

PSY 3331: Statistics

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Office Hours:
1-2pm Mon/Weds/Thurs

Required Materials

- Cronk, B.C. (2014). *How to Use SPSS: A Step-by-Step Guide to Analysis and Interpretation* (9th ed.). Los Angeles: Pryczak. ISBN: 9781936523443
- Gravetter, F.J. & Wallnau, L.B. (2014). Bundle: *Essentials of Statistics for the Behavioral Sciences* (8th ed.) + *Aplia 1-semester Printed Access Card*. Belmont, CA: Wadsworth, Cengage Learning. ISBN: 9781285481661
- Basic calculator that does squares and square roots. Not a phone, not a fancy programmable one.

This syllabus draws on material from Dr. Debra Schroeder & Dr. Karen Petersen. My thanks!

Spring 2017	Section 02
4 credits	9:15—10:20am
MWF	Section 03
Tower 3131	10:30—11:35am
	Section 04
	11:45am—12:50pm

Welcome!

sta · tis · tics

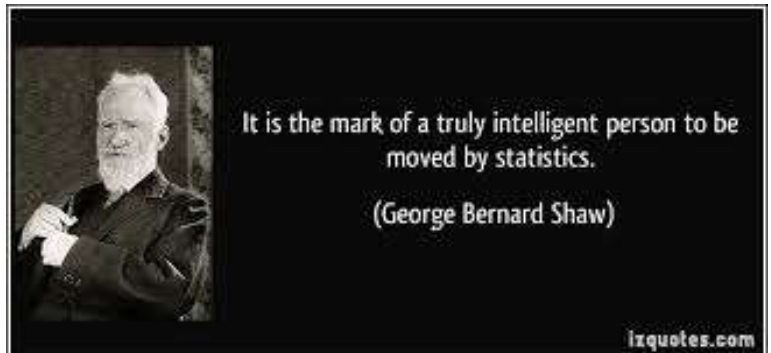
[stuh-tis-tiks], *noun*

1. The only science wherein two recognized experts, using exactly the same set of data, may come to completely opposite conclusions.

CATALOG COURSE DESCRIPTION:

Covers basic statistical concepts and methods useful in conducting research and evaluating results of studies done by others. Topics include frequency distributions and graphs, measures of central tendency and variability, transformed scores, correlations, multiple regression, hypothesis testing (t test, analysis of variance, and chi square), selection of appropriate statistics, calculation with MS Excel spreadsheets and SPSS, interpretation of the "results" sections of journal articles, and numeracy (understanding and using numbers in decision-making). Prerequisite: competence in arithmetic.

You probably don't want to be here. But you'll be glad to have taken the class when we're done. It's true! Learning to read and interpret basic statistics is a skill tested in your everyday life; it's in the election polls we obsess over every cycle; it's in the your GPA; it's in predictions of how long you'll live, how much money you'll need to do it, and your quality of life. This class will help you understand, and become moved by statistics.



I expect you to

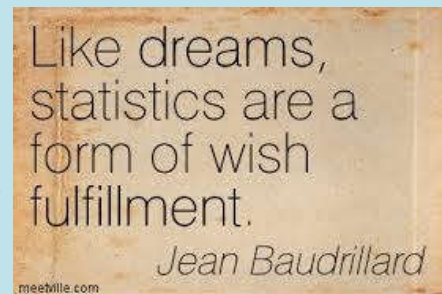
- Come to class prepared, every time on time
- Keep up with the material covered every week
- Complete and submit your assignments on time
- Produce assignments reflecting your own work
- Effectively collaborate with your groups
- Participate in a lively and respectful manner
- Abide by the standards of academic honesty
- Seek help liberally
- Communicate your needs to me

