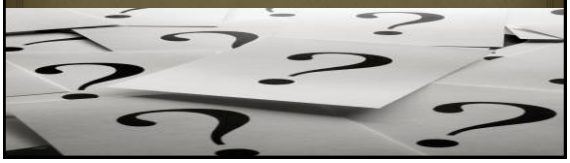
# Research Strategies: How Psychologist's Ask and Answer Questions

Module 2



## Module Objectives

- Why is Psychology a Science?
- What is the scientific method?
- Why should I believe what researchers say?

- Next Class:
  - What types of research methods do Psychologists use?

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

## Psychologists are critical thinkers.

- Critical thinking is the process of reflecting deeply and actively, asking questions, and evaluating the evidence.
  - Thinking critically means asking ourselves how we know something. Critical thinkers question and test what some people say are facts.
- Critical thinking reduces the likelihood that conclusions will be based on unreliable personal beliefs, opinions, and emotions.

## Let's warm up with another brain teaser!

What questions should you ask to solve the following puzzle?

## Scientific psychology has four basic goals:

1. _____
2. Explain
3. _____
4. change behavior and mental processes

## Psychology as a Science

- Psychologists must engage in careful systematic observation when studying behavior and mental processes
  - Systematic observation is setting up our study so that we

"We must keep our minds open but not so open that our brain falls out."

(Oberg, 1995)

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

(AKA, *People watching*)

Unfortunately, casual observation is subject to bias that can distort information

*Skepticism* combines two opposing attitudes:

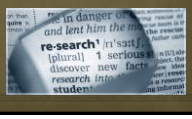
## Why is Research Conducted?

- The purpose of scientific research is to

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

# How Do Scientists Collect and Evaluate Evidence?

The _____
is how Psychologist's create knowledge about the mind and behavior




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

# How is research conducted?

- The Scientific Method allows psychologists to explore psychological issues systematically by using objective means


- _____
  _____
  _____

# Scientific Method in Psychology

- Step 1: Before research begins, a _____
  - Observe some phenomenon…and want to know why it exists.
- Phenomena that psychologists study are called a _____

## Why are more students enrolling in community colleges than in previous years?

Think about some possible answers to this question. Make a list of explanations.


- The answer to such questions are called _____
  - Your possible explanation to the prior question was a theory!
- _____

## Make a Prediction!

- Step 2: _____ or a specific prediction about how one factor is related to another.

- Example:
  - Drinking excessive amounts of caffeine before the exam will increase my score.
  - How can we make this testable?

## What is your Hypothesis?

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

- _____
  _____
  _____
  _____
  _____

## Step 3- Testing through Empirical Research

- It's time to _____ _____ that is based on a theory.

# The hypothesis must be testable, but also operationally defined

Meaning the variables are in measurable terms _____

## 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

# Try this on your own… Operationally define "Creativity"

# Was my prediction correct?

Step 4- Drawing Conclusions

- Researchers draw conclusions about the results of the study. Did the information _____

_____

- Don't forget…this information MUST be *replicated* to be accepted as valid.

# Evaluating the theory

- If the information produced in a study supports the original hypothesis it is published in the scientific community in *peer-reviewed journals*.
  - The scientific community continues to debate the issue further.


# Next Topic…

Types of Psychological research