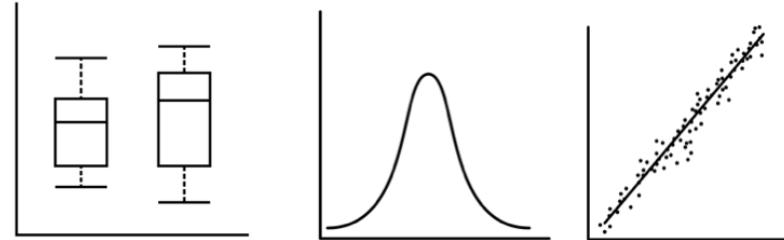


PSYC 2300

Introduction to Statistics



Lecture 01: Introduction

Outline for today

- **Getting to know each other**
- What questions guide this course?
- What to expect from this course (syllabus)
- Why are we studying statistics in psychology?



About me



Originally from San Diego, CA

About me



Grossmont Community College 2005-2009

About me



San Diego State University 2010-2014

About me



California State University, Long Beach 2015-2017

About me



University of Denver 2017-present

Research Interests

- Social psychology
- Deception and Detection Detection
- Emotion
- Visual Perception



How to contact me

 Email: chris.gunderson@du.edu

 zoom Office Hours Zoom Link: <https://udenver.zoom.us/j/9295754024>

 Physical Office: Nagel Hall 078

Outline for today

- Getting to know each other
- **What questions guide this course?**
- What to expect from this course
(syllabus)
- Why are we studying statistics in
psychology?



Guiding Questions

- How is understanding statistics important for psychology?
- How do scientists use statistics in their research?
- How can statistics answer questions about relationships in the real world?
- How can I conduct statistical analyses myself (e.g., using statistical software)?

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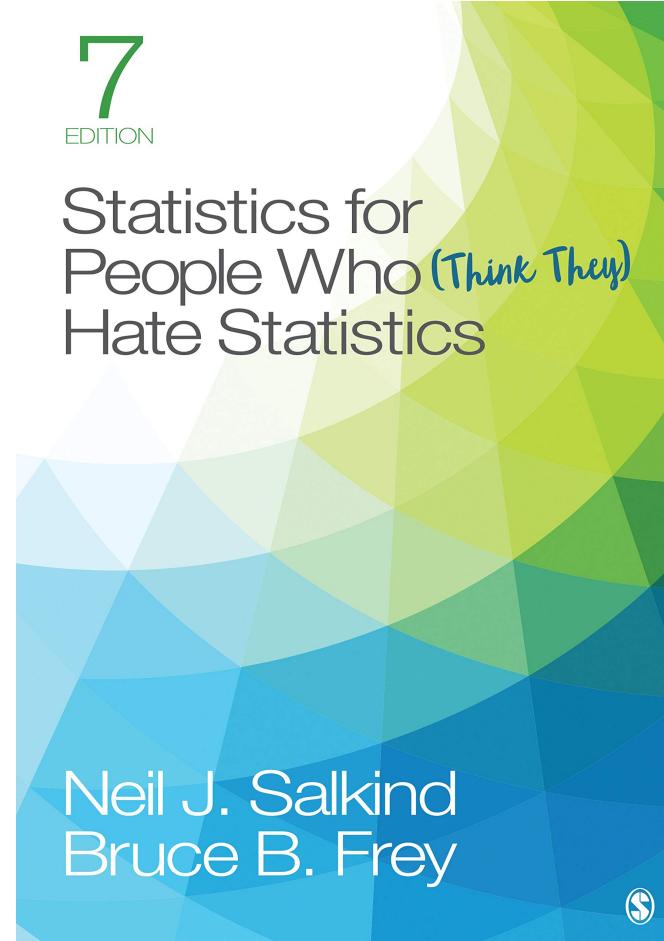