You can expect me to

- Come to class prepared, every time on time
- Facilitate classroom hours in inclusive and intellectually stimulating ways
- Hold regular office hours
- Check email at least once every business day
- Create assessments that reflect the learning goals for the course and the material we cover
- Assess your work fairly and efficiently
- Be enthusiastic about what I'm asking you to learn
- Communicate my expectations clearly

Upon completion of the course, you should be able to:

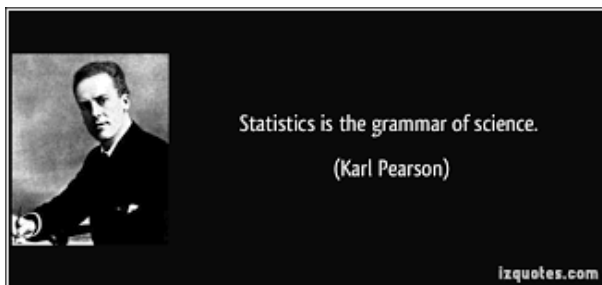
1. Function as a competent consumer of statistical information at a basic level.
2. Define basic terms for understanding the logic of statistics, such as population, sample, parameter, and statistic.
3. Represent complex data sets in both tabular and graphic forms.
4. Compute & interpret indices of central tendency: means, medians, and modes.
5. Compute & interpret indices of variability: ranges, variances, and standard deviations.
6. Compute and interpret various types of transformed scores, such as z-scores & percentile ranks.
7. Compute and interpret correlation coefficients.
8. Construct simple linear regression equations.
9. Evaluate group differences using such parametric statistics as t-tests and ANOVA tests, and such non-parametric statistics as chi square tests, and interpret the results.
10. Explain the relevance of sampling distributions in interpreting inferential statistics.
11. Determine the appropriate statistical indices to compute in given situations.
12. Use the spreadsheet program, Excel, to compute descriptive statistics, and the statistical package, SPSS, to compute descriptive and inferential statistics.
13. Interpret the output of Excel and SPSS.



Assignments & Grading

Assignments	Points	Due Date
• Chapter Quizzes (25 pts * 9, drop one)	200	See schedule
• Exams (80 pts * 6, drop one)	400	See schedule
• Homeworks	200	Throughout
• SPSS Project	150	See schedule/TBA
• Syllabus quiz	25	Challenge: find out what & when by reading this syllabus!
• Numeracy presentation	25	Final exam class period
Total	1000	

Grading Distribution	
• 95 –100	A
• 90—94	A-
• 88—89	B+
• 85—87	B
• 80—84	B-
• 78—78	C+
• 75—77	C
• 70—74	C-
• 59 and below	F



Years ago a statistician might have claimed that statistics deals with the processing of data ... today's statistician will be more likely to say that statistics is concerned with decision making in the face of uncertainty.

- Hermann Chernoff

Chapter Quizzes & Exams

Chapter quizzes will be given as take-home quizzes, and will test material assigned for that day. **NO make up quizzes will be offered; I will drop your lowest quiz score.**

Exams will be similar in content to quizzes, though longer and **comprehensive**. Exams will be time-limited. **You must come to class on time in order to use the full time allotted. Make up exams will be offered in EXTREMELY LIMITED CIRCUMSTANCES; I will drop your lowest exam score.**

Both exams and quizzes may include multiple-choice, matching, fill-in-the-blank, short answer, and computational items. Successful students will be able to recognize and understand the symbols used in statistical formulas and how to do the calculations.

Written and Presented Work

Numeracy Presentation

On your own or in a pair, you will prepare a poster presentation on a subject related to numeracy.

The poster session will be held during our final exam period. You will be graded both on your own poster and your interaction with the other posters.

More details will follow in class.

Material should be formatted in APA style (see <http://resources.css.edu/library/docs/tutorials/librarytutorial7.swf>), including citations and bibliographic lists.

Practical Project

The final project involves analyzing and interpreting a data set using SPSS. You will learn to write up the results using the professional format presented in the SPSS textbook for this class. Any evidence of copying between classmates

or across classes will be considered **academic dishonesty**. Students are expected to generate their own work.

