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PSYC 290 Section 2
Statistics in Psychology
Fall 2011

Classroom: Library 306
Class times: Tuesday-Thursday 12:10 – 2:05

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Office: 312-E Hirt
Office hours: Monday – Friday (every day) 2:15 – 3:30. I am also available by appointment. Please send me an email to schedule.

Course purpose

Research studies (in psychology and other fields) are constantly producing all sorts of findings and conclusions. The purpose of this course is to give you some understanding of how researchers arrive at their conclusions. In other words, how do researchers decide whether or not their study provided their field with new, useable knowledge?

Course goals

By the end of this course, you should be able to begin think critically about some decisions in research situations, such as:
- What is the best way to design a study given your specific research question?
- What are the characteristics of your data set? What is your sample like?
- What statistical tests should you use in order to determine if your study "worked"?
- What should you conclude about your study from the results of your statistical tests?
- What do the results of your study say that's new? What are the limitations of your study?

Specific course objectives

At the end of this course, all students should be able to:
- Understand and know when to use the different basic statistical tests common* in psychological science (*depending on the area of psychology. In some areas, such as social psychology, you are more likely to find journal articles with very advanced multivariate designs that are beyond the realm of this course. This course should be thought of as an *introduction* to statistics).
- Judge whether or not the decisions made by other researchers about their data make sense

Doing well in this course

The nature of the course material is inherently cumulative. That means that if you don't understand a concept in week 2, you will have a very difficult time understanding concepts in subsequent weeks. If you don't understand a concept, try to wrestle with it first. Research from cognitive psychology shows us that thinking hard (deep processing) leads to better learning. The assigned problems in this course probably will require a bit more time and trial and error than you're used to seeing in psychology courses. This is good, this is where learning happens. Try to be comfortable 'sinking your teeth into' a problem, and be patient with yourself if it takes you a few attempts to understand (and allot enough time for yourself for this process). If you're really having difficulty understanding a concept, the second step is to contact another student in the course who does understand, the tutor for this class, or the instructor for some on-on-one help. Please note that there are many ungraded practice problems available to you, so that you can be confident in your work when your problems are graded.

This course does require math skills, but not advanced ones. Specifically, you will need to add, subtract, multiply, divide, square, and take the square root of a number. A small amount of very basic algebra is also required. It is essential for all students to be able to use the order of operations – parentheses, exponents, multiplication, division, addition, subtraction – correctly. On the first day of class, we will do a brief activity to determine if you need to do any freshening up on your math skills in order to prepare you for this course. There is an appendix in the textbook that will bring you up to speed on any of the skills that need to be 'refreshed.'

Because the course material builds on itself, attendance is essential for success. Missing one class could mean missing essential information that will not be repeated in class. Class periods will be a mix of lecture and problem solving in small groups. Missing class could put your understanding of the remaining course concepts in jeopardy. Please see the section on the attendance policy for further information.

Finally, giving yourself ample time on the assignments is essential for success. Your homework will be completed using an online, interactive software package called Aplia. The assignments must be completed before the deadline. Time management is essential here. It also helps to space out the assignments so that you're working on them every day of the week; that repetition spaced over time has been shown to increase learning.

Course Information and Policies

Required materials

There are six required materials for the course. All students are required to purchase (1) a subscription to Aplia (instructions for how do to this will be administered in the first class). Aplia is an online program for statistics problems. All homework assignments will be completed in Aplia. Obviously, students will also need (2) regular access to a computer with the internet. It is the student's responsibility to ensure that he or she has access to these required resources. Access to an online version of the (3) textbook comes with Aplia. The textbook is "Essentials of Statistics for the Behavioral Sciences, 7th Edition" by Gravetter and Wallnau. I have a few hard copies that I will 'sign out' for use

only within the psychology department suite. All students are also required to have (4) a calculator with a square root key. In order to create a safe and ethical learning environment, sharing calculators and using cell phones as calculators is not permitted in this course. Finally, (5) Blackboard is necessary for obtaining course materials and (6) email is essential for course communications.

Student Accommodations

Any student who feels he or she may need an accommodation based on the impact of a documented disability should contact me privately to discuss their specific needs. Please contact the Learning Differences Program at 824-3017 to coordinate reasonable accommodations for students with documented disabilities.

