

PSYC 531 – Psychological Tests and Measurement

Overview:

Topics:

- The history of psychological testing
- Uses of test results
- Ethical issues in testing
- Norms, and the reliability and validity of tests
- Item analysis, test bias, item response theory, and test construction
- Individual and group tests of intellectual functioning
- Personality measurement
- Testing in educational, occupational, and clinical settings

This course is appropriate for juniors, seniors, and graduate students in psychology, industrial relations, or education. Students must have completed Psych 210 or its equivalent. Quizzes and a final examination will be administered; there is also a test-construction project.

Schedule & Requirements:

Text: R.J. Gregory, Psychological Testing: History, Principles, and Applications, Seventh Edition
(Additional readings will be suggested or provided periodically.)

Schedule:

January 12 – 14	Introduction/ Army Alpha/ SAT
January 19 – 21	Applications and Consequences of Psychological Testing History of Psychological Testing
January 26 – 28	Norms and Reliability
February 2 – 4	Validity and Test Development
February 9 – 11	Some Item Response Theory
February 16 – 18	Theories of Intelligence and Factor Analysis
February 23 – 25	Individual Tests of Intelligence and Achievement
March 1 – 3	Group Tests and Controversies in Ability Testing Testing Special Populations
March 8 (no class March 10)	Origins of Personality Testing
March 22 – 24	Assessment of Normality and Human Strengths/ Project Begins Thursday
March 29 (no class March 31)	Planning meetings
April 5 – 7	Assessment of Normality and Human Strengths (continued)/ Questionnaires
April 12 – 14	Data Analysis/ Industrial, Occupational, and Forensic Assessment
April 19 -21	Legal Issues and the Future of Testing
April 26	Practice Final
May 3 (Tuesday) 8 AM	Final Exam

Requirements, grading, and stuff:

On Thursday, January 21, and thereafter on (almost) every Thursday, there will be (very short) weekly quizzes on the chapter(s) assigned for that week. (The first quiz, on January 21, will cover chapters 1-2. The quiz on chapter 8 will be on Tuesday, March 8.) There will also be a final examination, using multiple-choice questions written by the class; you will receive credit both for the quality of your performance on the quizzes and the final and for the quality of the performance of the items you write for the final. In addition, you will participate in the design of a short test/questionnaire to measure some psychological construct. The items will be due April 4; everybody in the class will respond to them. We will provide item-analysis statistics and you will write a report on the performance of your instrument. Reports will be due April 26.

The schedule above is in the nature of a prediction, not a guarantee or contract.

The Grading System:

There are three evaluated components in the grade:

- Quizzes – did you read the book?
- “The Project” – can you construct a psychological measurement instrument, and report thereon?
- The final – required by UNC

The three will be combined into a final grade by converting the corresponding letter grades into their 4-point numerical equivalents (A=4, B=3, C=2, D=1, F=0) and computing the arithmetic average. Reversion to letter grades is as follows:

- A: Average > 3.5 ; eg., AAA = $(4+4+4)/3 = 4 \rightarrow A$; AAB = $(4+4+3)/3 = 3.67 \rightarrow A$
- B: Average > 2.5 ; eg., BBB = $(3+3+3)/3 = 3 \rightarrow B$; ABB = $(4+3+3)/3 = 3.33 \rightarrow B$
- C: Average > 1.5 ; eg., CCC = $(2+2+2)/3 = 2 \rightarrow C$; BCC = $(3+2+2)/3 = 2.33 \rightarrow C$
- D: Average > 0.5 ; eg., DDD = $(1+1+1)/3 = 1 \rightarrow D$; DCD = $(1+2+1)/3 = 1.33 \rightarrow D$
- F: worse

Turning quizzes into letter grades

- A: Average number-wrong less than 1.5/quiz
- B: Average number-wrong less than 3/quiz
- C: Average number-wrong less than 4.5/quiz
- D: worse

Turning the final into letter grades:

- A: greater than 90% of maximum-raw-score-obtained
- B: greater than 80% of maximum-raw-score-obtained
- C: greater than 70% of maximum-raw-score-obtained
- D: greater than 60% of maximum-raw-score-obtained
- F: worse

(In addition to the usual number-correct score on the final, there will be “extra credit” points based on the performance of the items that you will write for the final.)

Test Construction Project:

Thursday, March 24	Instruction, Preliminary Meetings
Thursday, March 31	Final Planning Meetings
Tuesday, April 5	“Camera-ready” copy due
Thursday, April 7	Questionnaires (class)
Tuesday, April 12	Data & Summary statistics distributed
Tuesday, April 26	Final report due

For this project, small groups of (three to five of) you will each make up your own “psychological test” and report on data arising from a small-sample (the class) tryout of the items. The test or questionnaire must be very short, for practical reasons. Nevertheless, you are free to attempt to measure any psychological construct you like: some ability, personality construct, or any kind of attitude. Good luck. On Tuesday, April 5, you are to bring “camera ready” copy of your instrument (test or questionnaire) to class; some rules:

- Your instrument must be computer-printed for legibility.
- It must fit on two 8.5 x 11 (letter size) pieces of paper (or less; format compactly if possible to reduce copying costs).
- Identify your questionnaire with your group name in the upper-right hand corner.
- It should have at least 5, but no more than 10, questions.
- All of your questions should be directed toward the measurement of the construct you intend. On a coversheet for the questionnaire packet, we will ask for the respondent’s sex and undergraduate GPA [for you to use as (potential) background variables in your analysis]; do not ask any other (potentially identifying) questions.

We will distribute packets containing everyone’s tests/questionnaires to everyone in the class on Thursday, April 7. Because the class is small for data collection purposes, it is very important that everyone be there to pick up the packets, answer the questions, and return them; otherwise, you will all have very little information about your items. Your questions must have directly-machine-codable responses (e.g., multiple choice, true-false, or Likert-type formats), and you must supply a key (on a separate sheet of paper, identified with your group name). We will supply you with some standard item-analysis statistics ($p+$, r_{pt-bis} , coefficient alpha, etc.) on Tuesday, April 12

Although your tests/questionnaires are constructed as a group project, each of you must write your own individual report on which your grade will be based. You may discuss the contents of your reports with your groups, but the actual document must be your own individual work. Your written (printed!) report on your scale construction effort is due on Tuesday, April 26. Your report should include 1) A description of the purpose of your test or questionnaire (1-3 pp.), 2) the items themselves and your method for constructing them (1-3 pp.), and 3) a summary of the performance of the items and an evaluation of the items (or a subset of them) for measuring whatever you are trying to measure (3-5 pp).

To view some examples of scales constructed by students in previous years, download and view any of the entries [on this page](#). (These are shorter, for the most part, than the questionnaires you will design, because they were done following slightly different rules.)