This assignment will be due **in parts throughout the semester**. More details will follow in class.

Statistical thinking will one day be as necessary a qualification for efficient citizenship as the ability to read and write.

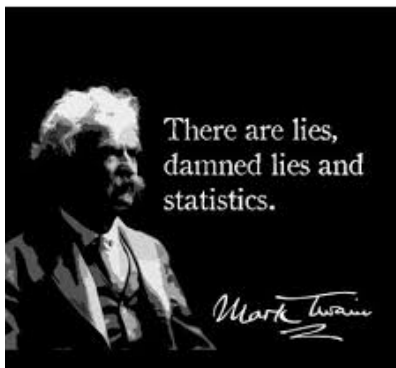
--H.G. Wells

Attendance & Participation

Learning is about the interaction of minds and ideas in the classroom. Thus, attendance is required; please make sure to sign in every day.

Lively and respectful participation is expected and **translates linearly into grades**. I will call on students randomly each class period; you can always pass if you're not ready to talk.

If you have concerns about this procedure and expectation, please come talk to me for ideas about how to contribute.

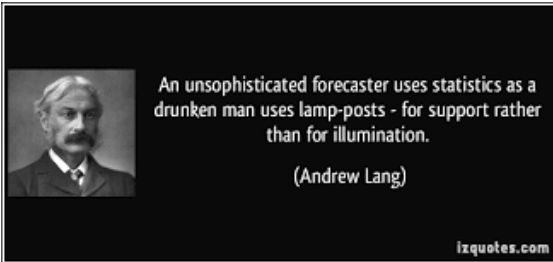


Homework

Completing regular practice in the form of homework is essential for learning statistical skills. It may not be easy at first, but make time for it and you will improve your skills. Repetition is important, but so is checking your work and figuring out WHY you made any errors you made. Homework must be done on time for credit, though I will review your work with you after the due date. Homework will be provided online through Aplia and in other formats.

Hey diddle diddle,
the median's the middle;
YOU ADD AND DIVIDE FOR THE MEAN.
The mode is the one that appears the most,
and the range is the difference between.

Classroom Policies



General Policies

Late Work. I DO NOT ACCEPT LATE WORK. For regular **writing** assignments, *I suggest that you begin your papers early enough to accommodate any last-minute emergencies.* As the saying goes, a failure to plan ahead on your part does not constitute an emergency on my part.

For **exams**, make-ups are only offered at my discretion in instances of unavoidable, reasonable absences, clearly and promptly communicated to me. Make-ups must be taken within one business day of the exam date unless otherwise approved; if no such arrangement is made, you forfeit your right to a make-up exam. If a make-up is approved, it is your responsibility to coordinate the proctoring, whether in my office or the library.

An **incomplete "I"** may be assigned under rare and extreme circumstances. You must complete the course by the 10th week of the subsequent term, excluding summer terms. The temporary grade will convert to F if the coursework is not completed within that time frame.

Unusual circumstances. You might face unusual circumstances that affect your attendance or your work this semester; these might include religious or athletic commitments, health or personal problems, or other things. Please contact me within the first three weeks of the semester if you would like to discuss a specific instance that applies to you. In the case of major emergencies, please talk to me as soon as you're able. I work hard to make all my courses accessible; normal situations should be handled through the Center for Equal Access.

Classroom Atmosphere

Be respectful of me, of your classmates, of the College personnel and facilities. This means, at a minimum, silencing your cell phones and minimizing disruptive behavior in class, generally paying attention in class, arriving on time, and staying for the full class period.