Classroom ethics

Academic honesty is expected. Any cases of suspected academic dishonesty (such as cheating or plagiarism) will be handled in accordance with the Mercyhurst College Academic Dishonesty Policy (attached at the end of this syllabus). In addition to academic dishonesty issues, I expect all students to contribute to an environment that is conducive to learning. Such an environment is free from classroom distractions (such as talking during lecture, inappropriate use of technology, and inappropriate language or behaviors directed at the instructor or other students). Inappropriate behavior or use of class time may result in a student being marked absent for the day (see attendance policy below). An environment conducive to learning is also one in which students feel safe making mistakes in front of others. Let's make a positive environment for our class.

Attendance

You are strongly encouraged to attend every single class period, as the nature of the course is cumulative. If you have to miss a class, please let me know via email. Once you have missed a class, please be sure to get the notes from another student, read the appropriate chapter, and then schedule an appointment with the stats tutor or the instructor if you have questions. *Please note that extensions of the homework assignment due dates will be granted in only extreme and unusual situations. This policy is in place to prevent students from falling behind*.   Because the pace of the course is fast in places, and because the material builds on itself, it has been my experience that students who have missed more than 3 classes or assignments get so far behind that the course is rarely completed. For this reason, I strongly encourage anyone who is not able to meet the course requirements on time to discuss their options with me *immediately.* Under extenuating circumstances, the best option available to you may be to drop the course.   I believe that students who attend every class session and participate in class activities deserve to be recognized for their effort. Once you miss 3 or more classes, you will not be able to earn an A in the course.

Homework assignments

There will be a homework assignment for each topic that we cover. The due dates vary; please consult the schedule for dates and times when each assignment is due. All homework will be completed on Aplia, an online program developed by your textbook publishers. *Aplia will not accept late assignments.* It is your responsibility to find access to a working computer in time for the assignments. If the Aplia

website is down (which is extremely rare), I will get an email from the company immediately notifying me of the situation. I will then contact the class with further instructions.

For each homework question, Aplia will give you 3 attempts. Your score for each of the attempts is then averaged and recorded, and counts toward your grade for the assignment. The best strategy is to try to get the highest possible number of points on the first attempt. If you get the problem incorrect, Aplia will generate the same problem (but with different numbers) so that you must do the calculations again. (Aplia will also generate different number sets for each student – you are welcome and encouraged to do homework together; however, you will each have different answers to the problems). After each attempt, Aplia will show you how to do the problem (but remember – don't get a 0 on the first attempt – that will negatively impact your grade. Really try first.) One homework assignment grade will be dropped.
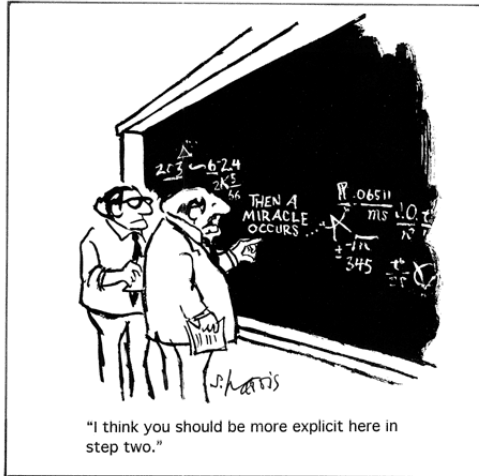
Exams

There are 2 exams throughout the semester, including the final exam. Exam dates are listed in the course schedule. Material in statistics is inherently cumulative; therefore prior material will sometimes be needed on exams. There will be 2 parts to each exam: a conceptual part and a computational part. The conceptual part will consist of multiple choice questions and short answer questions. The computational part will consist of problems similar to those in homework assignments and class examples. The class is welcome to suggest strategies for exam preparation (such as review sessions with the instructor or a study guide). Make-up exams will be given only in documented emergencies and must be approved by the instructor prior to you missing the exam (barring a documented emergency on your way to take the exam).

Quizzes

There are 5 quizzes over the course of the term. Each quiz will contain two parts: a conceptual part and a computational part. The conceptual part will consist of multiple choice questions, and the computational part will consist of problems similar to those in the homework assignments and class examples. One quiz grade will be dropped from your final grade. Because of the drop-1 policy, make-up quizzes will not be given.

Participation

 A lot of peer collaboration has been designed into this course. Please come to class having read the assigned chapter so that you can be an effective group member.   Effective group members help each other understand the material, through asking and answering questions. Collaboration is an important skill that is necessary for most jobs. This class is an opportunity to develop your skills in it.

