

Vanguard University
School for Professional Studies
Degree Program

“PSYCHOLOGICAL TESTING”
PSYD 446

Student Guide

03/09
DS 01/10

MODULE DESCRIPTION

Psychological Testing addresses the basic psychometric issues in the field of testing. The construction, administration, scoring, uses and misuses of psychological tests will be presented. The major types of psychological tests will be surveyed, and problems related to validity and reliability will be considered. Cultural and ethnic biases will be addressed.

VANGUARD UNIVERSITY EDUCATIONAL TARGETS AND GOALS

Course content and activities have been designed to meet Vanguard University's Educational Targets and Goals in the areas of Intellectual Engagement, Professional Excellence, and Responsible Stewardship. The complete list of Targets and Goals follows.

INTELLECTUAL ENGAGEMENT

Students will

- Learn to think critically and evaluate psychological tests and procedures by evaluating existing tests and through critically evaluating their own test.
- Acquire and continue to use skills for learning such as knowledge and application of research methodology and statistical techniques.
- Utilize research methods for the expansion of knowledge and problem solving by evaluating the practical applications of test results.
- Integrate learning with Christian faith and living by discussing how tests relate to issues of personal faith and practice.
- Develop the ability to communicate the fruits of learning and research clearly and effectively by presenting a newly designed test both as a written manual and in an oral presentation.

SPIRITUAL FORMATION

Students will

- Understand Christian existence as a journey that integrates human experience with personal faith by integrating their understanding of research design and testing with their Christian faith.
- Gain an appreciation for the value of participation in communities of believers by discussing both the research-based benefits as well as the value of personal integration of faith and learning.
- Develop and maintain a biblically based and theologically sound Christian lifestyle of personal and social responsibility that is intended to extend beyond this course.

PROFESSIONAL EXCELLENCE

Students will

- Understand current theories and practices in their respective academic disciplines in the context of the liberal arts and sciences and to understand how these relate to present learning.
- Develop lifelong skills for communicating and performing professionally as demonstrated through assessments, group discussions, and the creation and presentation of a test manual.
- Achieve technological competence in acquiring and processing information that is then used in the professional presentation of a test manual.
- Acquire interpersonal ability to work harmoniously with others. These skills will be enhanced through group discussions and the creation and critical evaluation of test projects.
- Internalize a strong sense of professional ethics that is applied in considering the test items, objective and ultimately the use of various tests.

AESTHETIC EXPRESSION

Students will

- Understand various sources of aesthetic sensitivity and expression as inherent human endowments and part of God's creation. Test manual presentations will include attention to aesthetic details.
- Gain an awareness, understanding, appreciation, and expression of the fine and performing arts and understand that this appreciation may not be fully assessed by tests that measure such attributes.
- Develop interpretive frameworks of aesthetic truths and values for personal wholeness and community enrichment that extends beyond the current class.

RESPONSIBLE STEWARDSHIP

Students will

- Adopt a lifestyle of personal health and well-being. Understand that many tests attempt to measure such attributes and that this information may be used to enhance lifestyle choices. Students will take practice tests in the class that are relevant to these issues.
- Appreciate the value of family and other meaningful relationships and work to manage relationships with the demands of the work in this course and others.
- Exhibit the responsibilities of citizenship in society.
- Gain a global outlook in caring for the environment and in promoting social justice and economic empowerment and understand that tests results may be used to enhance these endeavors.
- Promote the church's mission through community service.

SOCIOCULTURAL RESPONSIVENESS

Students will

- Demonstrate a capacity to challenge personal prejudices, appreciate cultural diversity, and learn from other cultures. Students will discuss issues related to the cultural fairness of tests as well as ethnocentricity.
- Develop a commitment to pursue peace, justice, and reconciliation in a pluralistic society by discuss how a knowledge of research methodology and psychological testing may better enable us to do this.
- Celebrate the differences of race, ethnicity, gender, and age within the biblical vision of inclusiveness and the equal value of all people. Students will discuss sensitive issues related to psychological testing that will include problems associated with IQ testing and the labeling of individuals based on test results.

STUDENT LEARNING OUTCOMES

At the end of the course the student should meet the following learning objectives:

1. Understand and evaluate methods of test construction through class discussion of different ways tests are constructed, an evaluation of tests constructed using different methods, and the creation of a test manual.
2. Understand and be able to evaluate test validity - including predictive and discriminant validity as demonstrated through class written assessments, class discussion, and the validity section of the test construction manual.
3. Understand and be able to evaluate test reliability as demonstrated through class written assessments, class discussion, and the reliability section of the test construction manual.
4. Understand the techniques of individual, group, and computer delivered test administration. The advantages and disadvantages of computerized testing will be discussed. Self-administered individual and group tests will be taken and discussed.
5. Understand the ethical impact surrounding test interpretation and the impact of test related labeling through assessment questions and class discussions of tests. Issues surrounding the use of IQ tests will be discussed.
6. Understand how to assess the utility of a test above baseline through class examples and discussion.
7. Understand the political and cultural aspects of biases in assessment through discussions of ethnocentricity.
8. Understand the use of testing in research as demonstrated in written assessments and the test construction manual.
9. Understand the notion of testing error and test reliability as demonstrated in written assessments, class discussions, and the test construction manual.
10. Understand statistical tools such as correlation and regression as it applies to predicting test outcome as demonstrated in written assessment questions.
11. Create a test and present it to the class with an explanation of all the procedures utilized to assure that it is a good test.
12. Ability to evaluate psychological tests as demonstrated by evaluating tests given in class as well as critically evaluating one's own test construction.
14. Discuss the importance of including norms in a test manual. These will be included as a section in the test construction manual.

TEXTS AND MATERIALS

Kaplan, R. M., & Saccuzzo, D. P. (2009) Psychological testing: Principles, applications and issues, (7^h ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.
ISBN: 978-0-495-09555-2.

INTERNET SITES RELATED TO PSYCH TESTING

<http://www.geocities.com/CapitolHill/1641/iqown.html>

Traditional tests of IQ may be found here.
At the geocities site answers are provided

<http://www.2h.com/Tests/iqtrad.phtml>

More IQ tests

<http://www.2h.com/iq-tests-other.shtml>

This site tests alternative IQ with some humorous tests that include IQ for your art appreciation and jazz.

<http://www.brain.com>

This site is famous for the 5 minute IQ test.

<http://www.RealAge.com>

What is your REAL age?

<http://www.queendom.com>

IQ, relationship, personality, career, and health tests.

<http://www.2h.com>

Included are tests of personality, IQ, and career.

<http://www.northwesternmutual.com/games/longevity>

Test your probability of reaching a specific age based on your lifestyle.

<http://www.apa.org/science/faq-findtests.html>

Do you need a psychologist?

<http://www.ets.org/>

Educational service Home page with information for parents, students, educator, researchers, and policymakers.

<http://www.vanguard.edu/faculty/ddegelman/amoebaweb>

A number of psychological tests are available here.

COURSE POLICIES

DISABILITY SERVICES

- ❑ For students with documented medical or psychological disabilities, please contact the Coordinator of Disability Services to request reasonable accommodations. The Coordinator of Disability Services is located in the Counseling Center on the second floor of the Scott Academic Center and can be reached at extension 4489 or by email at disabilityservices@vanguard.edu
- ❑ For students with a documented learning disability who would like to request appropriate accommodations, please contact the Director of Learning Skills, located upstairs in Scott Academic Center at extension 2540 or by email at disabilityservices@vanguard.edu

DIVERSITY STATEMENT

The School for Professional Studies intends to foster a Christ-centered community that promotes appreciation and respect for individuals, enhances the potential of all members, and values differences in gender, race, abilities, and generation. As such, we endeavor to communicate with honesty, to speak with encouraging and edifying words, and to create a safe environment in our classes and interactions.

ATTENDANCE POLICY

Because this course meets only five times, it is important that students not miss class unless it is unavoidable. To receive the full participation points students must arrive on time to class with a working knowledge of each sessions assignments and they must actively engage in class discussions.

