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NTD 311

300 LEVEL

DIFFERENCES BETWEEN QUANTITATIVE AND QUALITATIVE RESEARCH

While **quantitative research** is based on numbers and mathematical calculations (aka **quantitative data**), **qualitative research** is based on written or spoken narratives (or **qualitative data**). Qualitative and quantitative research techniques are used in public health and various other disciplines.

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|  | **Qualitative** | **Quantitative** |
| **Purpose** | The purpose is to explain and gain insight and understanding of phenomena through intensive collection of narrative data Generate hypothesis to be test , inductive. | The purpose is to explain, predict, and/or control phenomena through focused collection of numerical data. Test hypotheses, deductive. |
| **Approach to Inquiry** | subjective, holistic, process- oriented | Objective, focused, outcome- oriented |
| **Hypotheses** | Tentative, evolving, based on particular study | Specific, testable, stated prior to particular study |
| **Research Setting** | Controlled setting not as important | Controlled to the degree possible |
| **Sampling** | Purposive: Intent to select “small, ” not necessarily representative, sample in order to get in-depth understanding | Random: Intent to select “large, ” representative sample in order to generalize results to a population |
| **Measurement** | Non-standardized, narrative (written word), ongoing | Standardized, numerical (measurements, numbers), at the end |
| **Design and Method** | Flexible, specified only in general terms in advance of study Nonintervention, minimal disturbance All Descriptive— History, Biography, Ethnography, Phenomenology, Grounded Theory, Case Study, (hybrids of these) Consider many variable, small group | Structured, inflexible, specified in detail in advance of study Intervention, manipulation, and control Descriptive Correlation Causal-Comparative Experimental Consider few variables, large group |
| **Data Collection Strategies** | Document and artifact (something observed) that is collection (participant, non-participant). Interviews/Focus Groups (un-/structured, in-/formal). Administration of questionnaires (open ended). Taking of extensive, detailed field notes. | Observations (non-participant). Interviews and Focus Groups (semi-structured, formal). Administration of tests and questionnaires (close ended). |
| **Data Analysis** | Raw data are in words. Essentially ongoing, involves using the observations/comments to come to a conclusion. | Raw data are numbers Performed at end of study, involves statistics (using numbers to come to conclusions). |
| **Data Interpretation** | Conclusions are tentative (conclusions can change), reviewed on an ongoing basis, conclusions are generalizations. The validity of the inferences/generalizations are the reader’s responsibility. | Conclusions and generalizations formulated at end of study, stated with predetermined degree of certainty. Inferences/generalizations are the researcher’s responsibility. Never 100% certain of our findings. |