Sociology 6280

Social Statistics

Winter 2014

2308 FAB

Social Science Data Lab FAB 2308

Tuesday 6:00-9:10pm

Professor: David M. Merolla, Ph.D   Office: 2253 FAB

Tel: 313-577-2930   email:dmerolla@wayne.edu

Office Hours:

Monday 12-2, Thursday 1-3, or by appointment

Required Course Materials:

Text: McKee McClendon. *Multiple Regression and Causal Analysis. Waveland Press.* ISBN 1-57766-243-1

You may have an undergraduate statistics text, which you will need over the first few weeks, if you do not have one you may get one such as:

Agresti, Alan and Barbara Finlay. 2009. *Statistical Methods for the Social Sciences, 4th edition.* Upper Saddle River, NJ: Prentice Hall.

Frankforth-Nachmias, Chava, and Anna Leon-Guerrero. *Social Statistics for a Diverse Society 5th ed.* Los Angeles, CA: Pine Forge Press.

Roberta Garner . The Joy of Stats 2nd ed. University of Toronto Press.

Calculator. Students need a calculator capable of doing square roots

Software. Students must obtain SPSS for their personal computers for the semester at no cost from the Wayne State University Software Clearinghouse. To get your copy, email your name, accessID, and the course name and number to: clearinghouse@wayne.edu. All of the homework assignments require the use of SPSS.

Course Description

This course builds on students' prior understanding of basic statistics and focuses on multivariate statistical procedures. The course begins with a brief refresher on univariate statistics, bivariate associations and the basics of statistical inference and reasoning. The majority of this course will focus on the use, interpretation and specification of linear regression models. Topics covered will include: hypothesis testing in multiple regression, model specification, assessing regression assumptions, non-linear and multiplicative effects. Beyond the mastery of statistical materials, the course will also focus on how use computer software (SPSS) to conduct analyses, and how to present the results of statistical analyses in a professional manner.

Learning Objectives

1) Students will have mastery of basic descriptive statistics, how they are used and how they are presented in academic papers and presentations.

2) Students will understand the statistical theories that underlie inferential statistics.

3) Students will understand various bivariate statistical techniques, how and when they are used and how to interpret and present them.

4) Students will understand issues of model specification in linear regression.

5) Students will be able to interpret the results of a linear regression analysis.

6) Students will be able to interpret the results of a linear regression that includes non-linear, multiplicative or polynomial effects.

7) Students will be able to think critically about quantitative analyses and assess the pros and cons of particular analytic decisions.

8) Students will be able to use SPSS to code and manipulate data, and to estimate descriptive statistics, bivariate associations and regression analyses.

9) Students will be able to present the results of statistical analyses in a professional manner in both oral and written form.

General Course Policies

Attendance: Students may miss one class without penalty, afterwards each missed class will result in a deduction in your grade regardless of the reason for the absence. It is the responsibility of the student to notify the instructor of an absence to get any updates about the course schedule, assignment, and materials. You cannot make up in-class work for days you are not in class. **Students who miss three classes may be asked to withdraw from the course.**

Assignments. Students are required to complete all assignments by the due date; students who have difficulty with a particular assignment are expected to contact the instructor to discuss these problems **prior to the assignment due date.** Assignments not completed by the due date will not be eligible for full credit and will be assessed at the instructor's discretion.

Quality is key. If you are not already of the persuasion that you wouldn't want to put your name on half-baked & last-minute "efforts," may you come around soon to that way of thinking. Take pride in your work; do it well enough to claim it as your own. All assignments must be completed in a professional manner (e.g., typed, punctuated, cited) and must adhere to any given formatting guidelines. Also, most assignments will require you to complete statistical analyses using SPSS, for these assignments, **SPSS generated tables cannot be used.** You are to make your own tables that are similar to those found in academic journal. Please contact me if you need assistance making tables.

Reading. Students are required to read all course materials by the time class begins and notify the instructor if they have difficulty completing required reading.

Office Hours. Office hours are designed for me to answer specific questions or assist with specific aspects of an assignment. Please come to office hours with questions ready and attempt to complete assignments independently prior to coming to office hours. If you think you will need more that 20 minutes of time, please schedule an appointment.

Focus. Students are expected to be focused on class presentations during class time. Cell phone use in class is strictly prohibited; if I see you using a cell phone during class, **I will deduct 20 points from you participation grade, no exceptions.** When we are using computers the computer must be used for class purposes only. Students may not use lab or personal computers for any other purpose during class periods. Students who use computers for other activities during class will lose 20 points from their participation grade and may lose the privilege of bringing a personal computer to class.

