

SYLLABUS

Course: Psychology 370 (Schedule#22549; Psychological Testing and Measurement)

Course Description: Measurement theory and the basic principles of testing. Selection, construction, and critical evaluation of group tests of intelligence, personality, aptitude, interest, and achievement.

Prerequisites: Grade of B or better in Psychology 270 or equivalent statistics course; grade of B or better in Psychology 301. Proof of completion of prerequisite required: Copy of transcript.

Note: Students electing to take Psychology 410 for the methods requirement may petition waiver of the Psychology 301 prerequisite by permission of the undergraduate adviser.

Credit: 3 units

Semester: Spring, 2011

Time: Tuesday & Thursday: 1230-1345 (12:30-1:45 pm)

Location: LS246

Instructor: Dale N. Glaser, Ph.D.

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Overview

A cursory review of a daily newspaper or weekly magazine will find, in one way or another, something being measured. Measurement may range from such disparate sources/topics as examining opinions regarding genetic testing (and insurance companies!!) to median home prices (as you know there have been huge fluctuations the last few years!) to an article titled: "Positive emotions increase life satisfaction by building resilience" [<http://uncnews.unc.edu/content/view/2688/71>]....or the following:

From an article titled "Statistics Paint Picture of U.S. Life" (12/20/09 in SD Union) the following statistics are enumerated:

1. More adults play video games than take educational courses
2. Americans drink more bottled water than alcohol
3. One in 10 male students said he carried a weapon to school within the previous month
4. An estimated 110 billion text messages were sent on cell phones in Dec 08, more than double the 48 billion in the previous December.
5. The number of pieces of mail delivered by the Postal Service, which being declining in 2007, dipped in 2008 to the lowest in a decade.
6. Women pulled even with men among new recipients of doctoral degrees in 2007 for the first time
7. About three in 10 people who married in the early 1900s did not stay married long enough to celebrate their 10th anniversary

Or a large collection of statistics obtained regarding drug use and teenagers (from: <http://www.gdcada.org/statistics/teens.htm>):

(1) Binge drinking (having five or more drinks in a sitting) is common in most segments of society in the U.S., and is climbing fastest among 18 to 20-year-olds, who are too young to drink legally

(2) Illegal drug use is declining among youth, while the abuse of prescription drugs, especially pain relievers, is increasing. Many abuse prescription drugs thinking that they are safe, when in fact they can cause addiction and severe side effects..

And testing is not without controversy, as noted in the 6/20/06 issue of the San Francisco Chronicle in regards to the California Exit Exam:

"At Stanford University's School of Education, we analyzed California's policy for assessing students learning English. We found that 1 out of every 4 students learning English did not pass California's exit exam and will not be able to graduate. We also found that the design of California's exit exam and the way it is administered potentially account for the large number of English learners failing to pass. California's exam falls short in many areas when compared to other states' more comprehensive exit exams and recent research findings." (McCloskey & Ocampo)

Or further controversy is detailed in a 12/1/8/09 article titled "19 universities investigated for admissions bias".

Thus, measurement is a pervasive part of our lives, whether we know it or not (how many of you monitor your speedometer, weigh yourself, or take those little "rate your____" in the monthly magazines?!). Moreover, measurement and testing takes place in a wide array of contexts, for example from education (SAT, GRE, test scores in college classes, etc.) to industry (return on investment, work output, performance appraisals, etc.) to health care (Length of Stay, outcomes, cost benefit/analysis, etc.). And frequently, the question comes up: how good is one's measure? How do you know you REALLY measured what you purported to measure? What is the relevance of the measure / test?

Course Objectives

This class is designed to provide an introduction to concepts, theories, and methods regarding psychological testing and measurement. We will focus on areas such as psychometric principles (e.g., validity and reliability), test and item analysis, test construction, and applications of psychological testing in a wide variety of settings (such as industry and education). The primary objectives of this class are as follows:

- Provide you with a fundamental understanding of the core issues in psychological testing and measurement
- Understand the key techniques undergirding the analysis of tests and measurement
- Be able to interpret and report psychometric properties of tests and scores, such as reliability and validity
- Distinguish between tests that assess personality vs. ability vs. interests

In addition, as an ongoing string of papers, after you have carefully thought about an assigned construct, you will analyze the results of a survey entailing writing a methods and descriptive section and a host of psychometric testing (e.g., reliability, validity).

Helpful Hints/Platitudes

Even though this is not a statistics course, much of psychological testing and measurement involves the incorporation of statistical techniques and/or principles. Hence, even though one of the chapters in the text will cover basic statistics, it may be helpful to review statistics/research design notes from prior classes if the need arises.

Course Requirements

- 1) Given the comprehensive (and cumulative) nature of the curriculum, **attendance** is strongly encouraged and should be adhered to per school policy.
- 2) **Papers.** Two papers will be assigned regarding a specific domain related to psychology. Your papers are expected to be concise, succinct, and typed (and double-spaced, preferably adhering to APA style..... see 6th Edition of APA publication manual). Further elaboration and expectations of the papers will be provided in lecture though the primary themes for each of the papers will be as follows:
 - **Paper 1: Defining the Construct, Literature Review, and Item Construction:** this will entail thinking about the domains given a selected topic, conducting literature review, and creating survey items for each domain and demographics (50 points)
 - **Paper 2: There will be two parts:**
 - **1) Methods and Descriptive Analysis:** this will entail writing up the methods section (participants, materials, etc.) and conducting descriptive analysis (domain/scale means, etc.)
 - **2) Psychometric Testing:** this will entail assessing reliability and validity (i.e., predictive, construct) and providing an overall interpretation (as well as suggestions for future directions) (75 points)

Moreover, you have the option of working individually or in small groups (max. $n = 3$) for the papers. If you decide to work in a dyad/triad, it may be the better part of prudence to select your working partner based on their strengths (i.e., facility with SPSS, etc.) so as to optimize the balance and perceived equity in the group (will discuss social loafing!!).

