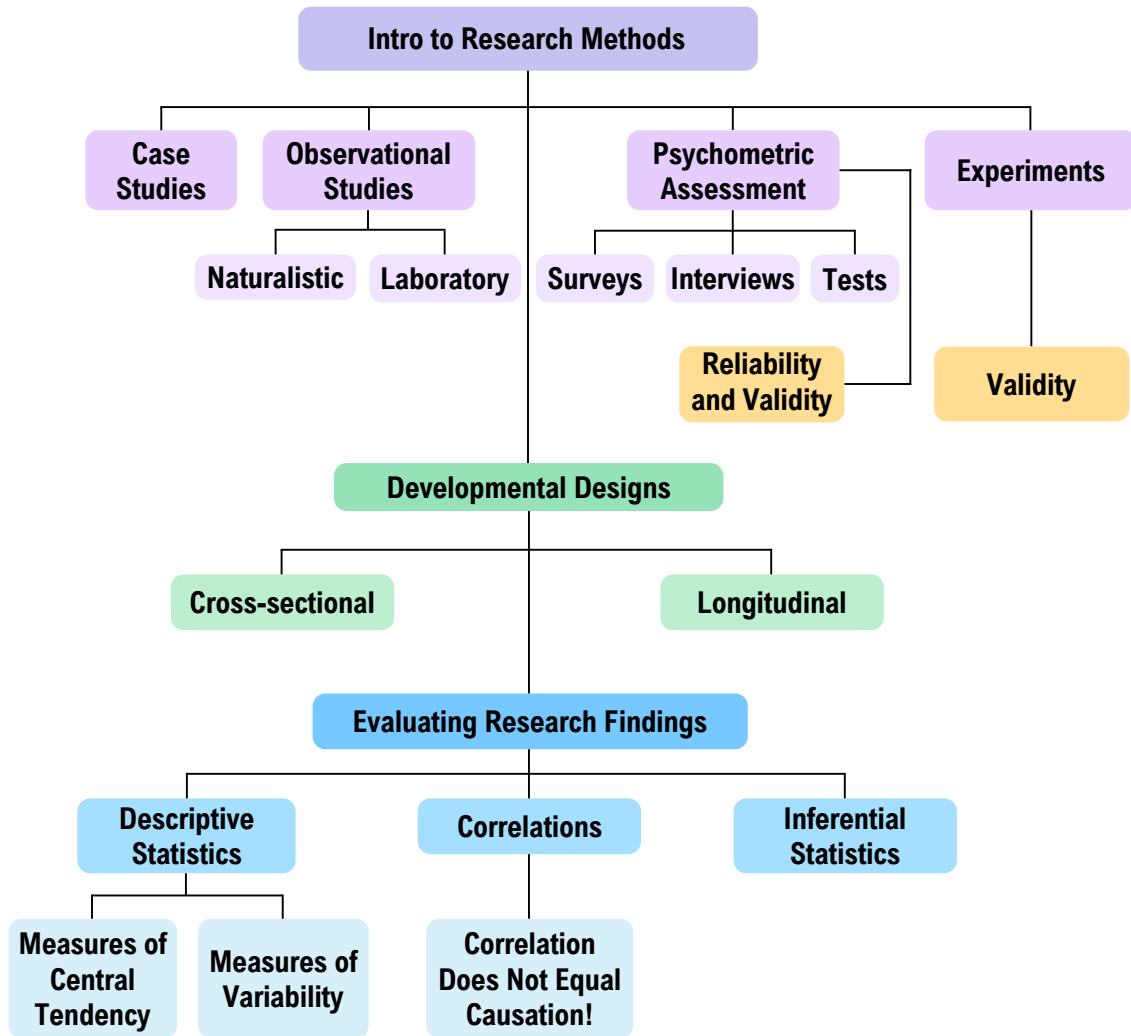


TOPIC: INTRO TO RESEARCH METHODS

Roadmap



TOPIC: INTRO TO RESEARCH METHODS

Case Studies

- ◆ **Case Study:** An _____ examination of one person's (or a small group's) experience, abilities, and behavior.
 - Typically done on a _____ person, or a person in a unique situation.



Example: Case Study – Henry Molaison (H.M.)

- Suffered from debilitating epilepsy - had a bilateral medial temporal lobectomy in 1953 (age 27).
- From that point on he was unable to form new memories.
- Taught us that memory is a distinct function (separate from other cognitive skills) and that the medial temporal lobe is essential for memory.