Please choose your words carefully. The classroom must be a place in which everyone can participate. This means that every person must feel safe enough to express their opinions without fear of ridicule or intolerance. Remember that in good discussions, people critique ideas and not other people. The more heated the social issue we discuss, the more important it is to keep this in mind. It is normal to be or become emotionally connected to the concepts we discuss, and it is normal to have personal experiences related to those concepts. It is also normal for those experiences to be in conflict with the experiences of others in the room. For example, just as there will likely be someone in class who would prefer abortion not be legal, there will also likely be someone in class who has *had* an abortion. It's important to remember this diversity in our discussion so that we maximize, to the extent possible, the vibrancy and respectfulness of our intellectual inquiries.



Classroom Policies, continued

Academic Honesty

Academic honesty and integrity are highly valued in our campus community. Academic honesty directly concerns ethical behaviors that affect both the academic environment and the civic community. Academic dishonesty seriously violates the integrity of the academic enterprise and will not be tolerated at St. Scholastica. Academic dishonesty is defined as follows: misrepresentation of the work of others as one's own, dishonesty in testing, violating authorized guidelines established by instructors for individual assignments, sabotaging or damaging the work of others, or engaging in dishonesty in other academic work.

I will do my best to provide clear guidelines, but if you have ANY question about what degree of cooperation or help is authorized, please ask!

If I determined that a student has been academically dishonest, I am required to report it. Please don't make me do that! In cases of academic dishonesty, the minimum penalty to be applied by the faculty member shall be failure of the assignment or test, and the maximum penalty shall be failure of the course. In addition, a department may deny admission to or dismiss from a program a student who has engaged in academic dishonesty, and the Vice President for Academic Affairs or Vice President for Student Affairs may exclude such a student from extracurricular activities or expel him or her from the College, even on the first instance of academic dishonesty. An aggrieved student may appeal any adverse decision regarding academic dishonesty by following the procedure outlined in the academic appeal procedure in the student handbook. Please ask me if you have any questions.

"To understand God's thoughts we must study statistics, for these are the measure of His purpose." - Florence Nightingale

Equal Access Statement

Students with disabilities, students who sustained injury in active military service, and students with chronic medical conditions are entitled to appropriate and reasonable auxiliary aids and accommodations through The Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. It is the student's responsibility to notify the Center for Equal Access as soon as possible to ensure that such accommodations are implemented in a timely fashion. For more information or to request academic accommodations, please contact The Center for Equal Access in Tower Hall 2126; by phone at (218) 723-6747, 218-625-4891; or via e-mail at access@css.edu.



<http://www.nataliedee.com/index.php?date=022311>

SAVE
YOUR
WORK
REDUNDANTLY.
-ade

Contacting me.

The best way to contact me is via **email**: adevineeller@css.edu. Please read the syllabus thoroughly before emailing me with questions about the course. Don't email me an hour before class starts to ask me questions about the reading or exams; not only will I not have time to respond to you before class, but I will also know you put off the assignment until the last minute. You can expect me to respond to email every afternoon while I'm in my office. (i.e., I might not check email between 5 pm and the start of class the next morning ... plan ahead!)

When you email, please include enough details about the assignment or question that I know what you're asking. I don't like to respond to email when I don't know who it's from. I welcome anonymous emails with suggestions, critiques, or comments about the course.

Syllabus "quiz." Please send me an email, before the 2nd day of class, & tell me something you'd like me to know about you (fun, serious, whatever!).

Office hours. I have office hours every week, as listed on the first page of this syllabus. Feel free to just drop by or to make an appointment ahead of time for priority. If my scheduled office hours conflict with your schedule, please **email** me to set up an alternate time. **You may drop in if my door is open.**

Resources

If you are having trouble in class, here are some steps you can take:

- Come to my office hours and talk about it!
- Seek out a tutor that will help with reading, writing, or time management

