

Qualitative vs. Quantitative Research Methods

Prepared by : Rezk Al-Mezgagi

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Qualitative Research

Explores the "why" and "how" of phenomena through **descriptive data (words, images, videos)**

It uses descriptive data like interviews, focus groups, observations, & document analysis to understand people's experiences, perceptions, and behaviors.



Quantitative Research

Focuses on measuring and analyzing **numerical data** to test hypotheses
It takes a more numerical approach. It measures and analyzes data to test hypotheses and identify relationships between variables.



Qualitative Data Collection Techniques

Interview

In-depth conversations to gain insights into individuals' experiences & perspectives



Focus group

Group discussions to explore shared experiences and generate ideas



Observation

Recording and analyzing behaviors in natural settings such as a clinic or community gathering.



Quantitative Data Collection Techniques

Surveys

Questionnaires administered to large samples to gather data on attitudes and behaviors.



Experiments

Controlled studies to test cause-and-effect relationships



Secondary Data Analysis

Utilizing existing data sets to answer research



Qualitative Data Analysis Methods

Thematic Analysis

Identifying, analyzing, and interpreting recurring themes in the data

Narrative Analysis

Examining stories and experiences to understand meaning-making

Grounded Theory

Developing theories based on the data collected during the research process

Quantitative Data Analysis Methods

Statistical Analysis

Using statistical tests to identify patterns, relationships, and differences in data

Regression Analysis

Examining the relationship between a dependent variable and one or more independent variables

Data Visualization

Creating charts, graphs, and maps to represent data visually

Why" and "How": Applications of Qualitative Research in Public Health

- **Understanding health behaviors:** Why do people smoke? Why is it difficult for some to maintain a healthy diet? Qualitative research helps us explore the underlying reasons behind health behaviors.
- **Evaluating health programs:** Qualitative methods can uncover user experiences and perspectives on a new health program, identifying areas for improvement.
- **Identifying cultural influences:** Exploring cultural beliefs and practices that impact health behaviors is crucial for designing culturally sensitive interventions.
- **Understanding health disparities:** Qualitative research allows researchers to delve into the social and economic factors that contribute to health disparities in different communities.

Applications of Quantitative research in Public health

- **Measuring disease burden:** Quantitative research helps us measure the prevalence and incidence of diseases, allowing for resource allocation and tracking progress towards public health goals.
- **Evaluating interventions:** We can use quantitative methods to assess the effectiveness of public health interventions by measuring changes in health outcomes before and after the intervention.
- **Identifying risk factors:** Quantitative research can help identify risk factors for diseases by analyzing data from large populations.
- **Monitoring trends:** By collecting data over time, quantitative research allows us to monitor trends in health behaviors and outcomes, informing public health policies and interventions.

Examples

- **Quantitative research approach**

You survey 300 students at your university and ask them questions such as: “on a scale from 1-5, how satisfied are you with your professors?”

- **Qualitative research approach**

You conduct in-depth interviews with 15 students and ask them open-ended questions such as: “How satisfied are you with your studies?”, “What is the most positive aspect of your study program?” and “What can be done to improve the study program?”

Examples

- **Mixed methods approach**

You conduct interviews to find out how satisfied students are with their studies. Through open-ended questions you learn things you never thought about before and gain new insights. Later, you use a survey to test these insights on a larger scale.

- It's also possible to start with a survey to find out the overall trends, followed by interviews to better understand the reasons behind the trends.

True or False

Qualitative data is more difficult to analyze than quantitative data !!



Summary

	Qualitative research	Quantitative research
Focus	Exploring ideas or formulating hypotheses/theories	Testing hypotheses or theories
Analysis	Summarizing, categorizing, interpreting	Math and statistical analysis
Expressed in	Words	Numbers, graphs, tables, fewer words
Sample	Few respondents	Many respondents
Questions	Open-ended	Close-ended or multiple choice
Characterized by	Understanding, context, complexity, subjectivity	Testing, measurement, objectivity, replicability

References

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- Creswell, J. W. (2013). Qualitative Inquiry and Research Design: Choosing Among Five Approaches
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Thank You