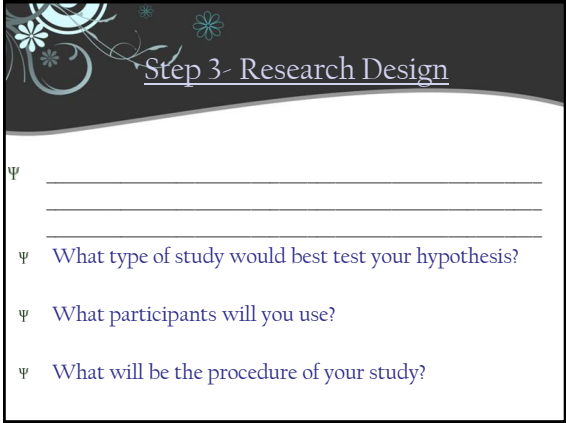




Research Methods

- Experimental Research
- Descriptive Methods
- Correlational Research
- Biological Research



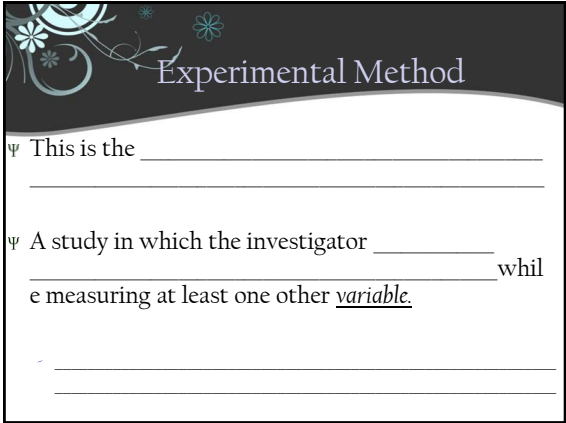
Step 3- Research Design

Ψ _____

Ψ What type of study would best test your hypothesis?

Ψ What participants will you use?

Ψ What will be the procedure of your study?



Experimental Method

Ψ This is the _____

Ψ A study in which the investigator _____ while
measuring at least one other variable.

Ψ _____

Step 3-Designing a Study

Variables are a condition or characteristic that is subject to change either within situations or individuals

There are two types of variables in every study:

Factor that is _____


Dependent variable: _____

Variables

Independent Variable is the variable is directly and purposefully manipulated by the experimenter


So, what will happen if...?

Dependent Variable is the behavior that is




The goal of any experiment is to _____

(depends on) the independent variable.



Identify the Variable
Independent and Dependent?


Ψ Developmental psychologists want to know if exposing children to differing amounts of public television improves their reading skills.




Did you get it?

Ψ In this study, the amount of public television is the _____

Ψ The researchers were looking to observe a change in reading skills, which makes it the _____


 Name the Variables!

Ψ A clinical psychologist is interested in how heart rate is affected by viewing a violent film as opposed to a nonviolent film

 Did you get it?

Ψ *The Independent Variable* in this study is the _____

Ψ _____ is the behavior observed which makes it the *Dependent Variable*

 Try another one

Ψ Cognitive psychologists are interested in what types of diagrams are easiest for people to remember

What are the Variables?

Ψ The _____
Independent Variable

Ψ What behavior were the researchers were observing? _____,
which is the *Dependent Variable*

OK, Last One...

Ψ An industrial/organizational psychologist tests to see if wearing name tags makes employees happier with their work

What are the variables?

Ψ _____
are the *Independent Variable*

Ψ And the observed behavior was _____,
which is the *Dependent Variable*

Who will you study?

Ψ Participants in a study are individuals in an experiment whose behaviors are observed.

- All have something in common which is based on what the researcher is testing

Participants are randomly assigned to one of two groups:

1. The Control Group-

- This group does not receive the independent variable
- It does not receive the treatment

2. The Experimental Group-

- This group "receives" the independent variable

Types of Research

Ψ Descriptive Methods involve

- Naturalistic Observation
- Case Study
- Surveys

This research method is used to observe and record behavior without producing an explanation

Naturalistic Observation

ψ A systematic observation what many



Ask questions...

ψ Surveys are another method of gathering data from a wide selection of people

Unfortunately most surveys rely on self report and

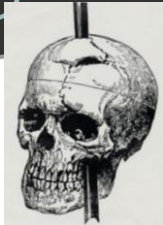



Case Study

ψ A thorough _____

- These are well-suited to observe unusual behaviors or conditions, but their generalizability is limited.

Phineas Gage (1848)... Yes he LIVED!

Most of the front part of the left side of his brain was destroyed. Afterwards he experienced serious personality changes and his friends reported that he was "no longer Phineas."

Correlational Studies

ψ A procedure in which investigators measure the _____

- Without manipulating or controlling either of them

ψ Correlation: A measure of the _____

Correlational coefficient

Ψ Correlation indicates the _____.

It allows for prediction of one variable based on the other variable.

Ψ Example- A researcher may examine whether a toddler's aggressiveness is related to the number of hours spent in day care.

The strength of the relationship is measured by a correlation coefficient which ranges from _____

+1: perfect positive correlation (perfect relationship)
 0: no correlation (no relationship)
 -1: perfect negative correlation (perfect relationship)

Three Types of Correlation

(a) Positive Correlation

(b) Negative Correlation

(c) Zero Correlation

Ψ In a positive correlation, _____

Ψ In a negative correlation, the two factors _____—that is, as one factor increases, the other factor decreases.

Ψ Sometimes there is no relationship between two variables—a _____

Name that Correlation!

- ψ As a child's age increases so does her height
- ψ The more time a person spends on a treadmill the less they weigh
- ψ The amount of time a college student studies and their height in inches

“Correlation is not causation!”

Just because there is a correlation between

What happens after the study is completed and the data is examined?

It is time to draw a conclusion
“Was I right?”

Was my prediction correct?

- ⦿ Researchers draw conclusions about the results of the study. Did the information support or oppose their hypothesis?
- ⦿ Don't forget...this information **MUST** be replicated to be accepted as valid.

What happens to the information yielded in study?

- Ψ If the information produced in a study supports the original hypothesis it is published in the scientific community in *peer-reviewed journals*.
- Ψ This information is what we read about in textbooks and articles.

Ethics in Research

Could the results of a study be **BIASED**?




A good scientific experiment also protects against potential sources of error from both the researcher and the participants

can result in flawed data and invalid results in the study

Participants must be informed

Ψ One rule states human participants must give the researcher their _____ before a study.

Ψ Participants must be advised about the purpose and _____



Ethics in Research

Ψ Participants cannot be coerced into doing something psychologically or physically harmful, or that violates standards of decency

Ψ At the end of the study, participants must go through _____

Why do researchers have these rules?

Ψ History of controversial psychological experiments that would now be considered UNETHICAL.

Ψ Examples:

- Phillip Zimbardo- The Stanford Prison Study
- [Stanley Milgram](#)- The Perils of Obedience

Next Class...

Ψ Biopsychology

- How is the nervous system organized?
- How do "brain chemicals" influence our behavior?