Students who miss more than one class meeting (or more than five class hours) in any given course will automatically receive a failing grade and need to retake the course to obtain a passing grade. Students who miss the first two class sessions will automatically be dropped and be required to retake the course.

STUDENT EVALUATION

Students in this course will be evaluated by the University's 4.0 grading system.

The following criteria will be used to determine the student's grade.

<u>Assignment</u>	<u>Points</u>	<u>Date Due</u>
<u>ASSESSMENTS</u>		
Assessment #1	100	Week 1
Assessment #2	100	Week 2
Assessment #3	100	Week 3
Assessment #4	100	Week 4
<u>PAPERS</u>		
Test Construction/Test Manual	200	Week 5
Self-Assessment of Learning Outcomes	100	Week 5
<u>ORAL PRESENTATION</u>		
Test Construction/Test Manual	200	Week 5
<u>CLASS PARTICIPATION</u>		
Class Discussion	20	Week 1
Class Discussion	20	Week 2
Class Discussion	20	Week 3
Class Discussion	20	Week 4
Class Discussion	20	Week 5

STUDENT EVALUATION

Students in this course will be evaluated by the university's 4.0 grading system. Grades will be assigned based on the points earned in the class as follows:

Percentages	Points	Grade	Significance	GPA
93-100%	930-1000	A	Exceptional	4.00
90-92.9%	900-929	A-		3.67
87-89.9%	870-899	B+		3.33
83-86.9%	830-869	B	Above Average	3.00
80-82.9%	800-829	B-		2.67
77-79.9%	770-799	C+		2.33
73-76.9%	730-769	C	Average	2.00
70-72.9%	700-729	C-		1.67
67-69.9%	670-699	D+		1.33
63-66.9%	630-669	D	Below Average	1.00
60-62.9%	600-629	D-		0.67
00-59.9%	000-599	F	Failure	0.00

GRADING CRITERIA: TEST CONSTRUCTION/TEST MANUAL

- 20 Introduction**
Purpose of the Test
Targeted Population and Use
Discussion of Test Construction - Criterion Group? Logical Content?
- 20 Validity**
Discussion of Methods to Assess Validity
- 20 Reliability**
Discussion of Methods to Assess Reliability
- 80 Other Information**
Test Instructions
How to Administer
How to Score
How to Interpret
Test Norms
Test Limitations
- 40 Test Items**
- 20 Grammar, Punctuation, Spelling**
Neatness, Clarity, APA Style
- 200 Total**

**GRADING CRITERIA FOR ORAL PRESENTATION OF
TEST CONSTRUCTION/TEST MANUAL**

Communicates Content	100
<ul style="list-style-type: none"> Purpose of test/ population to be tested Method of Construction of test Method of Assessing Validity Method of Assessing Reliability Method of Administration/ Scoring/ Interpretation Limitations of Test 	
Reaches Audience Through Media	60
<ul style="list-style-type: none"> Creativity Uses 2 or more multimodal media (overheads, charts, role playing, handouts, other materials, etc.) Uses technology (power point, color graphic slides) Handouts and Transparencies <ul style="list-style-type: none"> Readability, neatness, and usefulness Integrates materials into talk 	
Effective Delivery	40
<ul style="list-style-type: none"> Engages audience (questions, demonstrations) Shows awareness of Audience's knowledge Distinguishes OWN ideas from reported info. Avoids speech fillers (ah, you know, and dah, um) Avoids physical distracters (shuffling, tapping, etc) Speaks on Feet (no reading/ conversational style) Body Reponses (smile, eye contact, and gestures) Professional or creative attire Linguistics <ul style="list-style-type: none"> Pronunciation, grammar, volume, speed Voice modulation, energy, and enthusiasm Time allotment (set by instructor) 	

Total 200

GRADING CRITERIA: ASSESSMENT OF LEARNING OUTCOMES**Learning Objectives****100**

You will be assigned to orally present two or more of the 14 learning outcomes. In the event that there are more than 14 students, questions may be subdivided (e.g. different types of reliability and validity may be discussed by different individuals). This short oral presentation will be made on the last night of class after the oral presentations of the test manuals are made. The purpose of this assignment is to review as a group the information learned in the class. You should plan for your answer to be no more than five minutes. You will be graded only on the content of the information you present.

Total 100

STUDENT ASSIGNMENTS**WEEK ONE**

Read:

Text: Kaplan/Saccuzzo, Psychological Testing
Ch. 1 Introduction
Ch. 2 Norms and Basic Statistics for Testing
Ch. 3 Correlation and Regression
Ch. 4 Reliability

Turn in:

ASSESSMENT #1 (Essay questions 1-3)

Assessments may be e-mailed or turned in at class. E-mails must be sent BEFORE class for the assignment to be considered on-time.

Think about Test Construction:

Be thinking about a test that you would like to create. You may work as an individual, in pairs, or in small groups if this is convenient for you. Each individual or group will have the opportunity to talk about their test and actually give it to the class in the final class session.

Essay 1 Discuss correlation. What 2 pieces of information does a correlation coefficient tell you? Describe positive, negative, and zero correlations and give an example of each (not included in the text).

Essay 2 Discuss statistical regression. Include in your essay a definition of the regression line, write the general format for the regression equation and describe each component, and describe a regression plot and how it is used to determine criterion validity.

Essay 3 How do we know a test is reliable? In your discussion of reliability include the following: test-retest, parallel forms, and internal consistency.

WEEK TWO

Read:

Text: Kaplan/Saccuzzo, Psychological Testing
Ch. 5 Validity
Ch. 6 Writing and Evaluating Test Items
Ch. 7 Test Administration
Ch. 8 Interviewing Techniques

Turn in:

ASSESSMENT #2 (Essay questions 1-3)

Assessments may be e-mailed or turned in at class. E-mails must be sent BEFORE class for the assignment to be considered on-time.

Essay 1

Discuss validity. Include the following in your discussion: content validity, criterion-related validity (predictive and concurrent), and construct validity (convergent and discriminant). How VALID must a test be to be good enough to use?

Essay 2

How can you tell if you have written good test items? Include in your discussion issues related to item difficulty, discriminability, item characteristic curves, and item response theory.

Essay 3

Discuss characteristics of the test taker and examiner that might influence the results of the test. Include issues related to their relationship, race of the tester, training, expectancy effects, and effects of reinforcing responses.

WEEK THREE

Read:

Text: Kaplan/Saccuzzo, Psychological Testing
Ch. 10 The Wechsler Intelligence Scales
Ch. 12 Standardized Tests in Education, Civil Service, and the Military
Ch. 13 Applications in Clinical and Counseling Settings
Ch. 14 Projective Personality Tests

Turn in:

ASSESSMENT #3 (Essay questions 1-3)

Assessments may be e-mailed or turned in at class. E-mails must be sent BEFORE class for the assignment to be considered on-time.

Essay 1 Discuss the WAIS III. Include in your discussion how Wechsler defined intelligence, Verbal subsets (describe two), performance subsets (describe two), verbal-performance IQ comparisons, and pattern analysis.

Essay 2 Discuss strategies of structured personality-test construction. Compare and contrast deductive (logical content and theoretical strategy) with empirical strategies (criterion-group strategy and factor analytic strategy). Provide an example of a measure from each of the two broad categories (deductive and empirical).

Essay 3 The Rorschach and the Thematic Apperception Test (TAT) are both projective personality tests. Describe then compare and contrast these two measures.

STUDENT ASSIGNMENTS**WEEK FOUR**

Read:

Text:	Kaplan/Saccuzzo, <u>Psychological Testing</u>
Ch. 15	Tests Based on Psychological Science and the New Age of Computers
Ch. 16	Tests in Counseling Psychology
Ch. 17	Testing in Health Psychology and Health Care
Ch. 18	Testing in Industrial and Business Settings
Ch. 19	Test Bias (read for discussion only – no assessment questions)

Turn in:

ASSESSMENT #4 (Essay questions 1-3)

Assessments may be e-mailed or turned in at class. E-mails must be sent BEFORE class for the assignment to be considered on-time.

