

3- Quantitative research: is expressed in numbers and graphs. It is used to test or confirm theories and assumptions. This type of research can be used to establish generalizable facts about a topic.

Common quantitative methods include experiments, observations recorded as numbers, and surveys with closed-ended questions.

Quantitative research is at risk for research biases including information bias, omitted variable bias, sampling bias or selection bias.

3.1 Quantitative data collection methods:

Survey: Survey methodology is "the study of survey methods". As a field of applied statistics concentrating on human-research surveys, survey methodology studies the sampling of individual units from a population and associated techniques of survey data collection, such as questionnaire construction and methods for improving the number and accuracy of responses to surveys. Survey methodology targets instruments or procedures that ask one or more questions that may or may not be answered.

3.2 Qualitative research: is expressed in words. It is used to understand concepts, thoughts or experiences. This type of research enables you to gather in-depth insights on topics that are not well understood.

Common qualitative methods include interviews with open-ended questions, observations described in words, and literature reviews that explore concepts and theories.

Qualitative research is also at risk for certain research biases including the Hawthorne effect, observer bias, recall bias, and social desirability bias.

3.2 Qualitative data collection methods:

- Focus groups: Many definitions on focus groups have been provided, emphasizing different aspects of the technique. Morgan (1996) defined focus groups as a research technique that collects data through group interaction on a topic determined by the researcher (p. 129), stressing the relevance of group interaction and focused discussion. Krueger (1994) defined focus groups as discussions planned in order to gather data on a specific topic from participants in a friendly non threatening environment, strengthening the atmosphere of the discussion as a catalyst for data collection; Abramczyk (1995) defined focus groups as a phenomenological technique that collects qualitative data in a group situation, emphasizing the epistemological approach to data collection and analysis. A more general definition could be the following: a qualitative research technique, based on the idea that the group interaction facilitates the production of...
- **Observation:** Observation method is described as a method to observe and describe the behavior of a subject and it involves the basic technique of simply watching the phenomena until some hunch or insight is gained. We are almost constantly engaged in observation.
- **Interview:** The interview method is a data collection technique where a researcher engages in direct conversation with individuals to gather information about their thoughts, experiences and behaviors. It involves asking structured or open-ended questions to elicit responses that can provide insights into various psychological phenomena. Interviews can be used in clinical assessments, research studies, and therapeutic settings, allowing for in-depth exploration of topics and the subjective experiences of individuals. This method helps researchers understand subjective perspectives,

obtain qualitative data, and gain a deeper understanding of human behavior and psychological processes.

- **Record keeping:**

Study case: a case study is a detailed study of a specific subject, such as a person, group, place, event, organization, or phenomenon. Case studies are commonly used in social, educational, clinical, and business research.

A case study research design usually involves qualitative methods, but quantitative methods are sometimes also used. Case studies are good for describing, comparing, evaluating and understanding different aspects of a research problem.