Research Methods in Psychology

PSY 450W
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Psychology is a Science

- Science of behavior and mental processes.
- Reliance on empiricism
  - Knowledge comes from observation and experience

Goals of Science

- Describe Behavior
- Predicting Behavior
- Explaining Behavior
- Controlling Behavior

What is Research

- Research is formalized curiosity. It is poking and prying with a purpose.
  - Zora Neale Hurston
- Research is a systematic attempt to understand the world.

Scientist

- If you are a scientist, you believe that it is good to find out how the world works, that it is good to find out what the realities are…J. Robert Oppenheimer.
- Critical thinking: does not blindly accept arguments and conclusions.
  - Examines assumptions
  - Evaluates evidence

Introduction

- The moon is made of green cheese
- Santa Claus lives at the North Pole
- The mind is just like a computer
- 2+2=4
- Attitudes affect cancer
- We are being observed by extra terrestrials
- The best things in life are free
- All humans have an immortal soul

Research is a Way of Thinking

- Researchers need to understand the limits of intuition and common sense.
  - Scientific attitude
  - Scientific method

Scientific Method

- Set of procedures used for gathering and interpreting objective information in a way that minimizes error and yields dependable generalizations.

Research Questions

- First step is to express topics of interest as research questions.
  - Is it bad to spank your children?
  - What is the effect of meditation on stress?
  - Do "smart drugs" really make people smarter?

Scientific Hypotheses

- Formally stated expectation about a behavior that defines purpose and predicted outcomes of a study.

Characteristics of a Scientific Hypothesis

- Testable
- Falsifiable
- Rational
- Prediction

Scientific Hypothesis

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Testing Your Knowledge

Instructions: Construct a <u>good</u> hypothesis for each of the following relationships.

- Exercise and Stress
- Prenatal Cigarette Smoking and Infant Health
- Use of Mnemonics and Memorization
- Social Support and Depression
- Age and Problem-solving Ability

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Testing a Hypothesis

- Data do not support prediction - disconfirm.
- Data do support prediction – confirm.
- Importance of replication
  - -gain confidence in hypothesis.

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Source of Research Questions

- Experience
- Theory

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Theory Testing: Main Goal of Research

- Theory: Low self-esteem feeds depression.
- Hypothesis: People with low self-esteem score higher on a test of depression.