Strengths	Limitations
<ol style="list-style-type: none">1. High level of _____.2. Can be used to research topics that practical or _____ considerations would normally prevent us from studying.	<ol style="list-style-type: none">1. Information can be _____ or hard to interpret.2. Shouldn't be used to make assumptions or generalizations about behavior.3. Lack of replicability.

EXAMPLE

What is one of the main advantages of using a case study in psychological research?

- a) It provides a high level of control over the variables.
- b) It can provide an in-depth understanding of rare or unique phenomena.
- c) It allows researchers to collect data from a large sample of participants.
- d) It typically provides data that can be generalized to a broader population.

PRACTICE

Which of the following statements **best** describes a case study?

- a) A psychological research method that involves manipulating one variable to discover its effect on another.
- b) A statistical technique that examines the direction and strength of a relationship between two variables.
- c) A research method that involves utilizing archived data.
- d) A research method that involves an in-depth examination of a single individual or small group of people.

TOPIC: INTRO TO RESEARCH METHODS

Observational Studies

- ◆ **Observational Research:** A method in which a researcher systematically _____ and records behavior.
 - This is done _____ (or with minimal) interference from the researcher.
 - There are _____ main types of observational research:

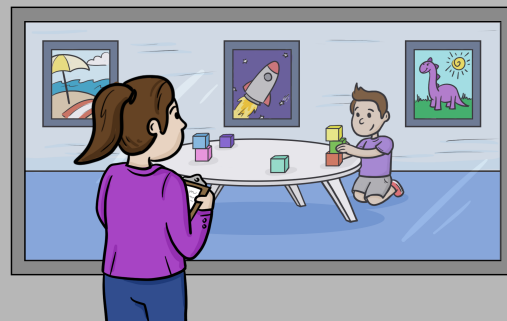
Naturalistic Observation

Observational method in which psychologists observe the behavior of subjects in their _____ environments.



Laboratory Observation

Observational method in which psychologists observe the behavior of subjects in a _____ environment.



Strengths

1. Typically provides rich, detailed data – very useful for describing behavior.
2. A good way to study more “_____” behavior.

Limitations

1. **Naturalistic:** Minimal control over the environment or subject pool.
2. **Laboratory:** Subjects may _____ their behavior when being watched.

EXAMPLE

Which of the following is a key characteristic of naturalistic observation?

- a) It involves participants filling out various surveys and questionnaires.
- b) It involves observing the behavior of participants in their natural environment.
- c) It involves observing the behavior of participants in a controlled environment.
- d) It allows for precise manipulation of the independent variable.

PRACTICE

Dr. Anderson studies how married couples deal with conflicts. She plans to bring couples into her lab and leave them alone while they discuss 3 topics that they commonly disagree about. Dr. Anderson will be filming these discussions and then coding the behaviors of each couple. What research method is being described here?

- a) Naturalistic observation.
- b) Case study.
- c) Laboratory observation.
- d) Experiment.

TOPIC: INTRO TO RESEARCH METHODS

Psychometric Assessments

◆ Measurement tools used to _____ psychological constructs.

Surveys/Questionnaires

Technique used to gather _____-report data on behaviors, experiences, attitudes, or opinions.



Interviews

Conversations designed to gather in-depth information- can be _____ or unstructured.



Psychological Tests

Standardized _____ used to measure specific constructs (ex: cognitive skills, personality traits, psychopathology).



Strengths	Limitations
<ol style="list-style-type: none">Surveys: Usually efficient and cheap. Good for _____ information.Interviews: _____ of information. Can gather more information than a survey alone.Tests: Standardization and administrator training provides _____ results.	<ol style="list-style-type: none">_____ desirability.Dependent on reading level and comprehension._____ of questions can impact responses.

◆ All of these assessments should be _____ for reliability and validity.

EXAMPLE

Which of the following is an advantage of using surveys in psychological research?

- They allow researchers to examine phenomena in a highly controlled environment.
- They are not subject to social desirability.
- They can provide in-depth, detailed information on unique or rare phenomena.
- They allow researchers to collect data from a large number of participants relatively quickly.

TOPIC: INTRO TO RESEARCH METHODS

PRACTICE

Which of the following is true about psychological tests?

- a) They are standardized, meaning they are administered and scored using specific procedures.
- b) They only measure cognitive skills (e.g., IQ, memory, executive function).
- c) They tend to be highly subjective.
- d) They allow the researcher to improvise and be flexible with each participant.

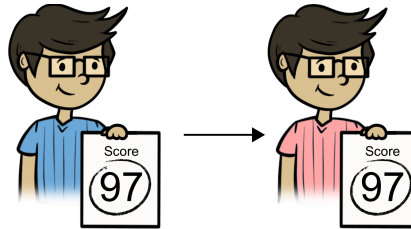
TOPIC: INTRO TO RESEARCH METHODS

Reliability and Validity: Psychometric Assessments

◆ **Reliability:** The degree to which an assessment provides consistent scores across _____ and place.

