What Are Psychological Tests?

CHAPTER 1: WHAT ARE PSYCHOLOGICAL TESTS?

After completing your study of this chapter, you should be able to do the following:

- Define what a psychological test is, and understand that psychological tests extend beyond personality and intelligence tests.
- Trace the history of psychological testing from Alfred Binet and intelligence testing to the tests of today.
- Describe the ways in which psychological tests can be similar to and different from one another.
- Describe the three characteristics that are common to all psychological tests, and understand that psychological tests can demonstrate these characteristics to various degrees.
- Describe the assumptions that must be made when using psychological tests.
- Describe the different ways that psychological tests can be classified.
- Describe the differences among four commonly used terms that students often get confused: psychological assessment, psychological tests, psychological measurement, and surveys.
- Identify and locate print and online resources that are available for obtaining information about psychological tests.

"When I was in the second grade, my teacher recommended that I be placed in the school's gifted program. As a result, the school psychologist interviewed me and had me take an intelligence test."

"Last semester I took a class in abnormal psychology. The professor had all of us take several personality tests, including the MMPI [Minnesota Multiphasic Personality Inventory]. It was awesome! We learned about different types of psychological disorders that the MMPI can help diagnose."

"This year I applied for a summer job with a local bank. As a part of the selection process, I had to participate in a structured interview and an assessment center."

"Yesterday I took my driving test—both the written and the road test. I couldn't believe everything they made me do. I had to parallel park, switch lanes, and make both right and left turns."

I f your instructor asked whether you have ever taken a psychological test, you would probably report the intelligence test you took as an elementary school student or the personality test you took in your abnormal psychology class. If your instructor asked what the purpose of psychological testing is, you would probably say it is to determine whether someone is gifted or has a psychological disorder. Intelligence tests and personality tests are indeed psychological tests—and they are indeed used to identify giftedness and diagnose psychological disorders. However, this is only a snapshot of what psychological testing is all about. There are many types of psychological tests, and they have many different purposes.

In this chapter, we introduce you to the concept of psychological testing. We discuss what a psychological test is and introduce some tests you might never have considered to be psychological tests. Then, after exploring the history of psychological testing, we discuss the three defining characteristics of psychological tests and the assumptions that must be made when using these tests. We then turn our attention to the many ways of classifying tests. We also distinguish four concepts that students often get confused: psychological assessment, psychological tests, psychological measurement, and surveys. We conclude this chapter by sharing with you some of the resources (print and online) that are available for locating information about psychological testing and specific psychological tests.

Why Should You Care About Psychological Testing?

Before discussing what a psychological test is, we would like to increase your understanding of just how important it is for you to understand the foundations of psychological testing. Psychological testing is not just another subject that you may study in college; rather, it is a topic that personally affects many individuals. Each day, different types of professionals administer psychological tests to many different individuals, and the results of these tests are used in ways that significantly affect you and those around you. For example, test scores are used to diagnose mental disorders, to determine whether medicines should be prescribed (and, if so, which ones), to treat mental and emotional illnesses, to select individuals for jobs, to select individuals for undergraduate and professional schools (for example, medical school, law school), and to determine grades. Good tests facilitate high-quality decisions, and bad tests facilitate low-quality decisions.

The consequences of bad decisions can be significant. For example, a poor hiring decision can dramatically affect both the person being hired and the hiring organization. From the organization's perspective, a poor hiring decision can result in increased absenteeism, reduced morale of other staff, and lost productivity and revenue. From the employee's perspective, a poor hiring decision may result in a loss of motivation, increased stress leading to depression and anxiety, and perhaps loss of opportunity to make progress in his or her career. Although you might never administer, score, or interpret a test, it is very likely that you or someone you know may have a life-altering decision made about him or her

based on test scores. Therefore, it is important that you understand the foundations of psychological testing, specifically how to tell whether a decision is a good or bad one. Being able to do this requires that you understand the foundations of psychological testing.

What Are Psychological Tests?

Each anecdote at the beginning of this chapter involves the use of a psychological test. Intelligence tests, personality tests, interest and vocational inventories, college entrance exams, classroom tests, structured interviews, assessment centers, and driving tests all are psychological tests. Even the self-scored tests that you find in magazines such as *Glamour* and *Seventeen* (tests that supposedly tell you how you feel about your friends, stress, love, and more) can be considered psychological tests. Although some are more typical, all meet the definition of a psychological test. Together, they convey the very different purposes of psychological tests. For a continuum of some of the most and least commonly recognized types of psychological tests, see Figure 1.1.

Similarities Among Psychological Tests

While different testing professionals might define psychological testing in various ways, psychological testing is historically and best defined as "the process of administering, scoring, and interpreting psychological tests" (Maloney & Ward, 1976, p. 9). But what exactly is a psychological test? We can easily answer this question by considering what all psychological tests do.

First, all psychological tests require a person to perform some **behavior**—an observable and measurable action. For example, when students take a multiple-choice midterm exam, they must read the various answers for each item and identify the best one. When individuals take an intelligence test, they may be asked to define words or solve math problems. When participating in a structured job interview, individuals must respond to questions from the interviewer—questions such as "Tell me about a time when you had to deal with an upset customer. What was the situation, what did you do, and what was the outcome?" In each of these cases, individuals are performing some observable and measurable behavior.

Second, the behavior an individual performs is used to measure some personal attribute, trait, or characteristic that is thought to be important in describing or understanding human behavior. For example, the questions on a multiple-choice exam might measure your knowledge of a particular subject

Figure 1.1   A Continuum of Psychological Tests

More Typical	← —————————————————→		*Less Typical*
Personality tests Intelligence tests	Vocational tests Interest inventories Achievement tests Ability tests	Self-scored magazine tests Classroom quizzes and exams	Road portion of driving test Structured employment interviews Assessment centers

area such as psychological testing. The words you defined or the math problems you solved might measure your verbal ability or quantitative reasoning. It is also important to note that sometimes the behavior an individual performs is also used to make a prediction about some outcome. For example, the questions you answered during a structured job interview may be used to predict your success in a management position.