Academic Honesty. Students are expected to display academic integrity in all of their work for this course. Academic dishonesty includes cheating, fabrication, and plagiarism. Any student suspected of dishonesty in their work will receive a zero for the assignment in question and referred to the department chair for further disciplinary action. If you have any questions about plagiarism please contact me.

Honor Code. Students are bound by the Wayne State University honor code which states: Wayne State University holds its students to the highest academic standards. Pride in the University and in oneself requires students to maintain an environment free from any breach of academic honesty. As lifelong representatives of Wayne State, we seek to cultivate honor, integrity, and civility in order to ensure that we earn our degree honestly and that we provide an ethical platform for our continued success

Registration. Students may drop a class for fifteen-week classes through February 8th. Classes that are dropped do not appear on the transcript. Beginning the fifth week of class students are no longer allowed to drop but must withdraw from classes. It is the student's responsibility to request the withdrawal through the registrar's office. Failure to do so will result in a grade of F. Students must be passing at the time of the request to get a 'WP.' After March 29th you cannot withdrawal from the course and will receive a letter grade. Incomplete 'I' grades are given in very limited circumstances to students who are passing the course and cannot complete final assignments due to extraordinary circumstances. Students that get a grade of incomplete must complete all assignments by June 1st 2015.

Disability. If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.

Requirements and Grading:

The course assignments consist of attendance and participation, seven homework assignments, a final exam and a final course project. Each component is worth 25% of your final grade. All assignments will be graded on the following scale:

"A" level work consists of cogent, well-articulated, and well-developed written presentation, demonstrating exceptional understanding, preparation, insight, originality, logical argumentation, and factual accuracy. "A" level work is completed on time and according to the guidelines. "A" level work is considered excellent.

"A-" level work consists of cogent, well-articulated, and well-developed written presentation, demonstrating very good understanding, preparation, insight, originality, logical argumentation, and factual accuracy. "A-" level work is completed on time and according to the guidelines. "A-" level work is considered very good.

"B+" level work consists of well-written work that demonstrates an acceptable understanding, preparation, insight, originality, logical argumentation, and factual accuracy. "B+" work is acceptable graduate level work, but only shows a basic grasp of concepts and ideas and with only satisfactory levels of communication.

"B" level work consists of work that reflects a minimally adequate understanding, preparation, insight,

originality, logical argumentation, and factual accuracy. "B" level work is considered mediocre and is the lowest passing grade in the course.

"B-" level work is <u>not adequate</u> in either form or content, thereby not fully meeting the minimum requirements. "B-" level work is not passing at the graduate level. A final grade of "B-" will require you to retake this course.

"C" level work shows the barest understanding of the subject or task assigned, is poorly written, and fails to make a coherent argument. A final grade of "C" <u>may</u> lead you to be removed from the graduate program.

<u>COURSE SCHEDULE- subject to change</u>

Week 1 (Reading: UG stats book about frequencies, levels of measurement central tendency and dispersion **)**

January 13: Introduction to the Course; Basic Statistics Refresher I

Week 2 (Reading: UG stats book about cross-tabs, t-tests, inferential statistics; McClendon Chapter 1)

January 20: Basic Stats refresher II

Receive Homework 1

Week 3 (Reading: McClendon Chapter 2)

January 27: Basic Regression and Correlation

Week 4 (Reading: McClendon Chapter 3)

February 3: Multiple Regression

Receive Homework 2

Week 5: (Reading: McClendon Chapter 3)

February 10: Multiple Regression

Receive Homework 3

Week 6 (Reading: McClendon Chapter 3&4)

February 17: Multiple Regression

Week 7 (Reading: McClendon Chapter 5)

February 24: Using nominal Independent Variables

Receive Homework 4

Week 8 (Reading: Chapter 3)

March 3: Using Nominal Independent Variables

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Week 9 (Reading : McClendon Chapter 6)

March 10: Non-Linear Relationships

Receive Homework 5

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Week 10 Spring Break

March 17

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Week 11 (Reading: McClendon Chapter 6)

March 24: Non-Linear Relationships

Receive Homework 6

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Week 12 (Reading: McClendon Chapter 7)

March 31: Non-additive Relationship

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Week 13 (Reading: McClendon Chapter 8)

April 7: Non-additive Relationships

Receive Homework 7

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Week 14

April 14: Catch-Up/Open Lab

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Week 15

April 21: **Final Exam**

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Week 16:

April 28: **Final Project Due**