- Essay 1** Identify the differences between cognitive-behavioral assessment and traditional assessment procedures.
- Essay 2** Discuss three of the interest inventories that you might use to help direct your career path.
- Essay 3** Discuss the components of psychological stress and anxiety. Describe the STAI (State-Trait Anxiety Inventory). What treatment can be used to reduce test anxiety?

WEEK FIVE

Turn in:

Test Construction / Test Manual

In class

Oral Presentations of Test Construction /Test Manual

Oral Presentations of Learning Outcomes

Thanks everyone!

LOGISTICS CHART

Hr	Week 1	Week 2	Week 3	Week 4	Week 5
	Assessment #1 Due	Assessment #2 Due	Assessment #3 Due	Assessment #4 Due	
1	Introduction of Professor Review Student Guide, Course Objectives & Goals Student Introduction & Questions	Opening and Sharing Discuss Validity	Opening and Sharing Discuss the WAIS	Opening and Sharing Discuss Tests Based on Psychological Science and the New Age of Computers	Opening and Sharing Student Presentations of Test Construction Projects
2	Discuss Introduction to Psych Testing Discuss Norms And Statistics Break	Discuss Writing and Evaluating Test Items Break	Discuss Standardized Tests in Education, Civil Service, and the Military Break	Discuss Tests in Counseling Psychology Break	Student Presentations of Test Construction Projects
3	Discuss Correlation and Regression	Discuss Test Administration	Discuss Applications in Clinical and Counseling Setting	Discuss Tests in Health Psychology and Health Care	Student presentations of Test Construction Projects
4	Discuss Reliability Discuss/show Test Construction/Test Manual. Discuss Essays in Small Groups	Discuss Test Administration Discuss Interviewing Techniques Discuss Test Construction/ Test Manual Work on Tests in Small Groups	Discuss Projective Personality Tests Work on Tests in Small Groups	Discuss Tests in Industrial and Business Settings Work on Tests in Small Groups	Student presentations of Test Construction Projects Oral – Learning outcomes Discuss the Utility and Value of Psychological Tests: What have we learned to be aware of?

WEEK ONE Assignment Overview**Assignments:**

Read text: Kaplan/Saccuzzo, Psychological Testing

Ch. 1	Introduction
Ch. 2	Norms and Basic Statistics for Testing
Ch. 3	Correlation and Regression
Ch. 4	Reliability

Turn in: Assessment 1

WEEK ONE Activities Overview**Class Activities:**

- I Introduction of Professor / Collect Assessment #1
- II Review Student Guide, Course Objectives & Goals
- III Ask Students about their Interests/Questions about Testing
- IV Discuss Issues in Psych Testing -- Chapter 1
- V Discuss Norms and Basic Statistics for Testing – Chapter 2
- VI Break
- VII Discuss Correlation – Chapter 3
- VIII Discuss Regression – Chapter 3
- IX Discuss Reliability – Chapter 4
- X Discuss Assessment # 1 Essay Questions in small groups
(if time allows)

WEEK ONE LECTURE**I Introduction of Professor****II Review of Student Guide
Explanation of Course Objectives & Goals**TextStudent Assignments

Weekly Assessments

Test Construction/Test Manual -- Tell students to keep project a secret

Test Construction - Oral Presentation

Oral Presentation of Learning Outcomes

Instruct students that they should keep their test ideas secret from others. This will allow students to be able to take tests more objectively on the final night of class

Grading SystemCourse Expectations

On time

Late Points

One assessment redo allowed

Student Questions**III Ask Students about their Interests/Questions about Testing**

Ask each Student to give a brief introduction

(If this is a new professor) and ask each if s/he has particular interests in or questions about the Psychological Testing process.

IV. Introduction: Discussion of Issues in Psych Testing Chapter 1

What is Psychological Testing?

When and by whom are psychological tests used? Discuss with the class.

Can you think of any serious concerns and issues to consider in relation to giving and interpreting tests?

Only trained psychologists are allowed to test. Untrained individuals are often not trained, and this leads to a potential for error and abuse.

Important Terms:

Test:

Item:

What types of behavior are evaluated by tests?

What kinds of tests are there?

1. Individual
2. Group
3. Ability
4. Think Aloud
5. Personality

Some important issues to understand in Psychological Testing:

How was the test constructed?

...Is it valid?

...Is it reliable?

...What population was it standardized on?

...Are there norms?

...How do we select tests?

...How do we administer and interpret the result?

...Is the test necessary and useful?

...What impact might the test have on the individual?

V. Discussion of Norms and Basic Statistics for Testing -- Chapter 2

Why are statistics important?

Types of statistics:

Descriptive

Inferential

Types of Scales of Measurement:

Nominal

Ordinal

Interval

Ratio

Percentile Rank –

Percentile Rank gives the % of scores below the one of interest

If you were shopping for a car and you were concerned about gas mileage – but you knew that the Toyota was the number one selling car in the United States.....you might want to figure the percentile rank of the Toyota for MPG relative to other options before you made your decision to buy one.

Here are the gas mileage statistics for a few cars of interest.

Chevette	22
Hornet	16
Audi Fox	24
Vega	19
Cadillac	11
Toyota	20
Honda	27
Hyundai	32

What is the PERCENTILE RANK OF THE TOYOTA?

$$Pr = B/N \times 100 = \text{Percentile Rank of } Xi$$

Pr is the Percentile rank

Xi is the item of interest

Descriptive Statistics – Terms to know and understand

Mean

Standard deviation

Variance

What is a z-score and why do we use them?

In a Z distribution, the mean is always 0

In a Z distribution, the standard deviation is always 1

-3 -2 -1 0 +1 +2 +3

A Z score of -1 is one standard deviation below the mean

A Z score of $+2$ is two standard deviations above the mean

The Mean WAIS IQ score is 100 and the standard deviation is 15. What does this mean?

When we administer tests, why is it important to have norms (these will need to be included in your test manual)?

Tracking

What do we mean by tracking – give an example.

VI Break

VII Discussion of Correlation – Chapter 3

What do we mean by correlation?

How do we know if two variables are related?

Why do we plot data in a scatter plot?

Correlation gives us two kinds of information

1. Direction of the relationship

Positive Correlation

Negative Correlation

2. Magnitude of the relationship

Correlation is not the same as Causation!!!!

A correlation is not an indication of a causal relationship. Just because two things are related, does not mean that one caused the other. For example, your height and weight are related (the taller you are, the more you tend to weigh) – but all know that your weight doesn't cause your height and your height doesn't cause your weight. This is important to remember. Many of the real world research claims are based on correlation analysis and are misinterpreted, and are perhaps given too much importance by the general public.

What is the purpose of Correlational Analysis?

How do we know that the correlation is reliable – and could not have occurred by chance alone?

What does a statistically significant correlation mean?

Coefficient of Determination

An example:

X = CNS speed of processing (Reaction Time)

Y = Number of falls in the last year

The results of the correlation analysis indicates that the correlation between an older adult's reaction time and the number of falls in the past year is

$$R_{xy} = .83$$

If we square the correlation coefficient (.83) we find that the coefficient of determination is

$$R_{xy}^2 = .6889$$

What does this mean? Put this into words that a non-statistician can understand.

Let's practice interpreting some statistics

$$R_{xy} = -.92$$

$$R_{xy}^2 = .8464$$

Where x = family cohesiveness measured by the number of family interactions.

And Y = promiscuity measured by the # of teen sexual partners

What is the statistical interpretation?

What is the Coefficient of Determination interpretation?

VIII Discussion of Regression -- Continuation of Chapter 3

PREDICTIONS are based on the Regression line – this is the best fitting straight line that can be drawn through points on a scatter diagram.

