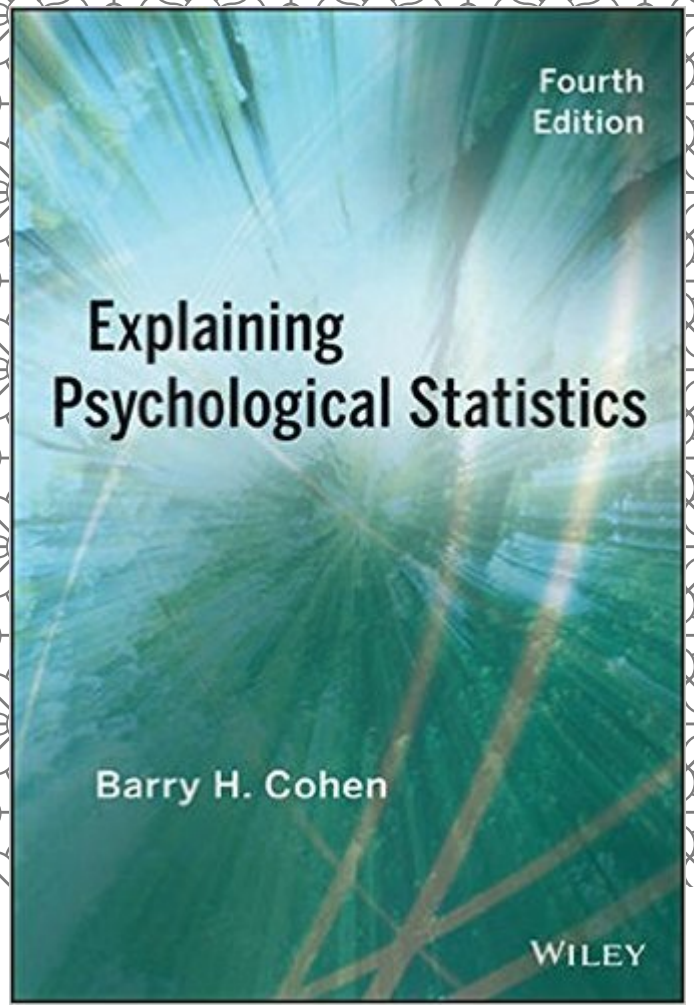

COHEN TEXTBOOK INTRO

For EDUC/PSY 6600

"A-B-C" FORMAT

Section A

- Simplest case of the procedure
- Explain definitional formulas (for insight)
- Emphasis is underlying similarity of formulas that may look very different
- Detailed summary
- Exercises

Section B

- Basic statistical procedure
- More general cases with real data
- Computational formulas
- Significance tests
- Comments on research design
- Supplementary procedures
- How to report in APA style
- Detailed summary
- Exercises

Section C

- How to use SPSS to perform the procedures
- Little known syntax 'tricks'
- SPSS data management tools
- How to read SPSS output
- All exercises based on the Ihno Dataset

Unit	Unit Title	Chap #	Chapter Titles
0	Basic Introduction	1	Intro to Psychological Statistics APA Style & Journal Articles SPSS Basics & Data Manipulation
1	Exploratory Data Analysis	2 3 4	Exploration Data with Plots Summarizing Data with Descriptive Statistics Standardized Scores & The Normal Distribution
2	Groundwork for Inference	5 6 7 8	Intro to Hypothesis Testing: 1 Sample z-test Confidence Interval Estimation: The t Distribution 2 Independent Samples t-test for Means Statistical Power & Effect Size
3	Hypothesis Tests for 2 Measures per Subject	9 10 11	Linear Correlation Linear Regression Matched t Test
4	ANOVA w/o repeated measures	12 13 14	1-Way ANOVA Multiple Comparisons 2-Way ANOVA
5	ANOVA with repeated measures	15 16	Repeated-Measures ANOVA 2-Way Mixed-Design ANOVA
6	Categorical Data Analysis	19 20	The Binomial Distribution Chi-Squared Test for Independence & Goodness of Fit

APPENDIXES

Appendix A

Statistical tables

"*z*" standard normal

"*t*" student's t

"X^2" chi squared

Ect…

Appendix B

Answers to selected exercises (*) from sections A & B

Appendix C

Ihno's dataset

The electronic 'excel' version is on CANVAS

Do NOT waste time typing it into the computer!!!

IHNO'S (EEE-KNOW) EXPERIMENT

- Ihno was an advanced PhD student, TA several stats sections
- 100 participants enrolled in those sections & voluntarily consented to participate (IRB)
- Data collected on FIRST day of class
  - Background questionnaire: contact info, gender, major, why enrolled, coffee drinking habit, # math classes completed
  - Required math placement/diagnostic quiz score (prior to registering)
  - Self rating of math phobia (0-10)
  - Some registered late → some data missing … how do you deal with that ?
- Data collected a week before the experiment
  - Regular 10-question quiz score

IHNO'S (EEE-KNOW) EXPERIMENT

- Start of class: PRE-quiz:
  - Taught students how to take their own pulse & took two baseline measures (bpm)
  - Self-report: # cups of coffee since waking up that day
  - Self-report: Anxiety questionnaire w/10 items, each rated 0-4 (5-point Likert scale), total scores 0-40 (baseline anxiety)
- ANNONCEMENT: "POP QUIZ"
  - w/11 multiple choice (10 questions, 1pt each + 11th question = 3 points extra credit)
  - The 11th question varied (25 each: easy, moderate, difficult, or impossible to solve)
- End of class: POST-quiz
  - After collecting quiz, REPEATED the pulse and anxiety collection
  - Ihno explained the quiz would be graded (not 11th question) and returned, but would NOT count towards their grade