▸ **Ex:** _____-**Retest Reliability:** Measure of the consistency of a test over time.

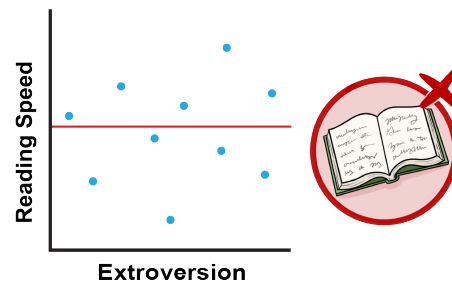
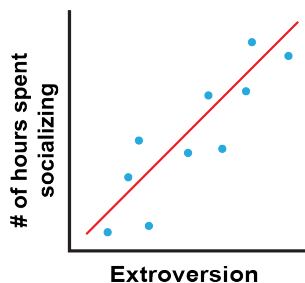
JANUARY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



JANUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

◆ **Validity:** The overall appropriateness or _____ of a conclusion.

▸ **Ex: Construct Validity:** Degree to which an assessment accurately _____ what intends to measure.



EXAMPLE

A psychologist administers a personality test to a group of participants and then administers the same test to the same group exactly 2 weeks later. She finds that there is a strong correlation between the two tests. This is an assessment of the test's _____.

- Validity.
- Reliability.
- Response bias.
- Social desirability score.

TOPIC: INTRO TO RESEARCH METHODS

PRACTICE

What is construct validity?

- a) The degree to which the test produces consistent results over time.
- b) The degree to which the test is intuitive for researchers to use and score.
- c) The degree to which the test accurately measures the construct it is intending to measure.
- d) The ability of the test to precisely predict behavior.

PRACTICE

In which of the following situations might test-retest reliability be **particularly** important?

- a) A workplace is giving out a survey to examine employee happiness in the summer of 2024.
- b) A research team is developing a new test to measure a stable personality trait.
- c) A research team is developing a new test to measure current mood in patients with mood disorders.
- d) A research team is developing an assessment to measure acute stress response during major life events.

TOPIC: INTRO TO RESEARCH METHODS

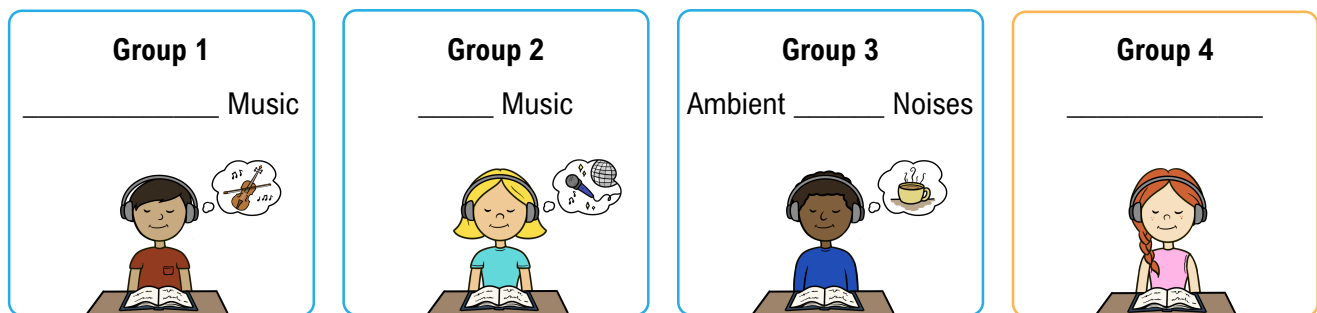
Experiments: Part 1

- ◆ **Experiment:** A _____ test in which one variable is manipulated to discover its effect on another.
- ◆ **Random assignment:** Placing participants into conditions at _____ to increase equivalency between groups.
 - **Experimental Group(s):** Group or condition in which the independent variable is manipulated or _____.
 - **Control Group:** Group or condition in which the independent variable is _____.

Example

Hypothesis: Listening to classical music while studying will increase test performance.

Method: Students will study a new topic in the lab for 1 hour and then take a test.



EXAMPLE

Dr. Sullivan is studying the effects of a new drug on anxiety symptoms. She plans on having one experimental group, who will receive the new drug, and one control group, who will receive a placebo (a sugar pill). She decides to put her high-anxiety participants into the experimental group and all of her low-anxiety participants into the control group.