The REGRESSION LINE is found by the Principle of Least Squares – a technique to minimize the squared deviations of scores around the regression line.

Purpose of Regression

What other examples can you think of where we use predictor and criterion scores?

When we predict there is always residual (prediction error)
Residual is the difference in the predicted and observed values.

More Terms...

Shrinkage –

Cross Validation –

IX Discussion of Reliability – Chapter 4

Why do we conduct reliability assessment?

Measurement Error

Systematic Errors

Random Errors

Reliability Coefficient

How do we interpret this?

How Reliable is Good Enough?

What if you are constructing a test, and it is NOT reliable?

Reliability Assessment

1. Time Sampling: Test – Retest
2. Item Sampling: Parallel Forms Reliability
3. Internal Consistency
 - a. Split Half Method
 - b. Kuder Richardson 20 (KR20)
 - c. Alpha
4. Observer Differences and Interrater Reliability
 - a. Kappa The percentage of time that two or more observers agree

What is a Reliable test?

Confidence Intervals

What is this and how is it used?

Item Response Theory

WEEK TWO Assignment Overview**Assignments:**

Read text: Kaplan/Saccuzzo Psychological Testing

Ch. 5 Validity

Ch. 6 Writing and Evaluating Test Items

Ch. 7 Test Administration

Ch. 8 Interviewing Techniques

Turn in: Assessment 2

WEEK TWO Activities Overview**Class Activities:**

I Open Sharing

II Discuss Validity – Chapter 5

III Discuss Writing and Evaluating Test Items – Chapter 6

IV Break

V Discuss Test Administration – Chapter 7

VI Discuss Interviewing Techniques – Chapter 8

VII Work in Small Groups – Test Construction Project

VIII Discuss Assessment # 2 Essay Questions
in small groups if time allows

WEEK TWO LECTURE

I Open sharing (prayer requests)

II Discuss Validity – Chapter 5

What is Validity?

Can a test be reliable but not valid?

Kinds of Validity

Face Validity

Content Validity

Criterion Related Validity

Predictive Validity

Concurrent Validity

Construct Validity

Convergent Validity

Discriminant Validity

Validity Coefficient

Why do you think it would be OK for the coefficient to be low?

Interpreting Validity Coefficients

Remember that situations may change

The criterion must be valid

Participants in the validity study must be representative

Validity assessment samples must be of adequate size

Cross validation is necessary

Do not confuse the predictor and the criterion

Be aware of restricted ranges

Do not generalize beyond the situation

Remember that the predictor traits may not be stable

III Discuss Writing and Evaluating Test Items – Chapter 6

The following page contains an actual psychological measure. Please take approximately 15 minutes to complete the scale.

Directions: Indicate the extent to which you agree with the following statements, using the scale below:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

- ___ 1. I know when to speak about my personal problems to others.
- ___ 2. When I am faced with obstacles, I remember times when I faced similar obstacles and overcame them.
- ___ 3. I expect that I will do well on most things I try.
- ___ 4. Other people find it easy to confide in me.
- ___ 5. I find it hard to understand the nonverbal messages of other people.
- ___ 6. Some of the major events in my life have led me to re-evaluate what is important and not important.
- ___ 7. When my mood changes, I see new possibilities.
- ___ 8. Emotions are one of the things that make my life worth living.
- ___ 9. I am aware of my emotions as I experience them.
- ___ 10. I expect good things to happen.
- ___ 11. I like to share my emotions with others.
- ___ 12. When I experience a positive emotion, I know how to make it last.
- ___ 13. I arrange events others enjoy.
- ___ 14. I seek out activities that make me happy.
- ___ 15. I am aware of the non-verbal messages I send to others.
- ___ 16. I present myself in a way that makes a good impression on others.
- ___ 17. When I am in a positive mood, solving problems is easy for me.
- ___ 18. By looking at their facial expressions, I recognize the emotions people are experiencing.
- ___ 19. I know why my emotions change.
- ___ 20. When I am in a positive mood, I am able to come up with new ideas.
- ___ 21. I have control over my emotions.
- ___ 22. I easily recognize my emotions as I experience them.
- ___ 23. I motivate myself by imagining a good outcome to tasks I take on.
- ___ 24. I compliment others when they have done something well.
- ___ 25. I am aware of the nonverbal messages other people send.
- ___ 26. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.
- ___ 27. When I feel a change in emotions, I tend to come up with new ideas.
- ___ 28. When I am faced with a challenge, I give up because I believe I will fail.
- ___ 29. I know what other people are feeling just by looking at them.
- ___ 30. I help other people feel better when they are down.
- ___ 31. I use good moods to help myself keep trying in the face of obstacles.
- ___ 32. I can tell how people are feeling by listening to the tone of their voice.
- ___ 33. It is difficult for me to understand why people feel the way they do.

This section of the text will be very important for you to understand. You cannot have a good test manual unless it is constructed with care.

Rules for Item Writing:

Formats for Tests -- Each will be discussed

1. Dichotomous
2. Polychotomous
3. Likert
4. Category Scales
5. Checklists and Q-sorts

1. Dichotomous Alternatives

Use:

Advantages:

Disadvantages:

2. Polychotomous Alternatives

Use:

Advantages:

Disadvantages:

Formula to Correct for Guessing

$$R = W/n-1$$

$$R = \# \text{ Right}$$

$$W = \# \text{ Wrong}$$

$$N = \# \text{ Choices per item}$$

3. Likert Format

Use:

Advantages:

Disadvantages:

I pray when I am sick.

1	2	3	4	5	6
Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree

Using even numbered Likert Scale forces the participant to choose slightly in one direction (slightly agree or slightly disagree) in the case where there might be indecision.

4. Category Scales

Use:

Advantages:

Disadvantages:

For example:

Rate your health on a scale of 1 to 10
1 2 3 4 5 6 7 8 9 10

With 1 being poor, 5 being fair, and 10 being excellent

Here is the data:

Liver	6
Liverwurst	5
Escargot	4
Raw Oysters	1
Fish with Eyes	3
Sushi	2
Licorice	7

The reality is that all of these should have had a rating of 1
But feeling pressured to use the scale may have altered the data.

5. Checklists and Q-Sorts

Uses:

Q-sort – The participant is given statements (e.g. descriptors of personality) and asked to sort them into piles. The distribution is forced because the participant is only allowed to place so many cards into each pile (column).

Advantage: The data will always be normal, because it is forced to be so.

Disadvantage: The process takes quite a long time.

Item Analysis

Steps in Test Construction

Decide what to test

What is the purpose for using the test?

Who will be tested?

What will the results be used for?

How will this test be better than others already available will?

Choose the test format

Write clear instructions for administering, scoring, and interpreting the test.

Be sure to indicate whether or not you want them to answer all the questions, is it OK to guess?

Do you need to assure them that there are no right or wrong answers, only opinions?

Write the test items

Include demographic questions that you might need

For example you may want information such as: age, gender, SES, racial and/or marital status, occupation, religion, educational status, or health status

Determine the method to establish test reliability

Determine the method to establish test validity

More Rules for Writing Items – Test Construction

Items should be clear, short, and not complex

A test item should never have to be read twice

Avoid technical language

Pilot your test – if people do not understand any of the words then change the vocabulary

Do not use all caps – upper and lower case combinations are easier to read.

Repeat the answering scale options with each question.

Distinguish between the question and the answering option.

Example – Put the question in bold and the answer options not bold.

Put spaces between questions for ease of reading.

Avoid demands for answering in one direction

I, like most intelligent adults, eat health foods.

True

False

I am a kind and loving person, the type who believes in helping others who are in need.

Agree

Disagree

Imbed the real items of interest within a larger context

This will obscure the purpose of the test and hopefully will prevent the test taker giving “Socially Acceptable” rather than real answers

Put emotional items later in the test

The testee may be less defensive more likely to disclose the truth.

Ask emotional questions with acceptance

Ask a drug user

When did you first use LSD?