So, what is a psychological test? It is something that requires you to perform a behavior to measure some personal attribute, trait, or characteristic or to predict an outcome.

Differences Among Psychological Tests

Although all psychological tests require that you perform some behavior to measure personal attributes, traits, or characteristics or to predict outcomes, these tests can differ in various ways. For example, they can differ in terms of the behavior they require you to perform, what they measure, their content, how they are administered and formatted, how they are scored and interpreted, and their psychometric quality (**psychometrics** is the quantitative and technical aspect of mental measurement).

Behavior Performed

The behaviors a test taker must perform vary by test. For example, a popular intelligence test, the Wechsler Adult Intelligence Scale–Fourth Edition (WAIS-IV), a general test of adult intelligence requires test takers to (among other things) define words, repeat lists of digits, explain what is missing from pictures, and arrange blocks to duplicate geometric card designs (Pearson Education, 2012e). The Thematic Apperception Test (TAT), a widely used and researched projective personality test designed at Harvard University in the 1930s, requires test takers to look at ambiguous pictures showing a variety of social and interpersonal situations and to tell stories about each picture (Pearson Education, 2012d). The 2011 revised Graduate Record Examination (GRE) General Test, a graduate school admissions test that measures verbal reasoning, quantitative reasoning, and analytical writing skills, requires test takers to answer multiple-choice questions and respond to analytical writing tasks (Educational Testing Service, 2012b). The road portion of an auto driving test typically requires test takers to do things such as start a car, change lanes, make right and left turns, use turn signals properly, and parallel park. Assessment centers require job applicants to participate in simulated job-related activities (that mimic the activities they would perform in the job) such as engaging in confrontational meetings with disgruntled employees, processing e-mail and paperwork, and conducting manager briefings.

Attribute Measured and Outcome Predicted

What a test measures or predicts can vary. For example, the WAIS-IV asks individuals to explain what is missing from pictures to measure verbal intelligence. The TAT requires individuals to tell stories about pictures to identify conscious and unconscious drives, emotions, conflicts, and so on in order to ultimately measure personality. The road portion of a driving test requires individuals to perform various driving behaviors to measure driving ability. The GRE requires students to answer different types of questions to determine if they are ready for graduate-level work and predict success in graduate school.

Some of the characteristics, attributes, and traits commonly measured by psychological tests include personality, intelligence, motivation, mechanical ability, vocational preference, spatial ability, and anxiety. Some of the outcomes that tests typically predict include worker productivity, success in college, and who will benefit from specialized services such as clinical treatment programs.

> More detail about the WAIS-IV can be found in Test Spotlight 1.1 in Appendix A.

Content

Two tests that measure the same characteristic, attribute, or trait can require individuals to perform significantly different behaviors or to answer significantly different questions. Sometimes how the test developers define the particular characteristic, attribute, or trait affects how the test is structured. For example, the questions on two intelligence tests may differ because one author may define intelligence as the ability to reason and another author may define it in terms of **emotional intelligence**—one's ability to understand one's own feelings and the feelings of others and to manage one's emotions (Gibbs, 1995).

The difference in content may also be due to the theoretical orientation of the test. (We talk more about theoretical orientation and its relation to test content in Chapter 9.)

Administration and Format

Psychological tests can differ in terms of how they are administered and their format. A test can be administered in paper-and-pencil format (individually or in a group setting), on a computer, or verbally. Similarly, a psychological test may consist of multiple-choice items, agree/disagree items, true/false items, open-ended questions, or some mix of these. There are also tests that ask respondents to perform some behavior such as sorting cards, playing a role, or writing an essay.

Scoring and Interpretation

Psychological tests can differ in terms of how they are scored and interpreted. Some tests require test takers to document answers on scannable sheets that are then computer scored. Some tests are hand-scored by the person administering the test. Other tests are scored by the test takers themselves. In terms of interpretation, some tests generate results that can be interpreted easily by the test taker, and others require a knowledgeable professional to explain the results to the test taker.

Psychometric Quality

Last, but extremely important, psychological tests can differ in terms of their psychometric quality. For now, let us just say that there are a lot of really good tests out there that measure what they say they measure and do so consistently, but there are also a lot of really poor tests out there that do not measure what they say they measure. Good tests measure what they claim to measure, and any conclusions that are drawn from the test scores about the person taking the test are appropriate (they are what we call *valid*). Good tests also measure whatever they measure consistently (they are what we

call *reliable*). The concepts of reliability and validity are central to determining whether a test is "good" or "bad" and are covered in detail later in this textbook. These concepts are so important that four chapters are devoted to them (Chapter 6 covers reliability, and Chapters 7–9 cover validity).

Because tests can differ in so many ways, to make informed decisions about tests, you must know how to properly critique a test. A critique of a test is an analysis of the test. A good critique answers many of the questions in Table 1.1. (These questions are also in Appendix B.) Your instructor may have additional ideas about what constitutes a good critique.

INTERIM SUMMARY 1.1
SIMILARITIES AND DIFFERENCES AMONG PSYCHOLOGICAL TESTS

Similarities

- All psychological tests require an individual to perform a behavior.
- The behavior performed is used to measure some personal attribute, trait, or characteristic.
- This personal attribute, trait, or characteristic is thought to be important in describing or understanding behavior.
- The behavior performed may also be used to predict outcomes.

Differences

Psychological tests can differ in terms of the following:

- The behavior they require the test taker to perform
- The attribute they measure
- Their content
- How they are administered and formatted
- How they are scored and interpreted
- Their psychometric quality

Table 1.1 Guidelines for Critiquing a Psychological Test

General descriptive information

- What is the title of the test?
- Who is the author of the test?
- Who publishes the test, and when was it published? (Include dates of manuals, norms, and supplementary materials.)
- How long does it take to administer the test?
- How much does it cost to purchase the test? (Include the cost of the test, answer sheets, manual, scoring services, and so on.)
- Is the test proprietary or nonproprietary?