What is the **main** problem with this experimental design?

- It lacks manipulation of the independent variable.
- It lacks random assignment.
- Placebo conditions are generally considered ineffective.
- It is ambiguous as to which variable is the IV and which is the DV.

TOPIC: INTRO TO RESEARCH METHODS

PRACTICE

Why is random assignment an essential part of good experimental design?

- a) Random assignment ensures that the sample accurately reflects the population.
- b) It ensures that the experimental group will show the intended effects.
- c) It increases equivalency between groups, reducing the odds of confounding variables affecting the results.
- d) Random assignment ensures that the control group will not receive the independent variable.

TOPIC: INTRO TO RESEARCH METHODS

Experiments: Part 2

- ◆ To make an experimental design stronger, it should be _____-blind or at least **single-blind**.
 - **Double-Blind:** _____ the participant and researcher are unaware of what condition the participant is in.
 - **Single-Blind:** Either the participant _____ the researcher is unaware of what condition the participant is in.



Double _____



_____ **Blind**



- This can reduce *experimenter effects* and *demand characteristics*.
- ◆ Experiments can be used to establish a _____-and-_____ relationship because they:
 1. Establish temporal precedence – manipulation of IV comes before measurement of DV.
 2. Isolate the independent variable by eliminating confounding variables.

Strengths	Limitations
1. Level of control. 2. Only psychological method that truly allows us to establish _____.	1. Situation may feel _____ – results don't always generalize to real world behavior. 2. Poor experimental design can compromise data.

EXAMPLE

What is the purpose of making an experiment single-blind or double-blind?

- To increase the chance of the independent variable affecting the dependent variable.
- It reduces potential bias from either the participants and/or the researchers, which could influence the results.
- It allows for greater generalizability of the study's results.
- To increase equivalency between groups.

TOPIC: INTRO TO RESEARCH METHODS

PRACTICE

Out of all the research methods used in psychology, why are experiments particularly useful at making causal claims?

- a) Experiments involve the use of large samples and utilize reliable and valid measures.
- b) Experiments isolate the independent variable and control for confounding variables.
- c) Experiments are designed so that the independent variable always precedes the dependent variable.
- d) Both b and c are correct.

PRACTICE


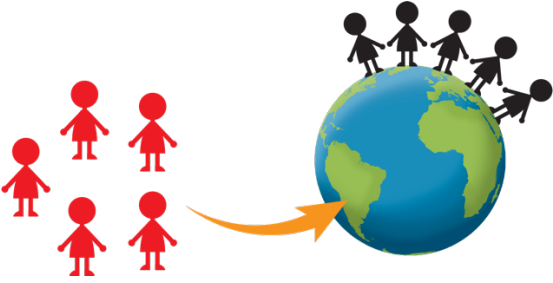
What is a key feature of a double-blind experiment?

- a) The researcher knows which group the participant is in, but the participant does not know.
- b) The participant knows which group they are in, but the researcher does not know.
- c) Neither the researcher nor the participant knows which group the participant is in.
- d) Both the researcher and the participant know which group the participant is in.

TOPIC: INTRO TO RESEARCH METHODS

Validity: Experimental Design

◆ When evaluating the validity of a study's *design*, we think about internal and external validity.

	Internal Validity	External Validity
Definition	An indication of how well the study controls potentially _____ factors.	Extent to which the findings can be generalized to the _____.
		
Strengthened By:	<ol style="list-style-type: none"> 1. _____ assignment. 2. Using reliable psychometric assessments. 3. Making an experiment double-_____. 	<ol style="list-style-type: none"> 1. Random _____. 2. Study conditions that reflect the “real world.”

◆ _____ every study has good internal *and* external validity – and that’s okay!

EXAMPLE

Dr. Lau studies the effects of financial inequality. To experimentally manipulate inequality, she has participants come into her lab and play games where they are randomly assigned to start with either high or low currency in the game. Participants can then see the progress of people who were given more or less currency than themselves. After playing the game, participants rate their mood using well-validated surveys. Even if Dr. Lau has utilized excellent experimental design, what might be a problem for her?

- This sort of game tends to have poor test-retest reliability.
- This experiment may have low external validity because playing a single game in a lab can't accurately reflect the real-world experience of inequality.
- This experiment is likely to have low internal validity because she did not use random assignment.
- The experiment likely has low construct validity.

TOPIC: INTRO TO RESEARCH METHODS

PRACTICE

Which of the following practices might improve the internal validity of an experiment?

- a) Random assignment.
- b) Providing participants with feedback about their performance.
- c) Using a representative sample.
- d) Increasing the sample size.