



Intro to Stats
Course Overview

Psychology: Questions and Methods

<u>Questions from Philosophy</u> <ul style="list-style-type: none">•How do we learn?•Why do we smile?•What is anger?•When will we help others?	<u>Methods from Natural Sciences</u> <ul style="list-style-type: none">•Scientific Method•Critical Thinking•Statistics
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Psychology!

Methods of Psychology: Scientific Method

- ▶ Science starts with an attitude and a desire for the truth

- ▶ Systematic empirical study of phenomena
 - Systematic: keep the bias out, include all data and information even if it doesn't "fit"
 - Empirical: based on observable events
 - Phenomena: must be measurable

Problems with Common Sense

- ▶ People see some parts of the world and miss others
 - (due to ability, attention, etc.)
- ▶ People notice those things that fit preconceptions
- ▶ People often believe to be true whatever feels good

The Scientific Method

- ▶ To develop theories about the world and to test those theories using observations
- ▶ The scientific process
 - Is self correcting (theories are tested, then revised, then tested)
 - Theories are falsifiable
 - The process is objective and public

The Role of Math

- ▶ After collecting observations, you must be able to pull them all together and make sense of them
- ▶ Statistics: set of tools and techniques used to describe, organize, and interpret information or data
- ▶ Want to describe information and to see how points relate to one another

Descriptive & Inferential Stats

- ▶ Descriptive statistic
 - Organize & describe characteristics of a large amount of information
 - What's the most popular major? How old are most tweeters?

- ▶ Inferential statistic
 - Make inferences from a small group of data (a sample) to a larger group (the population) about a relationship between two or more characteristics
 - News polls about opinions regarding the president; healthcare; war