

# Welcome to PSY 3307

## Let's Make Stats Enjoyable

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# Agenda

- Introductions
- Syllabus
- Little bit of R

# About Me

- Jonathan A. Pedroza (JP)
- First-generation college/graduate student (CPP Alumni)
- he/him pronouns
- Dodger fan
- Hobbies include: fishing, hiking, cooking, & coffee
- Primary Areas of Interest:
  - Programming Languages (R, )
  - Studying health disparities in health behaviors
  - Data visualizations



# Tell me about yourself

- Introductions
  - Name and year in the Department
  - What you think you want to do after you graduate? (Note. I don't know is a perfectly acceptable answer)
  - What is your experience with statistics?
  - Share something interesting about yourself

# Learning Objectives

1. Use SPSS to compute statistics
2. Read/Interpret Descriptive & Inferential Statistics
3. Understand & Solve Formulas for Statistical Tests
4. Understand Sampling, Statistical Null Hypothesis Testing, Effect Sizes, Confidence Intervals
5. Demonstrate ability to apply these skills to test hypotheses using real data

# Topics Covered

- Descriptive Statistics
- Probability
- Random Selection
- Normal Curve & Sampling Distribution
- Hypothesis Testing
- Rules for Statistical Decisions (Types I and II Errors)
- Sample Size Importance (One- vs Two-tailed Tests)
- Z-scores, z-ratio, and t-ratio (single group, independent-samples t-test, paired)
- Analysis of Variance (One-way, Two-way, Repeated-measure, mixed)
- Confidence Intervals/Error bars in plots
- Most common plots (histograms, boxplots, scatterplots)
- Correlation & Regression Analysis
- Chi-square (One-way, Two-way)
- Non-parametric statistics