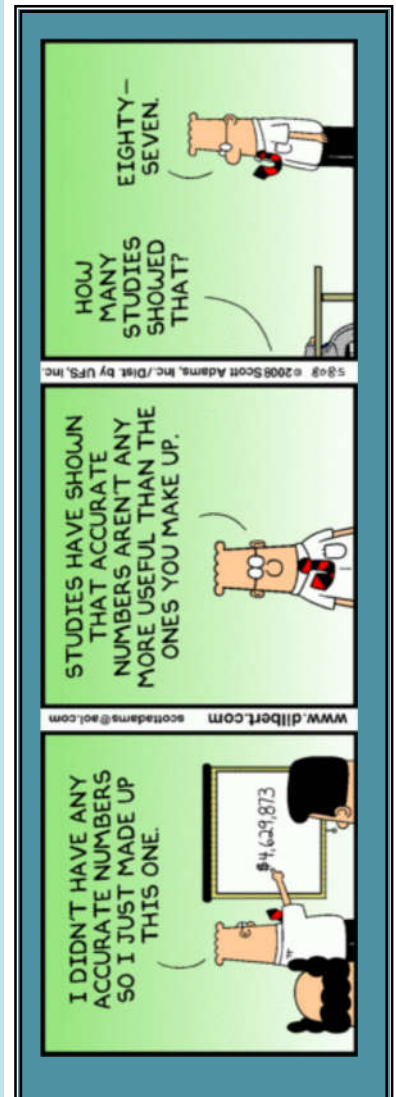
The **Add/Drop Period** for Spring 2017 Courses ends Monday, January 30. Last day to withdraw from a course is Monday, April 3.

Connectivity problems will not be accepted as an excuse for delayed work. Please plan ahead.

I reserve the right to make changes to this syllabus.

Use of Your Work

Sometimes it helps me to use anonymized student work as part of my teaching portfolio, where I demonstrate my teaching methods and success. I also like to use student work as examples in class, for the benefit of other students. If you prefer not to have your work used, please let me know.



TENTATIVE COURSE SCHEDULE PSYCH 3331-02, 3331-03, 3331-04 SPRING 2017

Date	Day	Topic	Reading	Quiz by 5pm	APLIA	SPSS Project (most TBA)	Week
18-Jan	W	Intro to course					1
20-Jan	F	Samples/Pops/Variables/Measures	1.1 to 1.5				
23-Jan	M	Frequency Distributions	2.1-2.2		Ch1		2
25-Jan	W	Graphs	2.3-2.4	Ch1			
27-Jan	F	Mean/Median/Mode	3.1-3.4		Ch2		
30-Jan	M	Choosing a measure of central tendency	3.5-3.6	Ch2			3
1-Feb	W	Variability	4.1-4.3		Ch3		
2-Feb	R			Ch3 noon			
3-Feb	F	Standard deviation and bias	4.4-4.5				
6-Feb	M	EXAM #1 (Chapters 1-4)			Ch4		4
8-Feb	W	z-scores	5.1-5.3			SPSS1	
10-Feb	F	other standardized scores	5.4-5.6				
13-Feb	M	Probability and the normal curve	6.1-6.2		Ch5		5
15-Feb	W	Probability with unit normal curve	6.3-6.4	Ch5			
17-Feb	F	Samples, means and standard error	7.1-7.2		Ch6		
20-Feb	M	z-scores for sample means	7.3-7.5	Ch6			6
2/22/2017 W Community Day - no classes							
24-Feb	F	EXAM #2 (Chapters 5-7)			Ch7		
27-Feb	M	tba					7
1-Mar	W	Hypothesis testing	8.1-8.3				
3-Mar	F	Directional tests	8.4-8.6				
6-Mar	M	t-statistic	9.1-9.2		Ch8		8
8-Mar	W	one-sample t-test	9.3-9.4	Ch8			
10-Mar	F	EXAM #3 (Chapters 8-9)			Ch9		
3/11-3/19 Spring break - no classes							
20-Mar	M	t-statistic for two samples	10.1-10.2				9
22-Mar	W	independent samples t-test	10.3-10.4				
24-Mar	F	repeated measures t-test	11.1-11.2		Ch10		
27-Mar	M	repeated measures t-test	11.3-11.4	Ch10			10
29-Mar	W	Using SPSS			Ch11		
31-Mar	F	EXAM #4 (Chapters 10-11)					
3-Apr	M	One-way ANOVA	12.1-12.3				11
5-Apr	W	ANOVA test and effect size, post-hoc	12.4-12.6				
7-Apr	F	Repeated measures ANOVA	13.1-13.2		Ch12		
10-Apr	M	Two-way ANOVA	13.3-	Ch12			12
12-Apr	W	Post hoc/Using SPSS			Ch13		
4/13-4/17 F, M Easter break - no classes							
19-Apr	W	EXAM #5 (Chapters 12-13)					
21-Apr	F	Scatterplots and correlation	14.1-14.3				
24-Apr	M	Hypothesis tests with correlation	14.4-				14
26-Apr	W	Linear regression and prediction	14.6-				
28-Apr	F	Chi-square goodness of fit test	15.1-15.2		Ch14		
1-May	M	Chi-square test of independence	15.3-15.5	Ch14			15
3-May	W	review day/wrap up			Ch15		
5-May	F	EXAM #6 (Chapters 14-15)					