Required Materials

Textbook

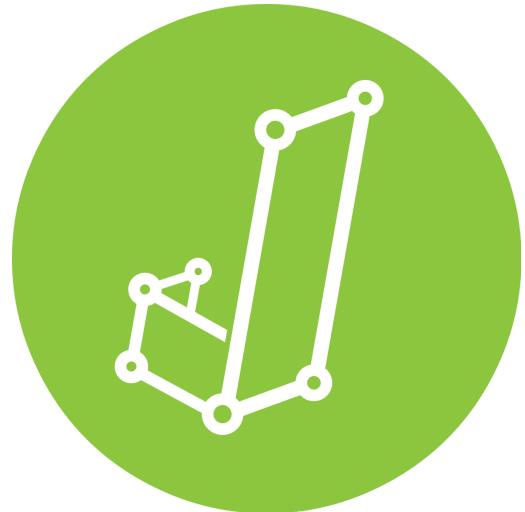
Statistics For People Who (Think They) Hate Statistics

- 7th edition
- ISBN-13: 978-1544381855
- ISBN-10: 1544381859



Required Materials

JASP Statistical Software



[Download link here](#)

Required Materials

Calculator

- Can be cheap/simple or expensive/fancy, but you'll need some sort of a calculator for exams



Required Materials

Canvas

- Where I will post everything online
 - E.g., the syllabus, lecture slides, sample questions for each exam, announcements, grades



Course Overview

Course component	Points for each item	# of items that count	Total points for grade
Participation (7, drop the lowest score)	2 pts	6	12 pts
Canvas Quizzes	4 pts	5	20 pts
Mini-Report	8 pts	1	8 pts
Application Project	10 pts	1	10 pts
Midterm Exam (covers wk 1-5)	25 pts	1	25 pts
Final Exam (cumulative, emphasize wk 6-10)	25 pts	1	25 pts
Extra Credit	0.5 pts	6	3 pts
Total			100 pts

Course Overview

Attendance

Attendance is mandatory

- To encourage attendance, I offer participation credit on 7 random days throughout the quarter
- I drop your lowest participation score, as a buffer (e.g., in case you get sick)



Course Overview

Quizzes

- Canvas quizzes are your opportunity to practice
- Essentially, this is your “homework” in the class
- Details:
 - Six quizzes throughout the quarter
 - Two attempts per quiz; only count highest score
 - Lowest quiz score dropped



Course Overview

Midterm Project

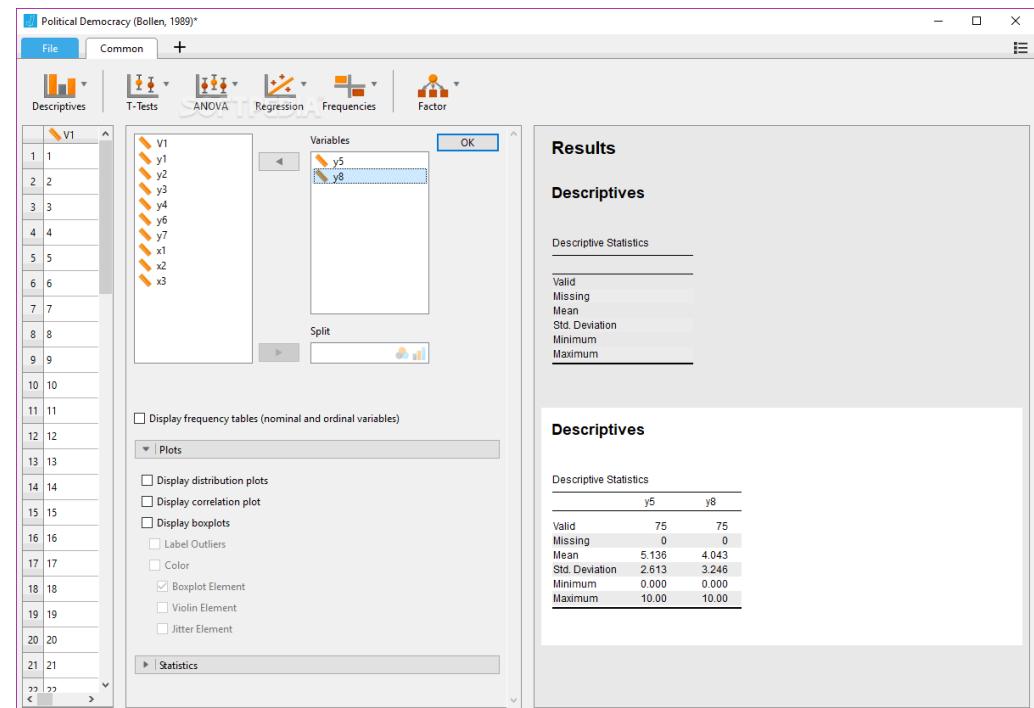
- Two-page, double-spaced paper that addresses how statistics are used in “pop science”
- To be submitted electronically on Canvas