"I think you should be more explicit here in step two."

Grading

Criteria	Number of Assignments	Maximum Points/Assignment	Total Points	% of Final Grade
Homework assignments	10	20	200	40%
Quizzes	4	25	100	20%
Midterm Exam	1	100	100	20%
Final Exam	1	100	100	20%

Σ	16	-	500	100

Your final grade will be determined by dividing the number of points you have accumulated by 500, the maximum number of points available.

Grading Scale

	B + = 87 – 92	C + = 77 – 79	D + = 67 – 69	F = Below 60
A = 93 – 100	B = 80 – 86	C = 70 – 76	D = 60 – 66	

Course schedule*

week	day	date	topic	reading	quiz dates
1	Thurs	1-Sep	Introduction, syllabus, basics	Ch 1	
	Fri	2-Sep	assignment 1: aplia orientation due		
2	Mon	5-Sep	assignment 2: intro to stats (ch 1) due		
	Tues	6-Sep	Frequency distributions	Ch 2	
	Thurs	8-Sep	Central tendency	Ch 3	
3	Mon	12-Sep	assignment 3: freq. dist. & central tendency (ch 2 & 3) due		
	Tues	13-Sep	Central tendency & variability	Ch 3 & 4	
	Thurs	15-Sep	Variability	Ch 4	quiz 1: ch 1,2,3
4	Tues	20-Sep	Z scores	Ch 5	
	Wed	21-Sep	assignment 4: variability & z scores (ch 4 & 5) due		
	Thurs	23-Sep	Probability & samples	Ch 7	
5	Tues	27-Sep	Probability & samples	Ch 7	
	Wed	28-Sep	assignment 5: probability & samples (ch 7) due		
	Thurs	29-Sep	Hypothesis testing	Ch 8	quiz 2: ch 4,5,7
6	Tues	4-Oct	Hypothesis testing	Ch 8	
	Wed	5-Oct	assignment 6: hypothesis testing (ch 8) due		
	Thurs	6-Oct			
7	Tues	11-Oct	EXAM 1		exam 1: ch 1-8
	Thurs	13-Oct	FALL BREAK - NO CLASS		

8	*Mon*	*17-Oct*	*assignment 7: intro to t (chapter 9) due*		
	Tues	18-Oct	Introduction to t tests	Ch 9	
	Thurs	20-Oct	Independent samples t test	Ch 10	
9	*Mon*	*24-Oct*	*assignment 8: independent & dependent t tests (ch 10 & 11) due*		
	Tues	25-Oct	Repeated measures t test	Ch 11	
	Thurs	28-Oct	Analysis of variance	Ch 13	**quiz 3: ch 9,10,11**
10	Tues	1-Nov	Analysis of variance	Ch 13	
	Wed	*2-Nov*	*assignment 9: ANOVA (ch 13) due*		
	Thurs	3-Nov	Correlation & regression	Ch 15	**quiz 4: ch 13,14**
11	Tues	8-Nov	Correlation & regression	Ch 15	
	Wed	*9-Nov*	*assignment 10: correlation & regression (ch 15) due*		
	Thurs	10-Nov	Chi Square	Ch 16	**quiz 5: ch 15**
	Friday	*11-Nov*	*assignment 11: chi square (chapter 16) due*		
	Tues	**15-Nov 10:30**	**EXAM 2**		**ch 9,10,11,13, 15, & 16**

*Please note that the course schedule is subject to change. If any changes are made to the proposed schedule, a new schedule will be posted on Blackboard and handed to students in class.

MERCYHURST COLLEGE ACADEMIC HONESTY POLICY

Students are expected to contribute actively to the development of an atmosphere of academic integrity. Mercyhurst College assumes, therefore, that students will not resort to plagiarism or any other form of academic dishonesty. Students found guilty of willful academic dishonesty may be subject to a broad range of sanctions. At the discretion of their instructor, they may be required to redo the plagiarized assignment, or they may receive an automatic F for the exam/assignment/and/or course. Students found to be in collaboration with other students involved in willful academic dishonesty are also subject to disciplinary action.