Purpose and nature of the test

- What does the test measure? (Include scales.)
- What does the test predict?
- What behavior does the test require the test taker to perform?
- What population was the test designed for (for example, age, type of person)?
- What is the nature of the test (for example, maximal performance, behavior observation, self-report, standardized or nonstandardized, objective or subjective)?
- What is the format of the test (for example, paper-and-pencil or computer, multiple choice or true/false)?

Practical evaluation

- Is the test manual comprehensive? (Does it include information on how the test was constructed, its reliability and validity, composition of norm groups, whether it is easy to read?)
- Is the test easy or difficult to administer?
- How clear are the administration directions?
- How clear are the scoring procedures?
- What qualifications and training does a test administrator need to have?
- Does the test have face validity?

Technical evaluation

- Is there a norm group?
- Who comprises the norm group?
- What types of norms are there (for example, percentiles, standard scores)?
- How was the norm group selected?
- Are there subgroup norms (for example, by age, gender, region, occupation, and so on)?
- What is the estimate of the test's reliability?
- How was reliability determined?
- What is the evidence for the validity of the test?
- How was the evidence for validity gathered?
- What is the standard error of measurement?
- What are the confidence intervals?

Test reviews

- What do reviewers say are the strengths and weaknesses of the test?
- What studies that use the test as a measurement instrument have been published in peer-reviewed journals?
- How did the test perform when researchers or test users, other than the test developer or publisher, used it?

Summary

- Overall, what do you see as being the strengths and weaknesses of the test?

The History of Psychological Testing

Some scholars believe that the use of psychological tests can be traced to 2200 BCE in ancient China. For a summary of this history, see For Your Information Box 1.1. Most scholars agree that serious research efforts on the use and usefulness of psychological tests did not begin until the 20th century with the advent of intelligence testing.

Intelligence Tests

Alfred Binet and the Binet–Simon Scale

Late in the 19th century, Alfred Binet founded the first experimental psychology research laboratory in France. In his lab, Binet attempted to develop experimental techniques to measure intelligence and reasoning ability. He believed that intelligence was a complex characteristic that could be determined by evaluating a person's reasoning, judgment, and problem-solving abilities. Binet tried a variety of tasks to measure reasoning, judgment, and problem solving on his own children as well as on other children in the French school system.

Binet was successful in measuring intelligence, and in 1905 he and Théodore Simon published the first test of mental ability, the Binet–Simon Scale. Parisian school officials used this scale to decide which children, no matter how hard they tried, were unable to profit from regular school programs (Binet & Simon, 1905).

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FOR YOUR INFORMATION BOX 1.1

Psychological Tests: From Ancient China to the 20th Century

2200 BCE: Xia Dynasty

The use of psychological tests may date back approximately 4,000 years to 2200 BCE, when the Chinese emperor Yushun examined officials every third year to determine whether they were suitable to continue in office (DuBois, 1970; W. A. P. Martin, 1870). However, modern ancient China scholars say little archaeological evidence exists to support these claims. Reliable writing systems were developed by the Chinese somewhere between 1766 and 1122 BCE (Shang dynasty; Bowman, 1989). Nowhere in the writings were there any hints suggesting that leaders were examined as just described. Even in 1115 BCE, with the advent of more elaborate writing systems, there were no inscriptions or writings to suggest the existence of such an examination process (W. A. P. Martin, 1870).

200–100 BCE: Late Qin, Early Han Dynasty

Most modern ancient China scholars agree that royal examinations began around 200 to 100 BCE, in the late Qin (Ch'in) or early Han dynasty (Eberhard, 1977; Franke, 1960; Hucker, 1978; Pirazzolit'Serstevens, 1982; Rodzinski, 1979).

618–907 CE: T'ang Dynasty

The examination systems seem to have been discontinued until the T'ang dynasty, when their use increased significantly (Bowman, 1989).

1368–1644: Ming Dynasty

During the Ming dynasty, the examinations became more formal, with different levels of examinations (municipal, county, provincial, and national). The examination results became associated with granting formal titles, similar to today's university degrees. Upon passing each level of examination, people received more titles and increasingly more power in the civil service (Bowman, 1989). The examinations were distressful, and this distress became a part of Chinese culture and also a part of folk stories and the literature (poems, comedies, and tragedies). Nonetheless, the examination system seemed to work well. Today, many scholars believe that the examination system kept talented men in the national government (Kracke, 1963) and kept members of the national government from becoming nobility because of their descent.

Seeing the value of the examinations for making important decisions, European governments, and eventually the governments of the United Kingdom, the United States, Canada, and other countries, adopted the use of such examination systems.

1791: France and Britain

France initially began using this kind of examination system in 1791. However, soon after, Napoleon temporarily abolished them. The system adopted by France served as a model for a British system started in 1833 to select trainees for the Indian civil service—the beginning of the British civil service.

1860s: United States

Due to the success of the British system, Senator Charles Sumner and Representative Thomas Jenckes proposed to Congress in 1860 that the United States use a similar system. Jenckes's report, *Civil Service in the United States,* described the British and Chinese systems in detail. This report laid the foundation for the establishment of the Civil Service Act Health and Psychosocial Instruments (HAPI), passed in January 1883.

20th Century: Western Europe and the United States

In 1879, Wilhelm Wundt introduced the first psychological laboratory, in Leipzig, Germany. At this time, psychology was the study of the similarities among people. For example, physiological psychologists studied how the brain and the nervous system function, and experimental psychologists conducted research to discover how people learn and remember. Strongly influenced by James McKeen Cattell, an American researcher in Wundt's laboratory, psychologists turned their attention to exploring individual differences. Cattell and others realized that learning about the differences among people was just as important as learning about the similarities among people. They believed that developing formal psychological tests to measure individual differences could help solve many social problems, such as who should be placed in remedial programs, who should be sent to battlefields, and who should be hired for particular jobs. At this time, scientists were particularly interested in finding a quantitative way of measuring general intelligence.

During the early 20th century, serious research efforts began on the use and usefulness of various testing procedures. Research conducted by scholars in the United States and Germany eventually led to Alfred Binet's research on intelligence in children.

