previously formulated hypotheses. In qual research, a hypothesis is more of a statement regarding the problem that is being investigated. Quantitative research shows hypotheses being developed solely for testing, whereas qual research will lead to hypothesis-generating.
- Qual allows room for flexibility and responses that may not have been captured if researchers used surveys
- The goals of the investigation also differ such as qualitative which seeks to understand, describe, and discover, whereas quantitative goals include predicting, controlling, and confirming.

- That being said, these two research styles can coexist in a mixed-methods fashion. A mixed-methods approach will incorporate aspects of both qualitative research (such as asking open-ended questions) and quantitative research (using surveys to test hypotheses) in order to gain a fuller understanding of a phenomenon.

# Same Issue, Different Approaches

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**Research question: How satisfied are couples with their relationship?**

## Quantitative approach:

- You gather 500 participants and survey them
- Example question you may ask: *“On a scale of 1-5, how satisfied are you with your relationship?”*
- You conduct statistical analyses on the data and find that on average, couples rate their relationships a 4.2

## Qualitative approach:

- You gather 15 participants and conduct interviews
- Example question you may ask: *“What is the most positive aspect of your relationship with your partner?”*
- You transcribe the interviews and analyze the data for common themes and patterns

-In the qualitative interviews, you might find comfort or communication themes emerge from the data

By conducting interviews, not only are you collecting information of their level of satisfaction, but also what specifically contributes to their ratings and responses

# Methods

## Qualitative research designs

- **Grounded theory**
  - Developing theories based on data
- **Ethnography**
  - Observations of participants in their groups/culture
- **Phenomenological**
  - Investigates phenomena
- **Narrative**
  - Story of individual experience
- **Case study**
  - Examines a single event, organization, or activity

General and most common approaches to qualitative research:

- Grounded theory entails inductively developing new theories that are grounded solely in the data (ie. experiences or thoughts) of participants rather than previous literature. So you will be forming theories based on the data you are collecting, the interviews you are conducting. This is best suited for a researcher when there are no previous existing or limited theories on the process they're interested in.
- Ethnography studies people over a period of time in their natural settings (ie. observing healthcare personnel in a hospital during COVID)
- Phenomenological is used when researchers want to look into a phenomenon and do so by capturing lived experiences of multiple participants that have gone through it (ie. Gathering the perspective of nurses that care for at-risk adolescent females)
- Narrative studies will typically look at the individual experiences of one or two participants. Often occurs over a long period of time and although might not be presented chronologically, it will use themes to construct a cohesive story (ie. The journey of an immigrant before and after crossing the border and trying to understand what they went through)
- In contrast to the narrative approach, case studies will observe more than one entity but it will focus on one single case (can be an event, organization, activity, or individual) and attempt to explain or understand that single entity

# Data Collection

Gathering data

- Interviews
  - Unstructured
  - Structured
  - Semi-structured
- Focus groups
  - 5-10 people
  - Skilled moderator
- Observations
- Document review

- One-on-one conversation between researcher and participant. Need a quiet, private place and enough time to avoid feeling rushed and to allow time for researcher to establish confidence and comfort with the participant (especially if studying sensitive topics)
- Can follow an unstructured, structured, or semi-structured guide of open-ended questions. These questions will encompass themes you want to explore
  - Unstructured interviews can start with one open-ended question and then acts most like a natural conversation. Researcher goes into the interview with little to no preparation and must ask questions in a way that will get the most detailed response from the participant. This type of interview can be time-consuming and is best suited when the researcher has no clear motive for what they are looking to gain from the interview (minimal knowledge about the topic exists)
  - Structured interviews are opposite in the way that there are specific questions that need to be asked. Researchers must stick to the questions as if its a script and cannot probe further on their responses. This is best used when the previous literature on a topic is expansive or if being used in conjunction with an observational study.
  - Semi-structured interviews are a combination of both unstructured and structured and consist of specific open-ended questions that were prepared beforehand. Although there are specific questions the researcher asks the participant, they are also able to ask follow-up



- questions and gather more detail regarding responses as they see fit.
- It is also important to still obtain demographic information as this will provide context to the participants' responses, and as we know, context is vital to qualitative research. You can also provide descriptions of the participants that declined to be interviewed because there could be a difference in qualities between those that chose to participate and those that declined.
  - Focus groups are similar to interviews except the researcher interviews a small collection of participants at the same time instead of individually. A group will consist of 5-10 people with 6-8 being ideal (any less or anymore may stall/disrupt conversation). The moderator of the group will have prepared questions and will encourage discussion among the group members in order to capture an honest reflection of what is being studied.
  - It is very important to RECORD your interviews. You will later transcribe the audio recordings and analyze the content.
  - Observational studies occur when the researcher places themselves in a setting they are looking to understand and takes notes on what they see, hear, and encounter. Participants may or may not know they are being observed depending on the context and/or aim of the study
  - Document review is when a researcher gathers pre-existing data (either through books, films, music, interviews, podcasts, social media, etc.) and analyzes the chosen data. This is used when you want to identify themes in existing data or for example, if conducting a study on public attitudes towards a phenomenon and you're trying to obtain unfiltered responses online.