Course Overview

Final Project

- Use JASP to apply what we're learning to a real-world dataset, much like a graduate student would
- Again, to be submitted electronically on Canvas



Course Overview

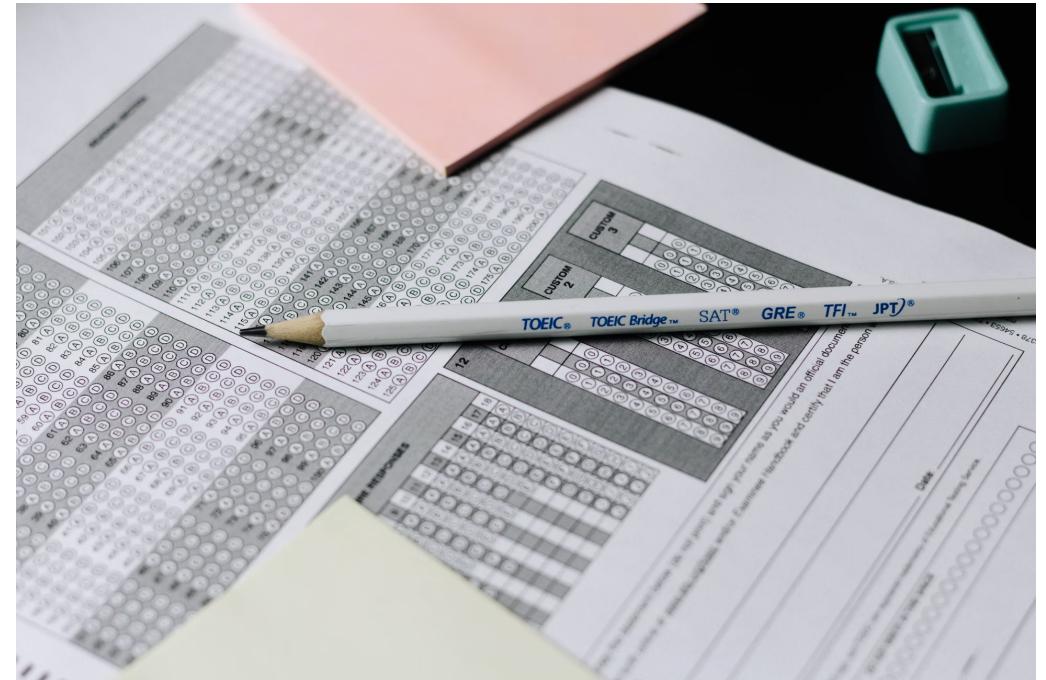
Exams

Midterm exam

- Mix of multiple-choice and computational problems
- Covers weeks 1–5

Final exam

- Similar to the midterm in structure
- Cumulative, but emphasizes weeks weeks 6–10



Course Overview

Extra Credit

Participate in psychology studies designed by DU researchers

- Learn what real psychological science looks like
- Earn valuable extra credit towards my course
- Detailed instructions for how to register for and use the subject pool can be found on Canvas

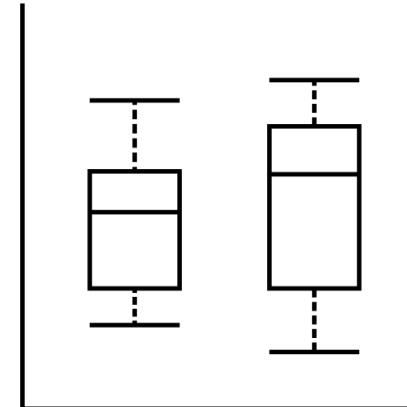
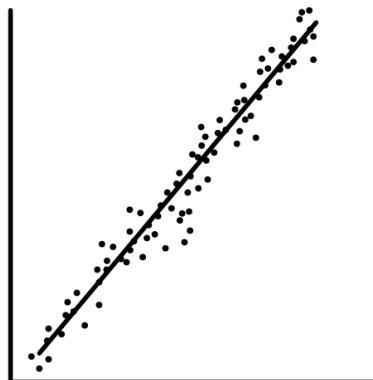
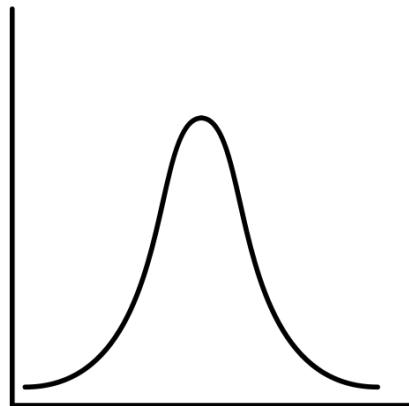
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The Basics