Lewis Terman and the Stanford–Binet

Binet's work influenced psychologists across the globe. Psychological testing became a popular method of evaluation, and the Binet–Simon Scale was adapted for use in many countries. In 1916, Lewis Terman, an American psychologist, produced the Stanford–Binet Intelligence Scales, an adaptation of Binet's original test. This test, developed for use with Americans ages 3 years to adulthood, was used for many years. A revised edition of the Stanford–Binet remains one of the most widely used intelligence tests today.

The Wechsler–Bellevue Intelligence Scale and the Wechsler Adult Intelligence Scale

By the 1930s, thousands of psychological tests were available, and psychologists and others were debating the nature of intelligence (what intelligence was all about). This dispute over defining intelligence prompted

the development in 1939 of the original Wechsler–Bellevue Intelligence Scale (WBIS) for adults, which provided an index of general mental ability (as did the Binet–Simon Scale) and revealed patterns of a person's intellectual strengths and weaknesses. David Wechsler, the chief psychologist at Bellevue Hospital in New York City, constructed the WBIS believing that intelligence is demonstrated based on an individual's ability to act purposefully, think logically, and interact/cope successfully with the environment (Hess, 2001; B. G. Rogers, 2001; Thorne & Henley, 2001). Wechsler published the second edition, the WBIS-II, in 1946.

In 1955, Wechsler revised the WBIS-II and renamed it the Wechsler Adult Intelligence Scale (WAIS). In 1981 and 1991 the WAIS was updated and published as the WAIS-R and WAIS-III, respectively. In a continuing effort to improve the measurement of intelligence, as well as the clinical utility and user-friendliness of the test, the fourth edition was published in 2008 (Pearson Education, 2012e).

Personality Tests

In addition to intelligence testing, the early 1900s brought about an interest in measuring personality.

The Personal Data Sheet

During World War I, the U.S. military wanted a test to help detect soldiers who would not be able to handle the stress associated with combat. To meet this need, the American Psychological Association (APA) commissioned an American psychologist, Robert Woodworth, to design such a test, which came to be known as the Personal Data Sheet (PDS). The PDS was a paper-and-pencil psychiatric interview that required military recruits to respond *yes* or *no* to a series of 200 questions (eventually reduced to 116 questions) that searched for mental disorders. The questions covered topics such as excessive anxiety, depression, abnormal fears, impulse problems, sleepwalking, nightmares, and memory problems (Segal & Coolidge, 2004). One question asked, "Are you troubled with the idea that people are watching you on the street?" (cited in R. J. Cohen, Swerdlik, & Phillips, 1996). During a pilot study of the test, new recruits on average showed 10 positive psychoneurotic symptoms; recruits who were deemed unfit for service generally showed 30 to 40 positive psychoneurotic symptoms (Segal & Coolidge, 2004). Unfortunately, because Woodworth did not complete the final design of this test until too late in the war, the PDS was never implemented or used to screen new recruits.

After World War I, Woodworth developed the Woodworth Psychoneurotic Inventory, a version of the PDS. Unlike the PDS, the Woodworth Psychoneurotic Inventory was designed for use with civilians and was the first self-report test. It was also the first widely used personality inventory.

The Rorschach Inkblot Test and the TAT

During the 1930s, interest also grew in measuring personality by exploring the unconscious. With this interest came the development of two important projective tests: the Rorschach Inkblot Test and the TAT. The Rorschach, a projective personality test (described further in Chapter 14), was developed by Swiss psychiatrist Hermann Rorschach. The TAT, also a projective personality test, was developed by two American psychologists, Henry A. Murray and C. D. Morgan. Both tests are based on the personality theories of Carl Jung and continue to be widely used today for personality assessment.

Vocational Tests

During the 1940s, a need developed for **vocational tests** to help predict how successful an applicant would be in specific occupations. The Public Employment Services needed such tests because thousands of people had lost their jobs due to the Great Depression and thousands more were coming out of school and seeking work. Because there were not enough jobs, people were forced to look for new lines of work. As a result, psychologists developed large-scale programs to design vocational aptitude tests that would predict how successful a person would be at an occupation before entering it. In 1947, the Department of Labor developed the General Aptitude Test Battery (GATB) to meet this need. The GATB was used for a variety of purposes, including vocational counseling and occupational selection.

By the mid-20th century, numerous tests were available and they were used by many to make important decisions about individuals. Because of the increased use of psychological tests, to help protect the rights of the test taker, the APA (1953) published *Ethical Standards of Psychologists.* (We discuss these ethical standards in more detail in Chapter 3.)

Testing Today

In the 21st century, psychological testing is a big business. There are thousands of commercially available, standardized psychological tests as well as thousands of unpublished tests. Tests are published by hundreds of test publishing companies that market their tests very proactively—on the web and in catalogs. While in 1995 test sales totaled approximately $7 million, by 1997 sales had increased to $263 million (Clarke, Madaus, Horn, & Ramos, 2002). By 2002, test sales were estimated to be somewhere between $400 and $700 million per year. In the early 1990s, 20 million Americans per year were taking psychological tests (Hunt, 1993). From 1991 to 2010, the number of individuals taking the SAT alone increased from approximately 1 million to 1.7 million (College Board, 2011).

For the names and web addresses of some of the most well-known test publishers, as well as some of the most popular tests they publish, see On the Web Box 1.1. Publishing and marketing companies are capitalizing on the testing trend, creating and marketing a bonanza of new products and study aids. To read about some of these products and study aids, see In the News Box 1.1.

Today, psychological testing is a part of the American culture. Psychological tests are in use everywhere. For example, let us take a look at Sylvan Learning, a provider of personal instructional services to children from kindergarten through 12th grade that has more than 1,100 centers worldwide. You might be familiar with Sylvan Learning because of the test preparation programs it offers (for example, preparation for the SAT). However, did you know that much of its business is focused on personalized programs to help children develop skills in areas such as reading, math, and writing? These personalized programs are created by administering and combining the results of standardized tests to capture a student's academic strengths and weaknesses and to identify skill gaps (Sylvan Learning, 2010). Sylvan Learning uses identified skill gaps, often the reason for underperformance in school, to create a blueprint for an individual child's unique tutoring program. The company also administers learning style inventories to help instructors understand how each child learns best. Trained and certified instructors integrate these learning styles into their tutoring sessions to promote individual student learning (Sylvan Learning, 2010).

