

PSYC70600
STATISTICAL METHODS IN PSYCHOLOGY II

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Office hours by appointment
Tuesday 8:00-9:40 and Thursday 8:00-8:30 in NAC 7-220
Thursday 8:30-9:40, Computer lab, in NAC 6-105

Course Description

This course primarily focuses on multiple linear regression and related issues. Tuesday is a lecture. The Thursday session is for review and conceptually-based homework during the first part of the session. The last hour of the Thursday session is for the computer lab and its exercises. Many of the lab exercises involve data on the CD disk available in the inner, backside cover of your textbook. You will be asked to open and save on a flash drive certain data files as SPSS data files; bring that flash drive to the lab. The lab is rated pass/fail and a failing grade will lower the final course grade by a third (e.g., from B to B-). There are two examinations, each comprising 50% of the final grade. By the end of this course, you will know multiple linear regression. Consequently, you will be ready to tackle more advanced statistics (e.g., structural equation modeling).

Required Text and Readings

Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. (3rd ed.). Mahwah, NJ: Erlbaum.

Kramer, H.C., Kiernan, M., Essex, M., & Kupfer, D.J. (2008). How and why criteria defining moderators and mediators differ between the Baron & Kenny and MacArthur approaches. *Health Psychology*, 27 (#2, suppl.), S101-S108.

Course Schedule

- January 27 Introduction to course.
- January 29 Fundamentals (Chapter 1 of Cohen et al).
- February 3 Bivariate Correlation and Regression (Chapter 2).
- February 5 Ditto.
- February 10 Ditto and Homework assignment #1.
- February 12 **CUNY is closed: Lincoln's Birthday**
- February 17 Multiple Independent Variables (Chapter 3)
- February 19 Ditto and Data Analytic Strategies (Chapter 5, pp. 151-162)

- February 24 Ditto and Homework assignment #2. **Lab Prep:** Open and save as SPSS data file on your flash drive c0302dt from Chap. 3 on disk provided on the back cover of your text.)
- February 26 Data Analytic Strategies (rest of Chapter 5, pp. 162-192). **Computer lab begins.** Lab #1: Hierarchical regression, followed by simultaneous regression.
- March 3 Ditto.
- March 5 Ditto and homework assignment #3. Lab#2: Hierarchical and simultaneous models combined, using above data file.
- March 10 **Examination**
- March 12 Review of Examination.
- March 17 Quantitative Independent Variables (Chapter 6). **Lab Prep:** Open and save as SPSS data file ch06ex01 from Chap. 6 on disk
- March 19 Ditto and Homework assignment #4. Lab #3: quadratic relations using ch06ex01.sav.
- March 24 Interactions (Chapter 7). **Lab Prep:** Open and save as SPSS data file c07e02dt from Chap 7 on disk.
- March 26 Ditto for interactions and Homework assignment #5. Lab #4: interactions using c07e02.sav.
- March 31 Nominal Variables (Chapter 8). **Lab Prep:** Open and save as SPSS data file c08e01dt from Chap 8 on disk.
- April 2 **No class: Professor at conference**
- April 7 Nominal Variables (Chapter 8, cont.) and Homework assignment #6. Lab #5: dummy and effects coding
- April 8-17 **Spring Break**
- April 21 Assumptions of Regression (Chapter 4, pp. 117-chapter end).
- April 23 Outliers and Multicollinearity (Chapter 10).
- April 28 Causal Model (Chapter 12 and Kramer et al., 2008).

April 30 Ditto. Lab #6: Use data c0302dt, which you previously saved, for analyses of residuals.

May 5 Ditto and Homework assignment #7. Odds ratios (OR) and introduction to logistic regression.

May 7 Logistic regression (cont.). Lab #7: Use data c0302dt for causal models

May 12 Review

May 14 **Examination**