With reference to class assignments: Academic integrity is an extremely important virtue in students and it is to be maintained in class assignments. Students should follow the directions given by faculty members about assignments. Assignments should be read in full, in the language assigned. Students are expected to do their own work; students are not permitted to submit work partially or totally done by another student or documents downloaded from the Internet, Use of computer-assisted translation on assignments to be submitted in a language other than English is likewise prohibited. Group work is permitted only when a collaborative effort is assigned; Only those who actually worked on the assignment should have their names on the submission.

With reference to citation in formal writing: Students are expected to uphold generally recognized standards of citation in order to avoid plagiarism. Though individual instructors may alter the expectations somewhat, general principles include the necessity to provide citations for any direct quotation, the need to provide citations for any paraphrased material, the need to credit theories or concepts to their authors through citation, and the need to provide full and accurate citations.

With reference to library conduct: Reading and audio-visual materials provided for the enrichment of the college community should be treated with respect by all students. Willful destruction of library materials including but not limited to books, periodicals, manuscripts, CDs, videos, and records constitutes academic misconduct.

With reference to taking exams: It is expected that Mercyhurst College students will exhibit academic honesty when they take exams. Failure to do so is a form of deception that is unacceptable at Mercyhurst. Any action that misrepresents the extent to which a student has mastered material assessed on an exam constitutes academic dishonesty or cheating. Cheating includes, but is not limited to the following types of activities: copying from another student's test or assignment or allowing another student to copy from your test or assignment; collaborating during a test with any person without explicit faculty permission; stealing, buying, or otherwise improperly obtaining all or part of a test before the exam; taking a test for someone else or allowing someone to take a test for you; altering

responses after an assignment or test was graded, then reporting that there has been a scoring mistake; and marking to answers on a test, so that the choice is unclear in the hopes that the teacher will assume a correct response was intended.

Merychurst College respects the discretion of the faculty member in determining an act of academic dishonesty. An instructor who believes that a student has plagiairized material and can locate the source brings the evidence promptly to the attention of the student. If the instructor determines the act of academic dishonesty to have been willful and informed, the instructor may choose to fail the student for the assignment or fail the student for the course. Instructors should refer to the College statements on academic honesty. If instructors have specific policies concerning academic honesty beyond those outlined in the Faculty Handbook and in the College Catalog,, they should include those policies in the course syllabi.

It is within the instructor's purview to fail students for assignments; appeal of these decisions rests between the student and the instructor involved. Students who wish to appeal an instructor's decision to fail them for the course for an act of academic dishonesty do so using the process in place for appeal of a grade.

Academic Honesty Procedure

In addition to the policies listed above the following procedures will be implemented in Dectember 2004 in order to assure compliance with the college academic honesty policy.

a. A permanent file of violations of this policy will be created in order to keep track of repeat offenders.
b. This file will be maintained at the Office of Academic Affairs.
c. Faculty members have the option of submitting reports to be included in this file.
d. In order to assure consistency, prior to submitting the report the faculty member should review the report with the appropriate department director (academic departments are expected to reach consensus about what constitutes plagiarism).
e. Faculty members who submit such reports will also inform the students involved that such reports have been submitted.
f. These reports include the following information:
    a. Name of the student
    b. Name of the course
    c. Department sign-off
    d. Nature of the offense
    e. Evidence of the violation, a description of that evidence, or a reason for concluding that a violation occurred
    f. Explanation of the disciplinary action already taken by the faculty member (i.e., giving the student a zero for the assignment; requiring the student redo the assignment, failing the student for the course, etc.)
g. The Office of Academic Affairs will send a letter to the student, indicating that a report has been placed in his or her file.
h. The Office of Academic Affairs will be responsible for any additional disciplinary action against repeat offenders (i.e., those with two or more reports). Before any action is taken, the Office of

Academic Affairs will send a second letter scheduling an appointment for the student to meet with the Office of Academic Affairs to discuss the nature of the disciplinary action. Such action could include the following:

    a. Warning against further infractions
    b. Assignment of community service hours
    c. Requirement of an additional academic course (such as one in ethics)
    d. Requirement to complete a tutorial program of remediation
    e. Exclusion from participating in student organizations and extracurricular activities, including athletics, permanently or for a period of time to be determined by the Office of Academic Affairs
    f. Expulsion from the Honors Program or other College-organized honor societies permanently or for a period of time to be determined by the Office of Academic Affairs
    g. Dismissal from the College

i. In cases resulting in suspension or dismissal from the College, the Office of Academic Affairs will convene a panel that includes an administrator, a faculty member, and a member of Mercyhurst Student Government.