The assigned papers, as well as powerpoint slides, can be accessed via Blackboard and only hard-copy (email not acceptable) papers will be accepted. Late papers will see a 10% reduction in points on daily basis (i.e., for 50 point paper, 5 points per day).

- 3) **Tests.** Mixture of multiple choice, true/false, and short essay. Material will be culled from text, handouts, and lecture. Calculators will be permitted (though probably not necessary), but nothing preprogrammed!! Each test will be worth 100 points. Please bring Scantron Form No. **882-E (Green)** to each test

General etiquette!!: For the consideration of others please turn off and/or do not use any electronic devices (i.e., texting, surfing the web, sending emails, etc.) during class instruction; if you have the compelling reason to do so please excuse yourself from the class. Thank you!

- **Students with disabilities:** ADA/Accommodations: San Diego State University seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Student Disability Services (SDS), 619.594.6473 or online at <http://www.sa.sdsu.edu/sds>. SDS will work with you and the instructor to make

arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the SDS.

- **Academic dishonesty:** The Student Code of Conduct is online at <http://www.sa.sdsu.edu/srr/conduct1.html>. The academic dishonesty code specifies actions for behaviors such as cheating on tests, plagiarism, and/or inappropriately collaborating with others. I will enforce the code in the course; cheating or other violations will result in appropriate penalties, including a failing grade on the assignment or in the course, and the reporting of that incident to the Office of Student Rights and Responsibilities. Students have the right to appeal such action in accord with the due process.

Grading

29.42% of your grade will be based on the two papers (125 possible points) and 70.58% (300 possible points) will be accorded for the three in-class tests. **Total possible points = 425.** Grading will be commensurate with school policy. Make-up of tests will be granted *only* when notification is provided **prior** to test administration. Extra credit will not be provided in this course!

It is required that all work on the papers be based on your individual effort. This implies that you did not access other student's work (unless of course your working within a group!!) nor did you plagiarize work compiled by efforts other than your own. If during the course of the first paper you extract items (on a very limited basis) from other inventories/instruments, it will be imperative that you furnish the citation. Failure to meet any of these conditions will result in '0' points for the given paper.

Safety

To be prepared for emergencies, each student is responsible for becoming familiar with the evacuation plan specific to each classroom. The evacuation plan is posted within each classroom and should be examined on the first day of class.

Text

Murphy, K. R., & Davidshofer, C. O. (2005). *Psychological Testing: Principles and Applications* (6th Edition). Upper Saddle River, NJ: Prentice Hall.

Course Schedule

Jan. 20 & 25	Introduction/Course Review; Tests and Measurements; Defining and measuring Psychological Attributes Required Readings: Chap. 1-2
Jan. 27 & Feb. 1	Defining and measuring Psychological Attributes (con't); Basic Statistics Required Readings: Chap. 2 & 4 Paper #1 reviewed
Feb. 3 & 8	Basic Statistics (con't); Scales/Norms/Transformations Review Assignment (test construction, item quality, etc.). Required Readings: Chap. 4-5

Feb. 10 & 15	Scales/Norms/Transformations Review Assignment (con't); Introduction to Reliability; Required Readings: Chap. 5-6 Paper #1 due
Feb. 17 & 22	Test #1 (ch. 1, 2, 4, 5, 6, & 7)-- Bring Scantron 882-E (Green) Interpreting Reliability Test Review Required Readings: Chap. 7
Feb. 24 & Mar 1	Content and Construct Validity Required Readings: Chap. 8
Mar. 3 & 8	Content and Construct Validity (con't); Criterion Validity Required Readings: Chap. 8-9
Mar. 10 & 15	Criterion Validity (con't); Item Analysis Required Readings: Chap. 9-10
Mar. 17 & 22	Process of Test Development; Ability Testing: Individual Tests Required Readings: Chap. 11 & 13 Paper #2 reviewed
Mar. 24	Ability Testing: Individual Tests; Group Tests Required Readings: Chap. 13 (con't)- Ch. 14
Mar 28-Apr 1	<i>Spring Recess: No Class!!!!</i>
Apr. 5 & 7	Test #2 (ch. 8, 9, 10, 11, 13, & 14)- Bring Scantron 882-E (Green) Group Tests Required Readings: Chap. 14
Apr. 12 & 14	Issues in Ability Testing & Interest Testing Required Readings: Chap. 15-16
Apr. 19 & 21	Interest Testing & Personality Testing Required Readings: Chap. 16 and 17 Paper #2 due
Apr. 26 & 28	Personality testing and Measures in Industry Required Readings: Chap. 17 & 19
May 3 & 5	Measures in Industry & Testing and Society Required Readings: Chap. 19 & 3

May 10

Testing and Society (con't)

Required Readings: Chap. 3

May 17

Final Exam: 10:30 to 12:30 (per catalogue)

Test #3 (ch. 15, 16, 17, 19 & 3)

Bring Scantron 882-E (Green)