# Data Analysis

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## ● Thematic analysis

- Identifies themes (unifying concepts or statements) such as:
  - Patterns of behaviors, group interactions, and individual perceptions
- Steps include: reading the texts, code, create themes, review themes, define and name themes, write

## ● Content analysis

- Coding for certain words or ideas
- Quantitative approach to qualitative studies

- When collecting data, you can slowly begin to analyze it by making notes and highlighting things that stuck out to you during the interview.
- Once you have gathered all of your data, you first need to transcribe your interviews
- After transcription, you will want to transfer the data onto either a qualitative coding software or excel. This will help you keep all of your information organized. Some researchers like to use excel to code smaller amounts of data and others like to use specific programs to code any and all data. Programs like NVivo will help you keep all of your information in order and allow you to easily edit and make adjustments as you go along
- In order to analyze qual data, you first have to identify patterns and themes that emerge from the participants' stories
- Thematic analysis identifies categories that emerge from the data. Themes can be created before data collection or can arise naturally during analysis. (6 steps to thematic analysis):
  - First you need to familiarize yourself with the text and read the interviews prior to analyzing.
  - Next you begin to code by marking certain phrases or passages and labeling them. You want to go through every line of the interview and ensure you are marking any and everything that may seem important or stands out. Some pieces of text may be coded differently multiple times and that's okay.
  - Once you have your distinct codes, you'll form broader themes that

they may apply to. Some codes may no longer be relevant and you can remove these

- Go back and review the themes you've created and ensure they encompass everything you're looking for. You can create subcategories, combine, and split themes as you see fit
- Next you will rename them to be an accurate portrayal of the information you've gathered
- Once you've gone through the entire analyzing process, you can begin to write what you found.
- It's important to code for exactly what the text shows and not make assumptions about what the participants may have meant. For example, if a participant mentions a time where their mother picked them up late for school, you could code this as a childhood memory but not a negative childhood memory unless the participant explicitly mentions it was a negative experience for them.
- Content analysis is a research tool used to determine the presence of certain words, themes, or concepts within some given qualitative data (i.e. text). You go into certain data with a preconceived idea of what you're attempting to find. I.e. you want to analyze how many times candidates mention a specific policy in their public appearances. Content analysis is considered the quantitative approach to qualitative studies because you use frequencies and percentages to quantify the meanings and relationships of certain words and themes.
- Analyzing qualitative data can take several months and is much more time-consuming than conducting statistical analyses.

### Interview extract

Personally, I'm not sure. I think the climate is changing, sure, but I don't know why or how. People say you should trust the experts, but who's to say they don't have their own reasons for pushing this narrative? I'm not saying they're wrong, I'm just saying there's reasons not to 100% trust them. The facts keep changing - it used to be called global warming.

### Codes

- Uncertainty
- Acknowledgement of climate change
- Distrust of experts
- Changing terminology

### Example of coding

Coding certain passages with labels that may apply or you know appear multiple times consistently throughout the data

<b>Codes</b>	<b>Theme</b>
<ul style="list-style-type: none"><li>• Uncertainty</li><li>• Leave it to the experts</li><li>• Alternative explanations</li></ul>	Uncertainty
<ul style="list-style-type: none"><li>• Changing terminology</li><li>• Distrust of scientists</li><li>• Resentment toward experts</li><li>• Fear of government control</li></ul>	Distrust of experts
<ul style="list-style-type: none"><li>• Incorrect facts</li><li>• Misunderstanding of science</li><li>• Biased media sources</li></ul>	Misinformation

Transferring codes into themes for thematic analysis

# Validity in Qualitative Research

Creswell & Miller (2000)

- Prolonged engagement
- Rich description
- Triangulation
- Member checking
- Discrepant information
- Clarify researcher bias
- Peer debriefing
- External auditor

Validity in qualitative research revolves around the accuracy of interpreted findings and credibility to the interviewees

- Prolonged engagement refers to the amount of time a qualitative researcher has been at a given site. The longer they are in the field for, the more experience they have managing their data and forming relationships with studied groups. This ensures that researchers did not draw conclusions from an isolated event Ex. ethnographers observing a site for over four months
- Use thick, rich, detailed descriptions of the participants, the setting, and the accounts. This allows the readers to fully capture the findings and draw the same conclusions researchers made in the study
- Triangulation is when multiple sources share similar accounts and contribute to a phenomenon. Triangulation is very useful and important because it demonstrates that many people are having shared experiences
- Sharing the findings of the study with the original participants is vital to validity because it allows them to confirm or deny conclusions that the researchers have made.
- Addressing previous literature that is contrary to the study findings can contribute to the validity by disconfirming it with the real accounts of participants
- Researchers should be upfront with their biases, beliefs, and assumptions so readers can gauge the researcher's positions on the topic
- Finding an outside source familiar with the topic to provide feedback on the themes and findings

- Allowing someone outside of the field to review the study can help ensure logic and coherence of the report

## Should I use Qualitative Research for my study?

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- What is the nature of your topic of interest?
- What do you want to learn?
- What are your goals?

- Related to the human experience? Personal experience? Cultural experience? Is it something that cannot be counted or expressed numerically?
- What do you want to know about the phenomenon? Will your information best be gathered through interviewing, observing, or analyzing content?
- Do you want to interpret and gain meaning from a topic rather than just compare and measure?



**Thank you!**

## Questions?

- Email us at [samlabasu@gmail.com](mailto:samlabasu@gmail.com)
- Visit our website at [samlabasu.com](http://samlabasu.com)