Do not ask

Have you ever used LSD?

Avoid ambiguous or compound items

Smart people are Liberal Democrats

People who do not help others are selfish.

Reverse the scale

If a person's attitude is favorable toward women serving in the ministry then some questions should be constructed so that a favorable answer will sometimes be true/ or agree and sometimes be false/or disagree. You want to avoid the effects of participants always answering in the same direction. This way, if a participant indicates all high scores (perhaps they weren't paying attention), the results will be neutral after half of them are reversed.

Have similar items reworded early and late in the test (to check for respondent consistency)

Distinguish between neutral and undecided or omit altogether

IV Break

V Discuss Test Administration – Chapter 7

How do you decide what test to use?

Kinds of Tests

Proprietary

Nonproprietary

The minimum information necessary for a Test Manual (keep this in mind for your projects)
According to the Standards for educational and psychological testing (1985)

How to administer

How to score

How to interpret

Validity

Reliability

Norms

Checklist to consult before using a test:

Standardization Sample

Size

Demographics – are they like your group?

Reliability

What method was used to assess reliability?

Should be .70 or above for human research

Should be .90 or above for human decisions

Validity

High validity is .30 to .40

Is the test meaningful?

What criteria was it validated against?

Scoring

Are there keys available?

Are machine scoring/professional reports available

Practicalities

- How long will it take to administer?
- What reading ability does it require?
- Who will train the test givers?
- How long will it take?
- Is the test available on computer?

How can you get information about tests?

Here are a few resources:

Tests in Print

Tests are listed by content area

Mental Measurements Yearbook (MMY)

Available online

Most widely used and commonly known

Reviews many testing materials

Unpublished Experimental Mental Measures

Includes research on the tests

Handbook for Psychiatric Rating Scales

Potential Sources of Error in the Test Administration Process

Race of the Testee

Rapport of the Tester and Testee – this can be powerful

Factors that can affect the outcome include

Hostility, friendliness, hurriedness, or relaxed Atmosphere

Expectancy Effects – Also called the Rosenthal Effect (Harvard, 1960's)

Why might we observe expectancy effects even under standardized conditions?

Scoring Expectancies

Relationships Impair Objectivity

Procedural and Situational Effects

Reinforcement

Culturally Relevant Feedback

Effects and Reinforcement

Attitude and Reinforcement

Subject Variables

Review Sources of Error in Testing and Administration

Is Computer Assisted Testing Advantageous?

Some of the advantages include:

Some of the disadvantages include:

VI Discuss Interviewing Techniques – Chapter 8

Good interviewing techniques are important in a number of different settings such as:

The Interview as a Test

Interesting Facts About Interviews

Reciprocal Interaction

Interviewing Techniques

Attitude

Open-ended Questions

Responses to Avoid:

Responses to Keep the Interaction Flowing:

Other Tips for Good Interviewing:

Carl Rogers 5 Point Scale to Measure Understanding and Empathy

Level one responses: 1 point

Responses bear little or no relation to one another

Level two responses: 2 points

Superficial Relationship

Each person has his/her own perspective

Level three responses: 3 points

Response is Interchangeable

Level four responses: 4 points

Adds to the Statement

Level five responses: 5 points

Adds to the Statement a lot

Types of Interviews

Evaluation –

Structured Clinical –

Case History –

Mental Status Examination –

Sources of Error in Interviews

Interpretation

Halo Effect

Stereotypes – Biases

Reliability

Nonverbal Communication

Body Posture

Body Movements

Feet

Hands

Tone of Voice

Facial Expressions

Nonverbal Actions are not easy to censor like words are

Impression Management in a Professional Interview

First Impression

Anchored in the first 3 minutes – or even less! Research has shown that end-of-the-year teaching evaluations can be predicted from just a ten-second teaching video!

First Impressions endure

Do not take control if you are the interviewee

Dress in a moderate style

No smoking, chewing gum

Give the illusion of calmness: Keep hands, feet, and hair still

Show Confidence

- Eye contact

- Firm handshake

- Brisk walk

- Upright posture

- Smile

- Energy

Avoid Cologne

Avoid Speech Annoyances: Like, kind of, you know, ah uh um, and uh, etc.

Watch Speech Style

- Volume, speed, and politeness

Respond to questions

Avoid too much self-disclosure

Get feedback about your nonverbal behaviors

Avoid judgmental statements

Positive Attitude

VII Work in Small Groups – Test Construction Project

VIII Discuss Assessment # 2 Essay Questions In small groups (if time allows).

WEEK THREE	Assignment Overview
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Assignments:

Read text: Kaplan/Sacuzzo, Psychological Testing

Ch. 10	The Wechsler Intelligence Scales
Ch. 12	Standardized Tests in Education, Civil Service, and the Military
Ch. 13	Applications in Clinical and Counseling Settings
Ch. 14	Projective Personality Tests

Turn in: Assessment 3

WEEK THREE	Activities Overview
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- I Open Sharing**
 - II Answer questions about Test Construction/ Test Manual Project**
 - III Discuss The Wechsler Intelligence Scales – Chapter 10**
 - IV Discuss Standardized Tests in Education, Civil Service, & the Military – Chapter 12**
 - V Discuss Applications in Clinical and Counseling Settings – Chapter 13**
 - VI Break**
 - VII Discuss Projective Personality Tests – Chapter 14**
 - VIII Group Test Construction/Test Manual Project Presentation Meetings**
- Discuss Assessment # 3 Essay Questions in small groups
(If time allows)**

WEEK THREE LECTURE**I Open Sharing****II Answer questions about Test Construction/ Test Manual Project****III Discuss The Wechsler Intelligence Scales – Chapter 10**

The Concept of Measuring Intelligence is Controversial

Issues to consider:

Can we have a valid test of intelligence?

Is there more to intelligence than performance on paper and pencil tasks or performance on laboratory produced tasks?

Does a timed test affect the results?

How can you separate prior learning and experience from potential?

What impact can information about one's IQ have on well being?

The WAIS – Wechsler Adult Intelligence Scales is perhaps one of the most popular and most used tests of IQ

Definition of Intelligence

Description of the WAIS

Verbal scales

Vocabulary

Similarities

Arithmetic

Digit Span

Information

Comprehension

Letter-number Sequencing

Performance Scales

Picture Completion

Digit Symbol-Coding

Block Design

Matrix Reasoning

Picture Arrangement

Object Assembly

Symbol Search

Descriptive Statistics

The mean WAIS IQ is 100

Standard Deviation is 15

IQ is normed by age

Standardization is rigorous with all ages, educational levels, and racial groups' representation in the sample.

Verbal and Performance IQ scores may be compared. Patterns of scores may be analyzed to reveal problems such as language deficits and brain trauma.

Reliability

Split half reliability and Test Retest Reliability is high

R = .97 for Full IQ

R = .97 for Verbal IQ

$R = .93$ for Performance IQ

Standard Error of Measurement is low

Full IQ	2.53
Verbal	2.74
Performance	4.14

Confidence Interval

If IQ score is 110 we can say with confidence that the person's true IQ falls between 102 and 118

Validity

$R = .40$ to $.80$ of WAIS and other Intelligence Tests

Administration of the WAIS

When giving the WAIS:

The Administrator must be skilled and practiced so that it will run smoothly

The testing room should be well lit and quiet

No interruptions – many tests are timed.

All materials should be kept out of sight

Some tests allow the testing process to stop after a standard number of misses but you want to preserve self-esteem of the test taker

Be business-like

Do not give feedback

Keep the stopwatch as inconspicuous as possible

All instructions must be followed exactly – with wording being exact.

Weaknesses of the WAIS

Does not include Measures of Multiple Intelligences as proposed by Gardner (linguistics, body kinesthetic, spatial, logical mathematical, musical, intrapersonal, and interpersonal

Another weakness is the inability to measure extreme IQ

The WISC-IV

The WISC-IV (Wechsler Intelligence scale for children, 4th ed) measures intelligence from ages 6-16 and 11mo. The WISC-IV measures indices of specific cognitive abilities, processing speed, and working memory.