Now let us take a look at the Society for Human Resources Management (SHRM). As the world's largest association devoted to human resources management, it provides human resources professionals with essential information and resources (SHRM, 2012a). One of these resources is an online testing center, which provides SHRM members who are qualified testing professionals with electronic access to

more than 400 tests, from over 50 test publishers, in areas such as personality and skills assessment, coaching and leadership, mechanical and technical skills, information technology skills, pre-employment screening, and career exploration (SHRM, 2012b). The testing center allows qualified testing professionals to purchase individual tests, administer the tests online, and receive electronic reports.

ON THE WEB BOX 1.1

Names and Web Addresses of Test Publishers

Open your web browser, go to your favorite search engine, and conduct a search for "test publishers" or "psychological test publishers." You will find pages and pages of websites dedicated to psychological testing and publishing. You will also find the websites of hundreds of test publishers. Although there are many different publishers, some of the most well known, including some of the widely known tests they publish, are listed here:

Publisher	Website	Popular Published Tests
Educational Testing Service	www.ets.org	• Advanced Placement (AP) Program Tests • Graduate Management Admission Test (GMAT) • Graduate Record Examinations (GRE) • SAT • Test of English as a Foreign Language (TOEFL)
Pearson	www.pearsonassessments.com	• BarOn Emotional Quotient Inventory • Bayley Scales of Infant and Toddler Development—III • Bender Visual-Motor Gestalt Test—II • Watson–Glaser Critical Thinking Appraisal
Hogan Assessment Systems	www.hoganassessments.com	• Hogan Personality Inventory (HPI) • Hogan Development Survey (HDS) • Hogan Business Reasoning Inventory (HBRI) • Motives, Values, Preferences Inventory (MVPI)
IPAT	www.ipat.com	• 16 Personality Factors (16PF)
PAR	www4.parinc.com	• Self-Directed Search • NEO Personality Inventory • Personality Assessment Inventory • Slosson Intelligence Test—Revised for Children and Adults
Psytech International	www.psytech.co.uk	• Occupational Interest Profile • Clerical Test Battery • Values and Motives Inventory
PSI	www.psionline.com	• Customer Service Battery • Firefighter Selection Test • Police Selection Test
Hogrefe	www.testagency.com	• Rorschach Inkblot Test • Trauma Symptom Inventory (TSI) • WPQ Emotional Intelligence Questionnaire
University of Minnesota Press Test Division	www.upress.umn.edu/test-division	• Minnesota Multiphasic Personality Inventory (MMPI)
Wonderlic	www.wonderlic.com	• Wonderlic Personnel Test

IN THE NEWS

Box 1.1   SAT Prep Tools: From Cellphones to Handhelds to CDs

Early in 2005, the College Board introduced thousands of high school juniors to the new SAT. No longer containing the much-dreaded analogy questions, the new SAT is longer and more difficult and, for the first time, contains a writing section (College Board, 2012). The writing section contains multiple-choice questions that assess how well test takers use standard written English language and a handwritten essay to assess how well they can develop a point of view on a topic.

   Not wanting to miss an opportunity, publishers capitalized on the updated SAT by creating and marketing a number of new and innovative products—products promising to appeal to today's technology-savvy, music-hungry, multitasking teens. In 2005, the *Wall Street Journal* published an article introducing some of these unique products. In 2009, the products were still being marketed to students preparing to take the SAT.

   Princeton Review: This company offers private instruction and tutoring for standardized achievement tests. In partnership with Cocel, Princeton Review has developed a new software program called Prep for the SAT, which beams SAT practice questions, including reading passages, to cell phones so that students can prepare for the SAT at their convenience. Answers are quickly graded, and parents can even receive electronic reports. In 2005, Princeton Review also released Pocket Prep, an interactive, portable, handheld SAT prep device designed to help 21st-century high school students prepare for the SAT using a format and technology that suits their lifestyles and preferences. Pocket Prep features information about the new SAT; comprehensive verbal, math, and essay preparation; full-length timed practice exams; instant scoring; and personal diagnostic reports. It also includes practice drills, flash cards, and an extensive verbal and essay reference suite to help students maximize their grammar and essay scores.

   Kaplan: Another test preparation company, Kaplan has designed software for cell phones and handheld devices and is publishing books, such as *Frankenstein* and *Wuthering Heights*, that contain SAT vocabulary words in bold print as well as their definitions. An example of a sentence containing an SAT vocabulary word (*desolation*) might be "Mr. Heathcliff and I are such a suitable pair to divide the desolation between us."

   SparkNotes: This Internet-based, youth-oriented education product (owned by Barnes & Noble) has published several Spuzzles books containing crossword puzzles in which the answers are commonly occurring SAT vocabulary words. For example, in U.S. History Spuzzle No. 56, the clue to 8 Across is "English Quaker who founded Pennsylvania in 1681."

   Wiley Publishing: A well-known publisher of print and electronic products, Wiley has published a teen novel, *The Marino Mission: One Girl, One Mission, One Thousand Words*, that contains 1,000 need-to-know SAT vocabulary words. Not only are vocabulary words defined at the bottom of each page, but there also are self-tests at the end of the novel to help readers retain what they have learned.

   Defined Mind: These independent recording artists, along with Kaplan, have produced Vocabulary Accelerator, a 12-track CD full of rock, folk-funk, and techno beats. What is unique is that the lyrics are studded with SAT vocabulary.

SOURCE: Adapted from Kronhold (2005).