Scheduled exam period: Class meeting for Numeracy presentations
 (02: 2 pm Weds 5/10; 03: 10am Mon 5/8; 04: 10 am Weds 5/10)

How to access your Aplia course

PSY 3331-02 / 3331-03 / 3331-04 Spring 2017

Instructor: Audrey Devine Eller
Start Date: 01/16/2017

What is Aplia?

In just 10 years, more than one billion answers have been submitted through Aplia, the premier online assignment solution. Millions of students use Aplia to better prepare for class and for their exams. Join them today!

Registration

Connect to <http://login.cengagebrain.com/course/5HW4-KQJ4-WN4P>

Follow the prompts to register for your Aplia course.

Please register for the section in Aplia that matches your CSS section/time. Please register for the section in Aplia that matches your CSS section/time.

Payment

After registering for your course, you will need to pay for access using one of the options below:

Online: You can pay online using a credit or debit card, or PayPal.

Bookstore: You may be able to purchase access to Aplia at your bookstore. Check with the bookstore to find out what they offer for your course.

Free Trial: Your course enrollment includes a free trial period of up to two weeks. After the free trial ends you will be required to pay for access.

Please note: At the end of the free trial period, your course access will be suspended until your payment has been made. All your scores and course activity will be saved and will be available to you after you pay for access.

If you already registered an access code or bought Aplia online, the course key to register for this course is: **5HW4-KQJ4-WN4P**

Note that Aplia grants you access to an online textbook.

System Check

To check whether your computer meets the requirements for using Aplia, go to

<http://www.aplia.com/support/sysreq.jsp>.

