

Final Exam Review (100 points total)

Final Exam: Wednesday 12/7, 3:30-5:20

As usual, before the exam I am happy to answer any questions you want to ask. You will have the full time to complete the test if you need it.

Short Essay (40 points)

There will be 2 short essay questions, 20 points each. These are open-ended questions on definitions and concepts. Answers should be about 1 paragraph. I will pick 2 questions from the following list:

- Distinguish between mediation and moderation. Give a (brief) example (hypothetical or real) of each from your area of research to illustrate.
- How are cross-sectional studies limited in their potential for drawing causal inferences? Describe the approach to regression analysis with longitudinal data (based on two time points) that your instructor discussed in class, and explain how this type of analysis can be interpreted and how it addresses the limitation of regression analyses with cross-sectional studies.
- Explain how, in non-experimental studies, multiple regression can address ambiguities about causal relationships among variables. Be sure to describe what longitudinal regression models, in particular, can contribute to causal inference.
- Why is it inappropriate to use OLS regression when the dependent variable is dichotomous? Describe how logistic regression is able to address this problem. What is an odds ratio and why is it used in logistic regression?

Multiple Choice (30 points)

There will be 15 multiple choice questions worth 2 points each. These may be on any of the assigned reading or the lecture material from 11/9/11 through 11/30/11. The purpose of these questions is to make sure you have read the material and learned the concepts from the text and class lecture.

Computations and Interpretation of Results (30 points)

There will be two computational or printout interpretation problems (15 pts each). You may bring a single sheet of 8 1/2 X 11 paper, using both sides, with any formulas that you think you may need. (Note: this sheet can only be used for the computation portion of the exam.) You may also bring the diagnostics handout with cutoff values to use on this portion of the exam. Please bring a calculator to class. I will supply any statistical tables you might need. These questions may include one or more of the following:

Computations:

odds ratio from 2 X 2 contingency frequency table, likelihood ratio test (G or “chi-square “ in SPSS) from deviance statistics from any two logistic models, find the odds ratio from the unstandardized regression coefficient.

Interpret:

output from: a curvilinear regression, an interaction test (including macro output), plot of simple slopes, mediation analysis (including macro output), residual scatter plot, interpretation of diagnostic output (studentized deleted residuals, leverage, Mahalanobis distance, Cook's distance, DFFITs, DFBETAs, residual plots) [You may use your diagnostics handout for this section of the exam.], logistic analysis, including the overall fit (likelihood ratio “chi-square” test), odds ratios, confidence intervals for odds ratios, and Wald chi-square test.