One of the most significant and controversial uses of psychological testing in the 21st century has been a result of the No Child Left Behind Act of 2001 (NCLB). NCLB, which President George W. Bush signed into law on January 8, 2002, was intended to improve the performance of America's primary and secondary schools. NCLB contains the following four basic strategies for improving the performance of schools—strategies that were intended to change the culture of America's schools by defining a school's success in terms of the achievement of its students (U.S. Department of Education, 2004):

1. Increase the accountability that states, school districts, and schools have for educating America's children by requiring that all states implement statewide systems that (a) set challenging standards for what children in Grades 3 to 8 should know and learn in reading and math, (b) test students in Grades 3 to 8 on a yearly basis to determine the extent to which they know and have learned what they should have according to state standards, and (c) include annual statewide progress objectives to ensure that all students are proficient by the 12th grade.

2. Ensure that all children have access to a quality education by allowing parents to send their children to better schools if their schools do not meet state standards.

3. Increase the amount of flexibility that high-performing states and school districts have for spending federal education dollars.

4. Place more emphasis on developing children's reading skills by making grants available to states to administer screening and diagnostic assessments to identify children who may be at risk for reading failure and by providing teachers with professional development and resources to help young children attain the knowledge and skills they need to be readers.

Ten years after implementing NCLB to improve the quality of education across the United States, there remains significant controversy regarding the "stringent, standardized testing that would effectively identify underachieving schools" (Chen, 2011, para. 1). While tests have always played a critical role in the assessment of student achievement, NCLB requires that students be tested more often and relies on test scores to make more important decisions than in the past. In Chapter 13, we talk more about how one state, Florida, has responded to NCLB, focusing primarily on the role that psychological tests have played in assessing the extent to which children and schools measure up to state standards.

The Defining Characteristics of Psychological Tests

As we have already discussed, a psychological test is anything that requires an individual to perform a behavior for the purpose of measuring some attribute, trait, or characteristic or to predict an outcome. All good psychological tests have three characteristics in common:

1. They representatively sample the behaviors thought to measure an attribute or thought to predict an outcome. For example, suppose we are interested in developing a test to measure your physical ability. One option would be to evaluate your performance in every sport you have ever played. Another option would be to have you run the 50-meter dash. Both of these options have drawbacks. The first option would be very precise, but not very practical. Can you imagine how much time and energy it would take to review how you performed in every sport you have ever played? The second option is too narrow and unrepresentative. How fast you run the 50-meter dash does not tell us much about your physical ability in general. A better method would be to take a representative sample of performance in sports. For example, we might require you to participate in

some individual sports (for example, running, tennis, gymnastics) and team sports (for example, soccer, basketball) that involve different types of physical abilities (for example, strength, endurance, precision). This option would include a more representative sample.

2. All good psychological tests include behavior samples that are obtained under standardized conditions. That is, a test must be administered the same way to all people. When you take a test, various factors can affect your score besides the characteristic, attribute, or trait that is being measured. Factors related to the environment (for example, room temperature, lighting), the examiner (for example, examiner attitude, how the instructions are read), the examinee (for example, illness, fatigue), and the test (for example, understandability of questions) all can affect your score. If everyone is tested under the same conditions (for example, the same environment), we can be more confident that these factors will affect all test takers similarly. If all of these factors affect test takers similarly, we can be more certain that a person's test score accurately reflects the attribute being measured. Although it is possible for test developers to standardize factors related to the environment, the examiner, and the test, it is difficult to standardize examinee factors. For example, test developers have little control over what test takers do the night before they take a test.

3. All good psychological tests have rules for scoring. These rules ensure that all examiners will score the same set of responses in the same way. For example, teachers might award 1 point for each multiple-choice question you answer correctly, and they might award or deduct points based on what you include in your response to an essay question. Teachers might then report your overall exam score either as the number correct or as a percentage of the number correct (the number of correct answers divided by the total number of questions on the test).

Although all psychological tests have these characteristics, not all exhibit these characteristics to the same degree. For example, some tests may include a more representative sample of behaviors than do others. Some tests, such as group-administered tests, may be more conducive to administration under standardized conditions than are individually administered tests. Some tests have well-defined rules for scoring, and other tests have general guidelines. Some tests have very explicit scoring rules, for example, "If Question 1 is marked true, then deduct 2 points." Other tests, such as those that include short answers, may have less explicit rules for scoring, for example, "Award 1 point for each concept noted and defined."

INTERIM SUMMARY 1.2
THE THREE DEFINING CHARACTERISTICS OF PSYCHOLOGICAL TESTS

All psychological tests have three common characteristics:

- First, a good test should representatively sample the behaviors thought to measure an attribute or predict an outcome. This ensures that the test measures what it says it measures.
- Second, the behavior samples should be obtained under standardized conditions.

That is, a test must be administered exactly the same way to all individuals so that we can be confident that a person's score accurately reflects the attribute being measured or the outcome being predicted.
- Third, there must be rules for scoring so that all examiners will score the test in the same way.

Assumptions of Psychological Tests

There are many assumptions that must be made when using psychological tests. The following are what we consider the most important assumptions:

1. *Psychological tests measure what they purport to measure or predict what they are intended to predict.* In addition, any conclusions or inferences that are drawn about the test takers based on their test scores must be appropriate. This is also called test validity. If a test is designed to measure mechanical ability, we must assume that it does indeed measure mechanical ability. If a test is designed to predict performance on the job, then we must assume that it does indeed predict performance. This assumption must come from a personal review of the test's validity data.

2. *An individual's behavior, and therefore test scores, will typically remain stable over time.* This is also called test–retest reliability. If a test is administered at a specific point in time and then we administer it again at a different point in time (for example, 2 weeks later), we must assume, depending on what we are measuring, that an individual will receive a similar score at both points in time. If we are measuring a relatively stable trait, we should be much more concerned about this assumption. However, there are some traits, such as mood, that are not expected to show high test–retest reliability.

3. *Individuals understand test items the same way*. For example, when asked to respond *true* or *false* to a test item such as "I am almost always healthy," we must assume that all test takers interpret "almost always" similarly.

4. *Individuals will report accurately about themselves* (for example, about their personalities, about their likes and dislikes). When we ask people to remember something or to tell us how they feel about something, we must assume that they will remember accurately and that they have the ability to assess and report accurately on their thoughts and feelings. For example, if we ask you to tell us whether you agree or disagree with the statement "I have always liked cats," you must remember not only how you feel about cats now but also how you felt about cats previously.