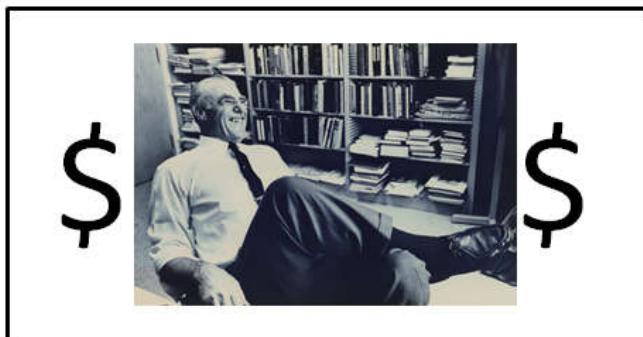
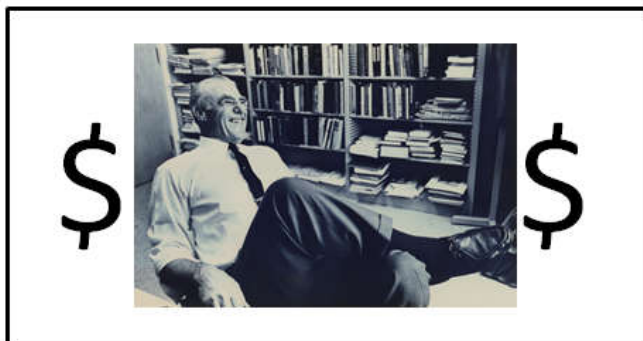
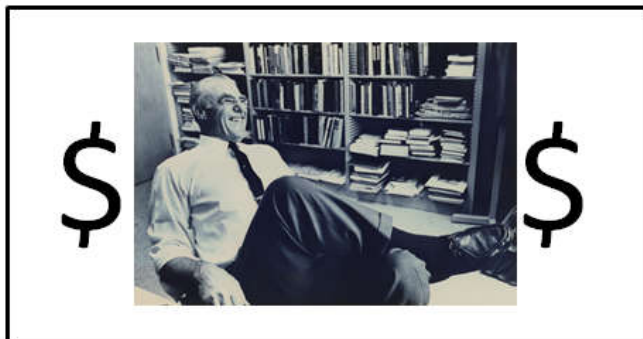
Keeping up on the work: What happens when you have conflicts?

You already know that keeping up on the work is important in this class. But prioritizing and making hard decisions about your time is a learned skill, and you can practice that here too.

You have the option to use, without penalty or question, **three quiz or homework extensions**. Each extension buys you **24 hours of additional time**. You can use them all at once or spread them out. You might choose to save these for when you're sick; you might need to use them when you travel for athletics; you might wish to observe religious holidays other than the College's; you might just want to go sledding or sleep in. You don't even have to tell me why. I suggest choosing carefully. You don't, of course, have to use all of them, and they do NOT allow you extensions on exams.

Of course, you can always turn your quizzes and homework in ***early*** to avoid using these extensions.

(Students who have need of special accommodations or encounter emergency situations during the class should talk to me ASAP.)

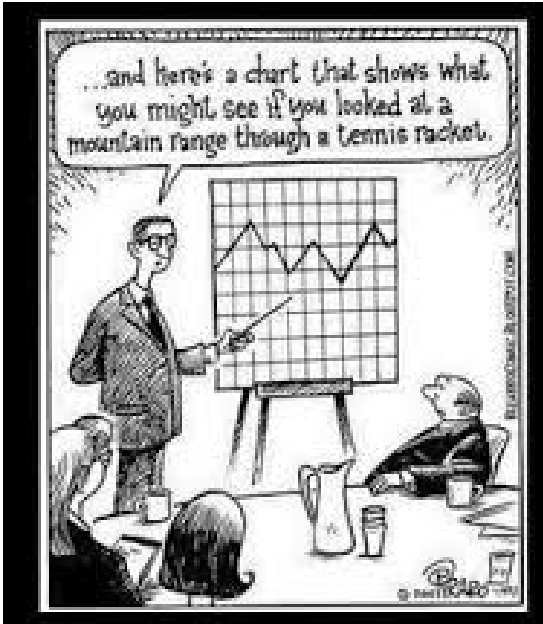


To redeem, cut out, write your name, and turn in with your quiz at my office.

Who's Herbert Blumer? An American sociologist (1900-1987) who developed the *Symbolic Interactionism* theoretical perspective, in a 1969 book of that name. He challenged reigning ideologies of *behaviorism* and of *positivistic* methodologies. Blumer played pro football for the Chicago Cardinals while completing his doctorate, and then originated the sociology department at Berkeley.

Source: http://en.wikipedia.org/wiki/Herbert_Blumer

Image: http://www.lib.berkeley.edu/uchistory/archives_exhibits/in_memoriam/catalog/blumer_herbert.html



Name: _____

Class: Stats 3331- Spring 2017

Assignment: _____

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