

EPSY 530 - Statistics I

Introduction / Variables

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Agenda

1. Introductions
2. Syllabus
3. Your first assessment
4. Variables

Introduction

1. Your name
2. Your program and level (e.g. Master's, Ph.D.)
3. What previous math or statistics courses have you taken?
4. Why are you taking this class?
5. What do you hope to learn from this class?

Syllabus

The course website is at epsy530.bryer.org. There you find:

- The course syllabus and schedule. The schedule may change as we progress and I will update it as we progress.
- Class slides.
- Any other materials, including data files, that we will use in class.

Grading

There will be four components to your grade:

1. Midterm 25% (October 9th)
2. Final 25% (December 9th)
3. Homework 20%
4. Project 30%

Statistics

"Statistics is the study of the collection, organization, analysis, interpretation and presentation of data. It deals with all aspects of data, including the planning of data collection in terms of the design of surveys and experiments." ([Wikipedia](#), 2013)

Data can be any collection of numbers, characters, images, or other items that provide information about something.

The goal of this course is to explore data and begin to understand what it tells us about the world.

The six “W”s

- **Who** - Describe the individuals who were surveyed.
- **What** - Determine what is being measured.
- **When** - When was the research conducted?
- **Where** - Where was the research conducted?
- **Why** - What was the purpose of the survey or experiment?
- **How** - Describe how the survey or experiment was conducted.

Who and What

- Respondents - Individuals who answer the survey (e.g. customers at Amazon).
- Subjects or Participants - People who are experimented on (e.g. Patients who receive the new medication).
- Experimental Units - The object of the experiment when it is not a person (e.g. Rats that run through a maze)
- Records - Rows in a database (e.g. Each person's purchase record at Amazon)

Sample and Population

- The goal is to describe the population.
- This is usually impractical or impossible.
- A sample is used to make inferences about the population.
- The sample should be representative of the population.

Types of Data: Variables

- Qualitative (or categorical) variables - A variable that tells us what group or category an individual belongs to.
- Quantitative variables - Contains measured numerical values with measurement units.
- Identifier Variable - A variable that is used to uniquely identify the individual. It does not describe the individual.
- Ordinal Variable - A variable that reports order without natural units (e.g. [Likert](#) items)