5. *Individuals will report honestly their thoughts and feelings*. Even if people are able to report correctly about themselves, they may choose not to do so. Sometimes people respond how they think the tester wants them to respond, or they lie so that the outcome benefits them. For example, if we ask test takers whether they have ever taken a vacation, they may tell us that they have even if they really have not. Why? Because we expect most individuals to occasionally take vacations, and therefore the test takers think we would expect most individuals to answer *yes* to this question. Criminals may respond to test questions in a way that makes them appear neurotic or psychotic so that they can claim they were insane when they committed crimes. When people report about themselves, we must assume that they will report their thoughts and feelings honestly, or we must build validity checks into the test.

6. *The test score an individual receives is equal to his or her true score plus some error, and this error may be attributable to the test itself, the examiner, the examinee, or the environment.* That is, a test taker's score may reflect not only the attribute being measured but also things such as awkward question wording, errors in administration of the test, examinee fatigue, and the temperature of the room in which the test was taken. When evaluating an individual's score, we must assume that it will include some error.

Although we must accept some of these assumptions at face value, we can increase our confidence in others by following certain steps during test development. For example, in Section III of this

textbook, which covers test construction, we talk about how to design test questions that are more likely to be understood universally. We also talk about the techniques that are available to promote honest answering. In Section II, which covers psychometric principles, we discuss how to measure a test's reliability and validity.

Test Classification Methods

As we have already discussed, there are tens of thousands of commercially available psychological tests, and professionals refer to these tests in various ways. Sometimes professionals refer to them as tests of maximal performance, behavior observation tests, or self-report tests. Sometimes professionals refer to tests as being standardized or nonstandardized, objective or projective. Other times professionals refer to tests based on what the tests measure. In this section, we discuss the most common ways that professionals classify and refer to psychological tests.

Maximal Performance, Behavior Observation, or Self-Report

Most psychological tests can be defined as being tests of maximal performance, behavioral observation tests, or self-report tests.

- **Tests of maximal performance** require test takers to perform a particular well-defined task such as making a right-hand turn, arranging blocks from smallest to largest, tracing a pattern, or completing mathematical problems. Test takers try to do their best because their scores are determined by their success in completing the task. Intelligence tests, tests of specific abilities (for example, mechanical ability), driving tests (road and written), and classroom tests all are good examples of tests of maximal performance.
- **Behavior observation tests** involve observing people's behavior and how people typically respond in a particular context. Unlike with tests of maximal performance, many times people do not know that their behavior is being observed and there is no single defined task for the individual to perform. Many restaurants use this technique to assess food servers' competence in dealing with customers. Sometimes managers hire trained observers to visit their restaurant disguised as a typical customer. In exchange for a free meal or some predetermined compensation, observers agree to record specific behaviors performed by a food server. For example, observers may document whether a food server greeted them in a friendly manner. Other examples of behavior observations include documenting job performance for performance appraisals or clinical interviews.
- **Self-report tests** require test takers to report or describe their feelings, beliefs, opinions, or mental states. Many personality inventories, such as the Hogan Personality Inventory (HPI), are self-report tests. The HPI, a test used primarily for personnel selection and individualized assessment, asks test takers to indicate whether each of more than 200 statements about themselves is true or false.

Most psychological tests fit one of the above categories, and some tests contain features of more than one category. For example, a structured job interview (which involves asking all job applicants a standard set of interview questions) could include both technical questions and questions about one's beliefs or opinions. Technical questions, which are well defined for the interviewee, qualify the interview as a test of maximal performance. Questions about beliefs and opinions qualify it as a self-report

test. The interviewer may also observe the interviewees' behaviors, such as their greetings, which would qualify the interview as a behavioral observation.

Standardized or Nonstandardized

Standardized tests are those that have been administered to a large group of individuals who are similar to the group for whom the test has been designed. For example, if a test is designed to measure the writing ability of high school students, the test would be administered to a large group of high school students. This group is called the **standardization sample**—people who are tested to obtain data to establish a frame of reference for interpreting individual test scores. These data, called **norms**, indicate the average performance of a group and the distribution of scores above and below this average.

For example, if you took the SAT, the interpretation of your score included comparing it with the SAT standardization sample to determine whether your score was high or low in comparison with others and whether you scored above average, average, or below average. In addition, standardized tests always have specific directions for administration and scoring.

Nonstandardized tests do not have standardization samples and are more common than standardized tests. Nonstandardized tests are usually constructed by a teacher or trainer in a less formal manner for a single administration. For example, in many cases, the exams you take in your college courses are nonstandardized tests.

Objective or Projective

Sometimes people make a distinction between objective and projective tests. **Objective tests** are structured and require test takers to respond to structured true/false questions, multiple-choice questions, or rating scales. What the test taker must do is clear, for example, answer *true* or *false,* circle the correct multiple-choice answer, or circle the correct item on the rating scale. The GRE, Stanford-Binet Intelligence Scales, General Aptitude Test Battery, and most classroom tests are examples of objective tests.

Another example of an objective test is the NEO Personality Inventory-3 (NEO-PI-3), an objective self-report instrument designed to identify what makes individuals unique in their thinking, feeling, and interaction with others. Although there are two forms of the inventory, both measure five broad personality dimensions: neuroticism, extroversion, openness, agreeableness, and conscientiousness (PAR, 2012b). Test takers are asked to indicate whether they strongly disagree, disagree, are neutral, agree, or strongly agree with each of 240 statements. These statements are about their thoughts, feelings, and goals. For sample questions from the NEO Personality Inventory, see For Your Information Box 1.2.

More detail about the NEO Personality Inventory can be found in Test Spotlight 1.3 in Appendix A.

On the other hand, **projective tests** are unstructured. They require test takers to respond to unstructured or ambiguous stimuli such as incomplete sentences, inkblots, and abstract pictures. The role of the test taker is less clear than with a standardized test. People who use projective tests believe that test takers project themselves into the task they are asked to perform and that their responses are based on what they believe the stimuli mean and on the feelings they experience while responding. These tests tend to elicit highly personal concerns. They are often used to detect unconscious thoughts or personality characteristics, and they may be used to identify the need for psychological counseling. The TAT is an example of a projective test. (Chapter 14 contains more information on the TAT and other projective tests.)