Statistics: A set of tools and techniques that are used for describing, organizing, and interpreting information or data



The Basics

Two types of statistics

Descriptive Statistics: Used to organize or describe the characteristics of a dataset

Inferential Statistics: Used to make inferences (reach a conclusion) about the data

The Basics

Collecting samples of data

Sample: a subset of a population

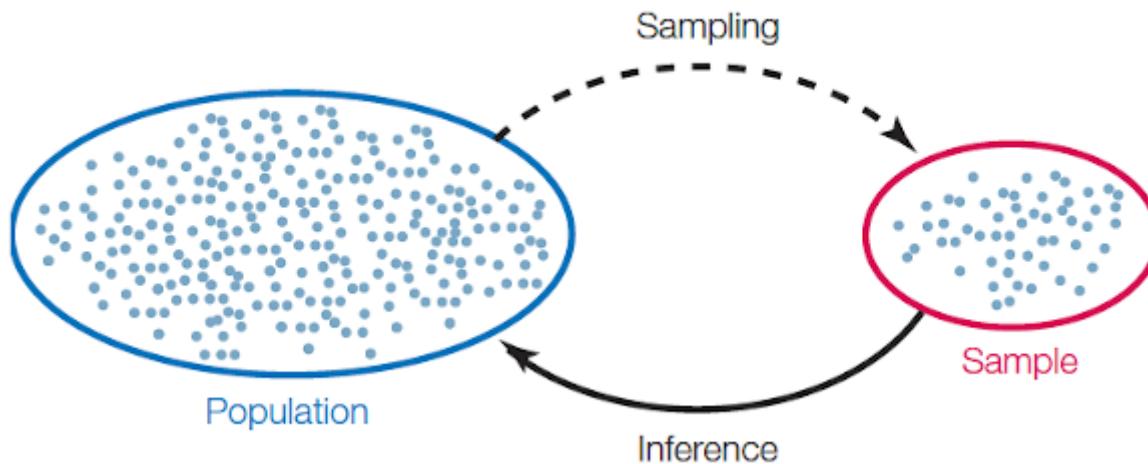
- Example: A researcher wants to know if people higher on emotional intelligence are better lie detectors.

[Click here to find out](#)

The Basics

Populations are usually huge

- Samples are smaller, so we can start there (e.g., DU students) and extrapolate using inferential statistics



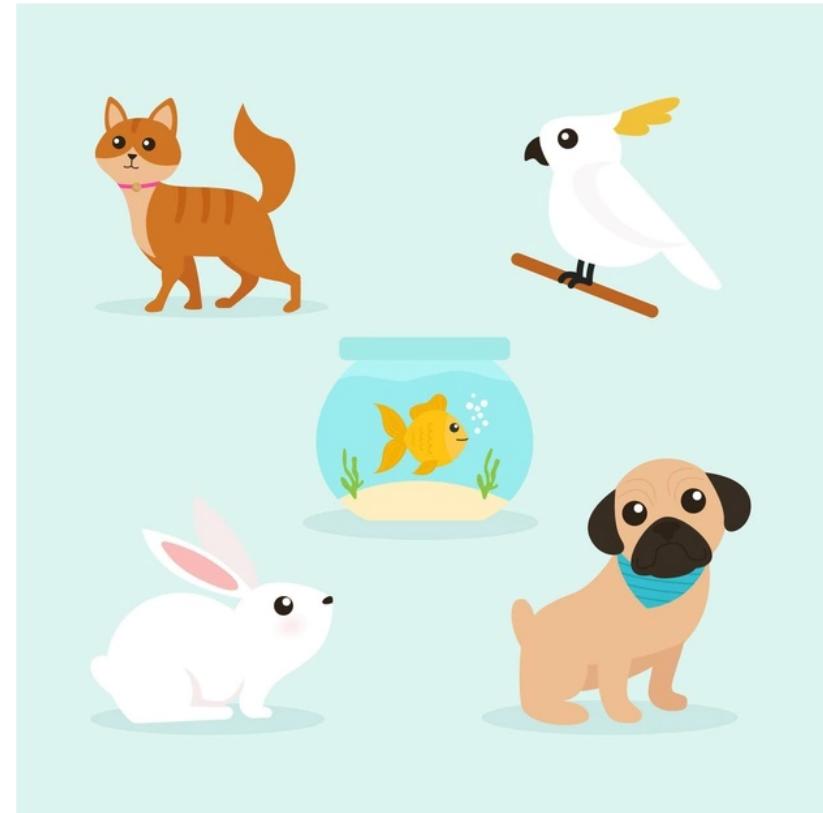
Psychology is a science, and scientific conclusions require statistics

