

The Science of Psychology

Chapter 1
Introduction and Research Methods

Module Objectives

- ψ Why is Psychology a Science?
- ψ What is the scientific method?
- ψ NEXT class...
 - How do researchers design a study?
 - Why should I believe what researchers say?

The Science of Psychology

When Psychologists perform research they begin by asking questions through critical thinking...

The Science of Psychology

Ψ Psychology is based on two premises of science:

1. Empiricism

- Acquiring information through _____

2. _____

- Collecting interrelated ideas and observations

Psychology as a Science

Ψ Psychologists must engage in *careful observation* when studying behavior and mental processes

Ψ What does that mean?

- They must put aside personal feelings or _____
- They must gather information *systematically*
- They must be able to _____

Ψ *Skepticism* combines two opposing attitudes:

- an _____ combined with a willingness to subject these claims to _____

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

Why is Research Conducted?

ψ 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.

ψ Basic research is designed to advance

ψ Applied research is designed to solve



How Do Scientists
Collect and Evaluate Evidence?

Psychologists follow strict,
standardized scientific procedures
so that others can understand,
interpret and repeat their findings

How is research conducted?

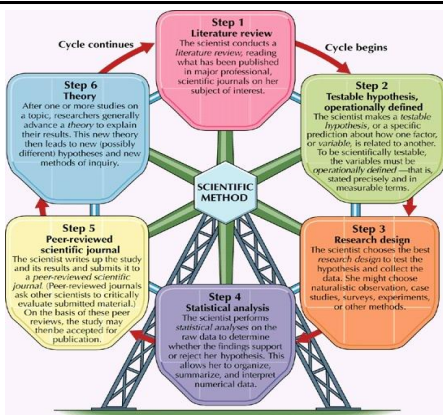
ψ *The Scientific Method* allows psychologists
to explore psychological issues

ψ What does it mean to be OBJECTIVE?

The *scientific method* is a tool box of skills that scientists have developed to prevent themselves from

The Scientific Method

1. Formulate a research question by stating a question and performing a **literature review**
2. Develop an operationally defined and **testable hypothesis**
3. **Research Design** 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.



Scientific Method in Psychology

- Ψ Before research begins, a problem must be identified
 - Researchers then perform a _____ and look at previously performed work.
- Ψ What research question would you like to answer?

Make a Prediction!

2. Develop a _____, or a specific _____ about how one factor is related to another.

What is a testable hypothesis for this nursery rhyme?



What is your Hypothesis?

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

Ψ _____



The hypothesis must be testable, but also *operationally defined*

Meaning the variables are in

Operational definitions allow Psychologist's to study intangible concepts by making them more concrete, countable, and observable.

Get into groups of 3-4 and
Operationally define the
following

- Sadness
- Creativity

Examples of Operational Definitions

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

Next...
Research Methods