Verbal Comprehension Index

- Comprehension Similarities

- Vocabulary

- Information and word reasoning are supplementary subtests

Perceptual Reasoning Index

- Block design

- Picture concepts

- Matrix reasoning

- Picture completion is a supplementary subtest

Picture Speed Index

- Coding

- Symbol search

Working Memory Index

- Digit span

- Letter-number sequencing

- Arithmetic is a supplementary subtest

The WPPSI-III

The Wechsler Preschool and Primary Scale of Intelligence is designed for children 2years and 6mo to 6 years of age.

IV Discuss Standardized Tests in Education, Civil Service, & the Military – Chapter 12

Advantages to administering tests to a single group at one time:

- Economical

- Requires less skill and administrative training than one-on-one testing

- Scores are more objective

Common Testing Areas

- Mental ability

- Achievement

- School

- Military

- Industry

- Research

- Interests

Testing Characteristics

- Most are paper and pencil tests

- Most are multiple choice or short answer and most have a single outcome score.

- Computerized group testing is becoming more popular.

Disadvantages of Group Testing

Individual Testing Advantages

- More information (other than a score) can be collected

- Behavior can be observed

- Process can be observed (Problem Solving for example)

- Unusual reactions can be noted

- Individual Differences in Testing can be accommodated

Common testing applications

- Assessment and Diagnosis

- Psychological Problems

- Medical Problems

Using Groups Tests

Use results with caution
Be suspicious of low scores

Some causes of low scores are the following:

Consider wide discrepancies to be a warning signal.

When in doubt, refer for individualized testing.

Achievement and Aptitude Tests

Achievement Tests –

Aptitude Tests –

Some Common Group Tests in Schools

Group Achievement Tests
Stanford Achievement Test
Measures achievement in a variety of areas for grades 1-9

Group Intelligence Tests

KAT Kuhlmann-Anderson

Henmon-Nelson

Cognitive Abilities Test

College Entrance Tests

SAT (Scholastic Aptitude Test)

How many of you took this test?

Cooperative School and College Abilities Test

The American College Test (ACT)

Graduate and Professional School Entrance Tests

GRE (Graduate Record Exam)

Use: Measure of general scholastic ability
College Entrance Exam

MAT (Millers Analogy Test)

LSAT (Law School Admission Test)

Nonverbal Group Ability Tests

Ravens Progressive Matrices

Goodenough-Harris Drawing Test

Use:

Simple, easy, quick

The instruction is simple..... “draw a picture of a whole man and do the best job possible.”

Scoring:

ShIPLEY Abstract

This is a 20-item test of intelligence

Would you like to take this?

This is a timed test (10 minutes) I will tell you when to start and then you can score your own tests.)

Complete the following.

Each dash calls for either a number or a letter to be filled in

Every line is a separate item

Take the items in order, but do not spend too much time on any one.

- #1 1 2 3 4 5 -
- #2 WHITE BLACK SHORT LONG DOWN - -
- #3 AB BC CD D-
- #4 Z Y X W V U -
- #5 12321 23432 34543 456 - -
- #6 NE/SW SE/NW E/W N/-
- #7 ESCAPE SCAPE CAPE - - -
- #8 OH HO RAT TAR MOOD - - - -
- #9 A Z B Y C X D -
- #10 TOT TOT BARD DRAB 537 - - -
- #11 MIST IS WASP AS PINT IN TONE - -
- #12 57326 73265 32657 26573 - - - -
- #13 KNIT IN SPUD UP BOTH TO STAY -
- #14 SCOTLAND LANDSCAPE SCAPEGOAT - - - - EE
- #15 SURGEON 1234567 SNORE 17635 ROGUE - - - -
- #16 TAM TAN RIB RID RAT RAW HIP - - -
- #17 TAR PITCH THROW SALOON BAR ROD FEE TIP END
PLANK - - - - - MEALS
- #18 3124 82 73 154 46 13 -
- #19 LAG LEG PEN PIN BIG BOG ROB - - -
- #20 TWO W FOUR R ONE O THREE -

What do you think of the Shipley Abstract as a test of intelligence.
 How did you feel while you were taking it?
 How do you feel now?
 In a 1991 Psych Testing class with n= 15; the mean was 17.8 with a range of 17-20

Standardized Tests Used in the U.S. Civil Service System

General Aptitude Test Battery (GATB)
 Used to make employment decisions in government agencies.

Armed Services Vocational Aptitude Battery (ASVAB)
 Designed to identify students who potentially qualify for entry into the military

V Discuss Applications in Clinical and Counseling Settings – Chapter 13

What are some of the Dimensions of Personality

Dependency	Need for achievement
Dogmatism	Need for affiliation
Self esteem	Optimism
Willingness to disclose	
Passivity	Aggressiveness
Introversion	Extroversion
Cautiousness	Risk Taking
Fearfulness	Stress Management
Adjustment/Coping ability	
Flexibility	Conscientiousness
Temperament	Agreeableness

Personality characteristics include the nonintellectual aspects of behavior.

Structured personality tests are objective and lack ambiguity – like we find in projective tests – such as the interpretation of inkblots.

Clear stimuli are provided and the response guidelines are also provided. Many are multiple choice items.

Some of you may be constructing a personality test for your project – you will need to decide which method of construction is best for your situation.

Strategies of Structured Personality Test Construction

Deductive

Logical Content –

Theoretical –

Empirical

Criterion Group –

Factor Analytic –

More on Criterion Group Test Construction

Step 1:

Select a criterion group known to have certain characteristics

Step 2:

Administer a test

Step 3:

Analyze the responses

Select items that the two groups differ on

Step 4:

Use the test to diagnose (in this case, those who are aggressive.)

Then we give the test to others. If they respond yes to the aggression scale questions (for example), then they are assumed to be aggressive.

Step 5:

Cross Validation

Step 6:
Standardization

Step 7:
Research and Application

Examples of Tests

Logical Content Strategy

Woodworth Personal Data Sheet

First Personality Inventory

Developed during WWI to identify soldiers who would break down during combat

Criterion Group Strategy

MMPI (Minnesota Multiphasic Personality Inventory)

Used the criterion Group strategy

Purpose: Distinguish normal from abnormal groups

Best if used on people over 14 with 6th grade schooling and normal IQ

Remember, the content does not matter – what matters is that the criterion group but not the control group responded in a certain way.

CPI (California Psychological Inventory)

In contrast to the MMPI, the CPI assesses personality in normally adjusted individuals. The CPI is also commonly used in research settings.

Factor Analytic Strategy

16PF (Catell)

Using factor analysis, Catell factor analyzed 171 trait terms. He reduced these to 36 dimensions that he called “surface traits” and 16 basic dimensions that he referred to as “source traits”.

Theoretical Strategy

Personality Research Form (Jackson)

Items were constructed based on Murray’s theory of needs.

Combination Strategy

NEO-PI-R

Both factor analysis and theory have been used to construct items for this inventory. The NEO assesses the “big 5” dimensions of personality: neuroticism

(emotional stability), extraversion, openness to experience, agreeableness, and conscientiousness. This inventory is widely used.

Frequently Used Measures of Positive Personality Traits

Rosenberg's Self-esteem Scale

Global measure of self-worth

General Self-efficacy Scale

Measures an individual's belief in their ability to organize resources, manage situations, and recover from setbacks.

Satisfaction with Life Scale

Life satisfaction as a cognitive-judgmental process, rather than life satisfaction with specific domains.

What are some problems with labeling people?

Please look at some of the websites where personality tests are given. These are listed in your student guide. Can you see any dangers in having these kinds of tests available to the general public?

Perhaps the greatest danger lies in the fact that lay persons who are not trained to interpret the tests are doing so.

