

Chapter 2: Research Methods in Psychology

Characteristics of Good Psychological Research

- **Theoretical Framework**
 - Theory- systematic way of organizing and explaining observations
 - Hypothesis- a tentative belief or educated guess that purports to predict or explain the relationship between two or more variables
 - Variable- any phenomenon that can vary from one situation or person to another
 - Continuous variable- a variable that can be placed on a continuum from none or little to much (ex: degree of intelligence, shyness)
 - Categorical variable- variable comprised of groupings, classifications, or categories (ex: gender, species; either/or)
- **Standardized procedures**
 - Procedures applied uniformly to participants that minimize unintended variation
 - Procedure is same for all participants except where variation is introduced to test a hypothesis
- **Generality from a Sample**
 - Population- group of people or animals of interest to a researcher from which a sample is drawn (ex: all humans, preschoolers, etc.)
 - Representative- a sample that reflects characteristics of the population as a whole
 - Sample- a subgroup of a population likely to be representative of the population as a whole
 - Participants (subjects)- the individuals who participate in a study
 - Generalizability- the applicability of a study's findings to the entire population of interest
 - In order for a study to be generalizable, it must have:
 - Internal validity- the extent to which a study is methodically correct; design of study itself must be correct
 - External validity- the extent to which the findings of a study can be generalized to situations outside the laboratory
 - Experimenter's dilemma- the trade-off between internal and external validity; experimenter must choose to place more emphasis on internal or external validity
- **Objective Measurement**
 - Measure- a concrete way of assessing a variable; brings an abstract concept down to earth
 - Reliability- a measure's ability to produce consistent results
 - Test-retest reliability- tendency of a test to yield similar results for same individual over time
 - Internal consistency (interitem reliability)- assures whether the items in a test measure the same construct

- Interrater reliability- measure of the similarity with which different raters apply a measure
- Validity- the extent to which a test measures the construct it attempts to assess or a study adequately addresses the hypothesis it attempts to assess
 - Face validity- the degree to which a measure appears to measure what it purports to measure; scientists do not want high face validity
 - Construct validity- the degree to which a measure actually assesses what it claims to measure
 - Convergent validity- measures high in construct validity should correlate with related measures
 - Discriminant validity- measure does not correlate with unrelated measures
 - Criterion validity- the degree to which a measure allows a researcher to distinguish among groups on the basis of certain behaviors or responses
- Multiple measures
 - One of the best ways to obtain an accurate assessment of a variable
 - Error- the part of a participant's score on a test that is unrelated to the true score

Descriptive Research

- Research methods that cannot demonstrate cause and effect, including case studies, naturalistic observation, survey research, and correlational methods
- Attempts to describe phenomena as they exist rather than manipulate variables
- Describes behaviors but does not explain why they take place
- Case studies
 - In-depth observations of one person or a small group of individuals
 - Useful when trying to learn about complex psychological phenomena that are not yet well understood and that are difficult to produce experimentally
 - Interpretive (hermeneutic) approach- aim to examine the complex meanings that may underlie human behavior
 - Limitations:
 - Sample size- usually very small; causes generalization to be uncertain; can be minimized by following up cases with more systematic studies using other designs
 - Susceptibility to researcher bias; tend to see what they want to see
- Naturalistic Observation
 - In-depth observation of a phenomenon in its natural setting
 - Awareness of being watched may alter people's natural behavior in real world settings; solved by being inconspicuous or by interacting with participants (participant observer)
 - Limitations:
 - Observers can be biased; solved by observing several groups of participants or videotaping interactions and having someone else judge them
- Survey Research

- Research asking a large sample of participants questions, often about attitudes or behaviors, using questionnaires or interviews
- Interviews- research tool in which the investigator asks the participant questions
- Questionnaires- research tools in which the investigator asks participants to respond to a written list of questions or items
- Random sample- a sample of participants selected from the population in a relatively arbitrary manner
 - Does not always guarantee that it will reflect the demographic characteristics (qualities such as gender or race) of population
- Stratified random sample- sample selected to represent subpopulations proportionately, randomizing only within groups (age, race, etc.)
- Surveys rely on participants to report truthfully, and minor wording changes can dramatically alter responses