The Science of Psychology

Chapter 1
Introduction and Research Methods

Class Objectives

Why is Psychology a Science?

What is the scientific method?

NEXT class...
- How do researchers design a study?
- Why should I believe what researchers say?

When Psychologists perform research they begin by asking questions through critical thinking...
Psychology is based on two premises of science:

1. Acquiring information through careful observation
2. Theory development:
   • Systematic observation is setting up our study so that we eliminate or reduce bias.

Psychologists must engage in careful observation when studying behavior and mental processes. What does that mean?

- They must gather information
- They must be able to reduce inferences.

Systematic observation is setting up our study so that we eliminate or reduce bias.

Setting up rules ahead of time to reduce inferences.
“We must keep our minds open but not so open that our brain falls out.”

(Oberg, 1995)

Skepticism combines two opposing attitudes:

- Why can’t scientists base their research off of casual, everyday observations?

(People watching)
Unfortunately, casual observation is subject to _____________________________

We notice behavior that fits our stereotypes

Why is Research Conducted?

The purpose of scientific research is to

- This knowledge is applied in all areas of society to provide solutions.

In science, research strategies are categorized as either basic or applied.

Basic research is designed to advance

Applied research is designed to
How Do Scientists Collect and Evaluate Evidence?

Psychologists follow strict, standardized scientific procedures so that others can

How is research conducted?

The Scientific Method allows psychologists to explore psychological issues
The Scientific Method

1. Formulate a research question by stating a question and performing a

2. Develop a operationally defined and __________________________

3. __________________________ is selected to test the hypothesis

4. A statistical analysis must be performed on the data to determine if the findings support or reject the hypothesis.

5. The research is published in a peer-reviewed scientific journal.

6. After one or more studies on a topic, researchers generally advance a theory to explain their results.
2. Develop a testable hypothesis, or a __________________________
   __________________________
   __________________________
   __________________________

What is your Hypothesis?

- What could help us understand why Jack and Jill fell down the hill?

- There is a correlation or a __________________________
  __________________________
  __________________________
  __________________________

The hypothesis must be testable, but also operationally defined

Meaning the variables are
by defining a numerical value.
Operational definitions allow Psychologist’s to study intangible concepts by making them more

Examples of Operational Definitions

- Aggressive behavior – the number of times a child punches a punching bag over the course of one hour
- Happiness – the number of times a person smiles while watching a Disney movie
- Intelligence – a score on an IQ test
- Anxiety – the number of pencils a student brings to an exam

Next...
Research Methods