VI Break

VII Discuss Projective Personality Tests – Chapter 14

Projective Personality tests are some of the most controversial and often misunderstood forms of testing

The Rorschach

Inkblot

Free Association Phase

The Psychologist Asks: What might this be?

The examiner sits beside and not in front of the test taker

Each card is given twice with prompts

“Some people see more than one thing.”

 If a card is rejected the prompt is

 “Most people do see something here – just take your time.”

Every word, sound, reaction time and the position of the card when responding is noted.

The scoring is complex and in graduate school often an entire semester is devoted to the art of giving and interpreting the Rorschach.

Scoring Highlights

Location

 Notation is made where the perception is seen

Determinant

 What determined the response

Form Quality

 If the examiner can see it, then it is good

Content

Popular / Original

 Popular if seen in about 1 of every 3 people.

Threats to Validity

Thematic Apperception Test

The test shows actual pictures/scenes, rather than the blots of the Rorschach

The Rorschach differs from the TAT in the following ways:

Used in Nonclinical research

TAT Henry Murray, Harvard (1943)

Based on Murray's theory of Needs (1938)

19 pictures and 1 blank

1/2 represent the inner layer of personality (unconscious motives)

1/2 represent the outer layer (public behavior)

Uses

TAT Instruction

Scoring

NonPictorial Projective Procedures

Word Association Test

Sentence Completion Test

WEEK FOUR	Assignment Overview
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Assignments:

Read Text: Kaplan/Sacuzzo, Psychological Testing

- Ch. 15 Tests Based on Psychological Science and the New Age of Computers
- Ch. 16 Tests in Counseling Psychology
- Ch. 17 Testing in Health Psychology and Health Care
- Ch. 18 Testing in Industrial and Business Settings
- Ch. 19 Test Bias (read for discussion only – no assessment questions).

Turn in

Assessment 4

WEEK FOUR	Activities Overview
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- I Open Sharing - Answer questions about oral presentations**
- II Discuss Tests Based on Psychological Science and the New Age of Computers – Chapter 15**
- III Discuss Tests in Counseling Psychology – Chapter 16**
- IV Discuss Testing in Psychology and Healthcare – Chapter 17**
- V Break**
- VI Discuss Testing in Industrial and Business Settings – Chapter 18**
- VII Discuss Test Bias – Chapter 19**
- VIII Test Construction Group Presentation Preparation**
- IX Discuss Assessment #4 Essay Questions in small groups if time allows**

WEEK FOUR LECTURE

I Open Sharing - Answer questions about oral presentations

II Discuss Tests Based on Psychological Science and the New Age of Computers – Chapter 15

Discuss Tests Based on Psychological Science and the New Age of Computers – Chapter 15

Behavioral and Psychophysical Tests

These are often used for the purpose of modifying behavior and are very practical real world tools. Teachers, parents, spouses, counselors (to name a few) might use these techniques.

Traditional and behavioral/psychophysical tests also share psychometric problems such as:

Labeling and Self-fulfilling Prophecy are a continuing concern.

No test should be used alone! Physiological tests and observation should be used in addition to self report. Look for converging evidence

What self-report measurement problems can you think of?

Behavior Modification: Operant Conditioning Procedure

Identify the critical response or behavior

Determine whether critical behaviors are excesses or deficits

Measure baseline performance: Frequency, intensity, or duration

Treatment Intervention

Measure the effect of the intervention

Remove the Intervention

Observe the behavior

Remember that Behavior usually takes a while to stabilize – it might drop off or get worse!

Procedures Based on Operant Conditioning

Self-Report Techniques - The following scale on the next page is another example of a scale and an example of a self-report measure. Use this if time permits.

The following page contains a scale to assess – “Are You a Perfectionist.” Here is a test that might indicate whether or not a person has problems with perfectionism.

What do you think?

Is this test valid, in your opinion?

What do you think of the scale?

It appeared in a popular magazine. Should people take the results seriously? How might it be useful?

Test Yourself: Are you a Perfectionist?

Richard P. Walters, March/April 1990 Today's Christian Woman

0	Disagree
1	Agree
2	Strongly Agree

1. ____ When I begin to do something, I think about the possibility of failure.
2. ____ As I look back on my life, I remember more failures than successes.
3. ____ My parents gave me rewards (money, treats, privileges) for getting good grades.
4. ____ The results of an activity are more important than the activity itself.
5. ____ People who don't try to achieve their best should be ashamed.
6. ____ I shouldn't let others see me fail.
7. ____ Successful people are more worthwhile.
8. ____ It's normal to get upset over mistakes.
9. ____ I describe my mother as a perfectionist.
10. ____ The best way to achieve well is to set extremely high goals.
11. ____ It's not necessary to make the same mistake twice.
12. ____ People think less of those who fail.
13. ____ People don't try, don't deserve respect.
14. ____ When I try something new, I expect to fail at it a few times before I'm successful, and that's okay.
15. ____ People who use their abilities deserve more rewards than those who don't.
16. ____ If a thing is worth doing at all, it's worth doing right.
17. ____ Punishment for failure is good because it makes me try harder.
18. ____ My father is a perfectionist.
19. ____ I should work hard to do my best, whether or not I want to.

20. ____ If I mess up, I should be quite concerned about it.
21. ____ People will like me more if I'm successful.
22. ____ I should be better than average.
23. ____ It's good for me to criticize myself for my mistakes and weaknesses because then I'll try harder.
24. ____ People who make foolish mistakes in public are usually laughed at.

Score Chart for Are You a Perfectionist

QPP Scores Quality of Personal Performance

- 1. _____
- 4. _____
- 7. _____
- 10. _____
- 13. _____
- 16. _____
- 19. _____
- 22. _____

Total _____

TSF Scores Treatment of Self After Failure

- 2. _____
- 5. _____
- 8. _____
- 11. _____
- 14. _____
- 17. _____
- 20. _____
- 23. _____

Total _____

AOP Scores Attitudes of Other People Toward Performance

- 3. _____
- 6. _____
- 9. _____
- 12. _____
- 15. _____
- 18. _____
- 21. _____
- 25. _____

Total _____

Fear Survey Schedule (FSS)

Rates fears on a 5 to 7 point scale (derived from clinical cases)

This is one of the oldest and most researched cognitive-behavioral self-report procedures.

435 introductory psychology students at Temple University provide comparative data and differ for males and females. Are females more fearful or simply more willing to admit to their fears?

Braun, P. R., & Reynolds, D. J. (1969) A factor analysis of a 100-item fear survey inventory. Behavior Research and Therapy, 7, 399-402

Kanfer and Saslow's Functional Approach

IBT Irrational Beliefs Test

Beliefs are related to anxiety and depression

Psychophysiological Assessment

Goal is to quantify physiological responses related to emotions such as fear and anger. Heart rate, blood pressure, and galvanic skin response are examples.

Physiologic Responses and Intelligence

The more intelligent use less mental effort, have a lower GSR, and also have a lower HEART RATE and less pupil dilation.

Signal Detection Theory

A signal is presented, and the subject is asked to report whether or not they saw it.

Schizophrenia is related to speed of transfer in the central nervous system

Technique – have the individual make rapid choices of signal detection.

A good way to present this is with the computer.. which leads us into the next section.

Computers and Psychological Testing

Computers can be used to administer, score, and sometimes even interpret psychological tests.

Computer Assisted Interview

Computer Administered Tests

Computer Diagnosis, Scoring, and Reporting of Results

Internet Usage for Psychological Testing

Thousands of free tests are now available on the web

Use of Computers for Cognitive-Behavioral Assessment

Collecting self-report data

Coding observational data

Directly recording behavior
Training
Organizing and synthesizing data
Analyzing data
Supporting decision making

Tests Possible Only by Computer

Computer-generated virtual reality programs for use with phobic clients

Computer Adaptive Testing

III Discuss Tests in Counseling Psychology – Chapter 16

I will review some of the more commonly used tests to help people choose a career – or a college major.

To identify an appropriate career, it first is important to identify one's interests

Have you ever taken a test to determine your interest in careers?