Demo

Conducting a Study in Psychology

Tell me the following:

1. Your current happiness level (on a scale of 1 to 10)
2. Whether you have 2 or more pets (yes/no)
3. How many pets you have (e.g., 0, 1, 2)



Demo

Conducting a Study in Psychology

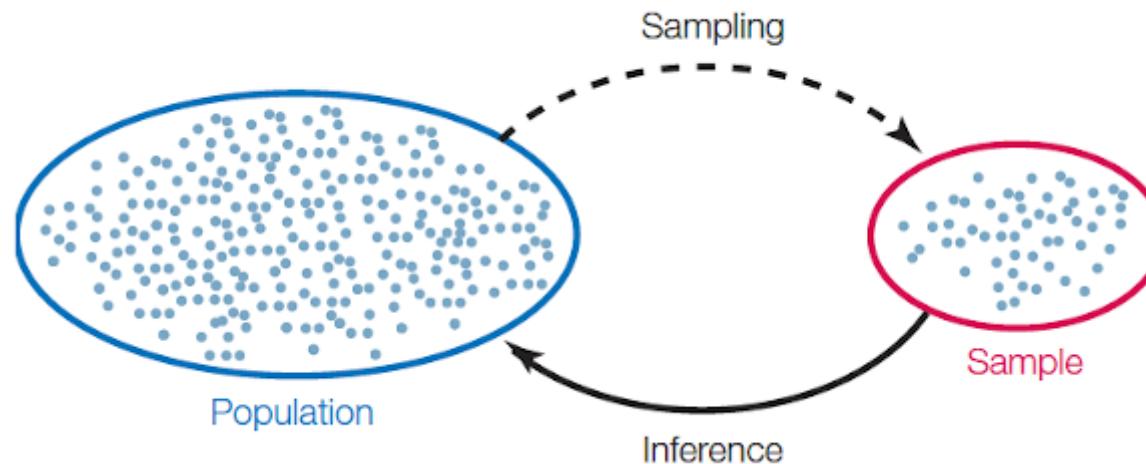
My Research Question: Do people with two or more pets differ in their happiness levels compared to those with one or no pets?

Demo

Conducting a Study in Psychology

Question #1: What's the population?

Question #2: What's my sample?



Demo

Conducting a Study in Psychology

Step 1: Descriptive statistics to make sense of the numbers in my dataset

Step 2: Inferential statistics to make conclusions about the population

- Without both descriptive *and* inferential statistics, the responses in my dataset would be uninterpretable (I could not make any conclusions)

Statistics in Psychology

Statistics is important for *producing* science

- Without statistics, we would not be able to evaluate hypotheses and make conclusions about the world (e.g., about how people think, behave, and so on)
- Statistics allows you to determine whether differences and relationships are real and meaningful, or are due to random chance
- If you pursue a PhD (even a clinical one), you'll be doing lots of research and using statistics every day!

Statistics in Psychology

Statistics is important for *consuming* science

- Statistics pop up everywhere in everyday life; understanding statistics gives you the ability to evaluate the claims that are presented to you
- If you pursue a Master's Degree in Psychology, you'll need to read and understand research articles!



Next time

Lecture

- Measures of Central Tendency
- Measures of Variability

Reading

- Syllabus
- Chapter One