Measuring Interests

The Strong-Campbell Interest Inventory

This interest inventory is based on a criterion group approach. They found people who were happy in their professions – asked them about their interests. This was then the criterion group. The prediction of Occupational Satisfaction is based on the person's interest score matching the interests of the folks who were happy in their careers (this approach does not base job satisfaction on a person's skills).

This inventory is also based on Holland's personality theory of occupational choice

Validity

Reliability

There are seven parts:

<u>PARTS</u>	<u>NUMBER OF ITEMS ON TEST</u>
Occupations	131
School subjects	36
Activities	51
Amusements	39
Types of people	24
Preference for two activities	30
Personal characteristics	14

The scores are grouped into one of six of Holland's Personality Theory Derived Occupational Themes

Realistic

This person likes technical material and outdoor activity

Investigative

Likes science and investigating things

Artistic

Enjoys self-expression and dramatics

Social

Likes helping others and working with others

Enterprising

Is interested in power and political strength

Conventional

This person is organized and enjoys clerical tasks.

The person's interests are matched with people in a variety of occupations that are happy in their jobs.

The Campbell Interest and Skill Inventory

Kuder Occupational Interest Survey

Minnesota Vocational Interest Inventory

Career Assessment Inventory

Issues in Career Testing

Faking

Gender Bias

What factors do you think enter into the equation of job satisfaction?

Measuring Personal Characteristics for Job Placement

Trait Factor Approach

Process of career assessment.

- 1) Factor analysis of personal traits

2) Match traits to occupations

Do you see any problems with this?

Career Maturity Inventory: Super's Development Theory

The focus is on lifespan development

This approach is based on two assumptions:

1. People enter careers to express self
2. Level of maturity predicts success

California Occupational Preference Survey

Assumes that a career choice is related to childhood family relationships.

Warm families lead to people oriented jobs

Cool and aloof families produce an interest in things

Major factors: people vs. things

This inventory gives the following six scores: aesthetic, business, linguistic, scientific, service, and technical

Self-directed Search

It is self-administrated, self-scored and self-interpreted

Process:

Lists jobs and then rate them

Preferences

Abilities

The person assesses

Skills

Aspirations

Discuss Testing in Psychology and Healthcare – Chapter 17

Neuropsychological Assessment

Clinical Neuropsychology

Developmental Neuropsychology

Adult Neuropsychological Measures

Luria Nebraska Battery

Halstead-Reitan

CVLT – The California Verbal Learning Test

Anxiety and Stress Assessment

Stress and Anxiety

Stress – A response to situations that involve demands, constraints, or opportunities

Three components of stress

Frustration

Conflict

Pressure

Anxiety – An emotional state marked by worry, apprehension, and tension

There are many tests available to test Anxiety

State – Trait Anxiety Inventory

Test anxiety questionnaire

Measures of Coping

Several measures have been developed to assess responses to stress

Life Event Scale for the College Student

Determine which of the following events you have experienced the past year.

Death of a spouse	87	
Death of a close family member		77
Married	77	
Divorced	76	
Marital separation	74	
Pregnancy/Fathered a child	68	
Death of a close friend		68
Major personal injury/illness	65	
Fired from work	62	
Broken engagement or steady relationship	60	
Sexual difficulties	58	
Marital reconciliation	58	
Major change in self concept	57	
Major change in type or amount of recreation	57	
Major change in health or behavior of family	56	
Engaged to be married		54
Major change in finances	53	
Took a mortgage or loan less Than \$10,000	52	
Changed line of work	50	
Major change in number of arguments with spouse (more or less)	50	
Entered college		50
Changed to new school		50
Gained new family member	50	
Major conflict in values		50
Major change in responsibility or amount of independence	48	
Major change in social activities	48	
Major change in work responsibility	47	
Major change in use of alcohol		46
Revision of personal habits	45	
Trouble with school administration	44	
Worked while in school	43	
Trouble with in-laws	42	
Moved or changed living conditions	42	

Spouse began or ceased working outside the home	41	
Change in field of study		41
Changed dating habits	41	
Outstanding personal achievement	40	
Major change in school activities	38	
Major change in church activities	36	
Major change in sleep habits	34	
Took a trip or vacation		33
Major change in eating habits	30	
Major change in number of family get-togethers	26	
Guilty of minor violations of the law	22	

Source: Unpublished Masters Thesis (1972). Department of Education, North Dakota State University, Fargo, North Dakota.

Scoring for the Life Event Scale for the College Student

Multiply the number of times an event occurred by its value.

Total all of the scores.

Rating		
Low Stress	150 or less	37% chance of getting a stress related disease in the next two years.
Moderate	151-300	51% chance....
High Stress	301 +	80% chance....

What do you think of this scale?

Are the values indicative of the level of stress that you personally experienced?

Would you assign more or less points for some events?

Do you think this is a valid scale? Is it useful?

Automated Neurological Testing

Measures of coping and social support are useful, as they are known to be significant buffers for stress.

Other important measures known to be predictors of well being include the following:

Optimism scale, use of humor to cope, spiritual well-being scale,

What do you think of these measures?

V Break

VI Discuss Testing in Industrial and Business Settings – Chapter 18

Personnel Psychology

Personnel psychology deals with the selection of employees

Employment Interview

Unfavorable responses include:

Making a good first impression:

Base Rates and Hit Rates

The base rate refers to what is known without using a test; a hit rate refers to the percentage of cases in which a test accurately predicts success or failure.

Incremental Validity

How much additional information will the test provide beyond what we already know (base rates) and beyond what a simpler test might provide?

Questions to ask before using a test:

Do not use a test just because it is reliable and valid unless it has incremental validity.

Hit Rate of a Test

When the test makes an accurate prediction

The test predicts that the person has cancer (And they really do)

Plus

The test predicts that the person does not have cancer (And they really have indigestion)

Miss Rate of a Test

When the test results are in error

False Positive

The test results predict that the person has cancer but they really have indigestion

False Negative

The test results predict that the person has indigestion but they really have cancer

If you can stand hearing the answer, the next time you have a medical test, ask your doctor what the hit or miss rate of the test is.

Let's look at an example:

Truth: of 100 People

10 people have cancer

90 people have indigestion

Test Predicts

8 people have cancer

75 people have indigestion

Is this a good test?

The test has a hit rate of $75 + 8$ or 83%

The test is 83% accurate.

		Truth	
		Cancer	Indigestion
Test Results	Cancer	8	15
	Indigestion	<u>2</u>	<u>75</u>
		10	90

What is the false negative rate?

The truth is that 2 people have cancer

the test results indicate indigestion

What is the false positive rate?

The truth is that 15 people have indigestion

The test results indicate cancer

Would you use this test?

Measuring Characteristics of the Work Setting

The Social-Ecology Approach

Classifying Environments

Six Characteristics of Environments

Ecological dimensions (e.g. architectural design)

Behavioral settings (e.g. office, home, store)

Organizational structure

Characteristics of inhabitants

Psychosocial and organizational climate (e.g. work pressure)

Functional or reinforcing properties (e.g. behaviors that are reinforced)

Job Analysis

VII Discuss Test Bias – Chapter 19

There are strong arguments for and against the use of certain tests (such as intelligence and aptitude) for minority group members.

Part of the debate about test bias results from different values about what is fair. Some argue that testing should select the best qualified people regardless of their social group (unqualified individualism) others argue that people should be selected according to quotas that match their representation in the general population.

What do you think is fair?

VIII Test Construction Group Presentation Preparation

IX Discuss Assessment #4 Essay Questions in small groups if time allows

Overview of Activities Week 5

- I Opening and sharing
- II Oral Presentations
Test Construction Projects
- III Discussion of the Future and Issues in Testing.

Discuss the Utility and Value of Psychological Tests and what we have learned to be aware of.

Turn In: Test Construction/Test Manual

IV. Oral learning Outcomes

Thanks everyone!