F Y I

FOR YOUR INFORMATION BOX 1.2

Sample Items From the NEO Personality Inventory

The NEO Personality Inventory is an objective self-report instrument designed to identify what makes individuals unique in their thinking, feeling, and interaction with others. The inventory measures five broad personality dimensions: neuroticism, extroversion, openness, agreeableness, and conscientiousness. Test takers are asked to indicate whether they strongly disagree (SD), disagree (D), are neutral (N), agree (A), or strongly agree (SA) with each of 240 statements. These statements are about their thoughts, feelings, and goals. In the following, we list a sample item from three of the five scales:

Neuroticism
Frightening thoughts sometimes come into my head.　　　SD　　D　　N　　A　　SA

Extroversion
I don't get much pleasure from chatting with people.　　　SD　　D　　N　　A　　SA

Openness
I have a very active imagination.　　　SD　　D　　N　　A　　SA

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Dimension Measured

Psychological tests are often discussed in terms of the dimensions they measure. For example, sometimes we distinguish among achievement tests, aptitude tests, intelligence tests, personality tests, and interest inventories. We refer to these as dimensions because they are broader than a single attribute or trait level. Often these types of tests measure various personal attributes or traits.

Achievement Tests

Achievement tests measure a person's previous learning in a specific academic area (for example, computer programming, German, trigonometry, psychology). A test that requires you to list the three characteristics of psychological tests would be considered an achievement test. Achievement tests are also referred to as tests of knowledge.

　　Achievement tests are used primarily in educational settings to determine how much students have learned or what they can do at a particular point in time. Many elementary schools and high schools rely on achievement tests to compare what students know at the beginning of the year with what they know at the end of the year, to assign grades, to identify students with special educational needs, and to measure students' progress.

Aptitude Tests

Achievement tests measure a test taker's knowledge in a specific area at a specific point in time. **Aptitude tests** assess a test taker's potential for learning or ability to perform in a new job or situation.

Aptitude tests measure the product of cumulative life experiences—or what one has acquired over time. They help determine what "maximum" can be expected from a person.

Schools, businesses, and government agencies often use aptitude tests to predict how well someone will perform or to estimate the extent to which an individual will profit from a specified course of training. Vocational guidance counseling may involve aptitude testing to help clarify the test taker's career goals. If a person's score is similar to scores of others already working in a given occupation, the test will predict success in that field.

Intelligence Tests

Intelligence tests, like aptitude tests, assess the test taker's ability to cope with the environment, but at a broader level. Intelligence tests are often used to screen individuals for specific programs (for example, gifted programs, honors programs) or programs for the mentally challenged. Intelligence tests are typically used in educational and clinical settings.

Interest Inventories

Interest inventories assess a person's interests in educational programs for job settings and provide information for making career decisions. Because these tests are often used to predict satisfaction in a particular academic area or employment setting, they are administered primarily to students by counselors in high schools and colleges. Interest inventories are not intended to predict success; rather, they are intended only to offer a framework for narrowing career possibilities.

Personality Tests

Personality tests measure human character or disposition. The first personality tests were designed to assess and predict clinical disorders. These tests remain useful today for determining who needs counseling and who will benefit from treatment programs. Newer personality tests measure "normal" personality traits. For example, the Myers–Briggs Type Indicator (MBTI) is often used by industrial/organizational psychologists to increase employees' understanding of individual differences and to promote better communication between members of work teams. Career counselors also use the MBTI to help students select majors and careers consistent with their personalities.

More detail about the MBTI can be found in Test Spotlight 1.4 in Appendix A.

Personality tests can be either objective or projective. The MBTI is an example of an objective personality test. Projective personality tests, such as the TAT, serve the same purpose as some objective personality tests, but they require test takers to respond to unstructured or ambiguous stimuli.

Subject Tests

Many popular psychological testing reference books also classify tests by subject. For example, the *Eighteenth Mental Measurements Yearbook* (Buros Institute, 2010) classifies thousands of tests into 19 major subject categories:

- Achievement
- Behavior assessment
- Developmental
- Education

- English
- Fine arts
- Foreign languages
- Intelligence
- Mathematics
- Miscellaneous (for example, courtship and marriage, driving and safety education, etiquette)
- Multiaptitude batteries
- Neuropsychological
- Personality
- Reading
- Science
- Sensorimotor
- Social studies
- Speech and hearing
- Vocations

Reference books such as the *Mental Measurements Yearbook* often indicate whether a test is (a) a test of maximal performance, a behavior observation test, or a self-report test; (b) standardized or nonstandardized; and (c) objective or projective. We discuss the *Mental Measurements Yearbook*, as well as other reference books, later in this chapter.

INTERIM SUMMARY 1.3
ASSUMPTIONS AND TEST CLASSIFICATION METHODS

When using psychological tests, the following assumptions must be made:

- Psychological tests measure what they say they measure, and any inferences that are drawn about test takers based on their test scores are appropriate.
- An individual's behavior, and therefore test scores, will remain unchanged over time.
- Individuals understand test items similarly.
- Individuals can report about themselves accurately.
- Individuals will report their thoughts and feelings honestly.

- The test score an individual receives is equal to his or her true ability plus some error.

Psychological tests can be classified in many different ways:

- As tests of maximal performance, behavior observation tests, or self-report tests
- As standardized or nonstandardized
- As objective or projective
- Based on the dimensions they measure
- Based on subject

Psychological Assessment, Psychological Tests, Measurements, and Surveys

Before discussing much more, we should spend some time discussing some terms that students often confuse—psychological assessment, psychological tests, measurement, and surveys. Students often think of psychological assessment and psychological testing as one and the same. Similarly, students often do

not understand the difference between psychological tests and surveys. This section is designed to help you distinguish among these terms that are commonly used in psychological testing.

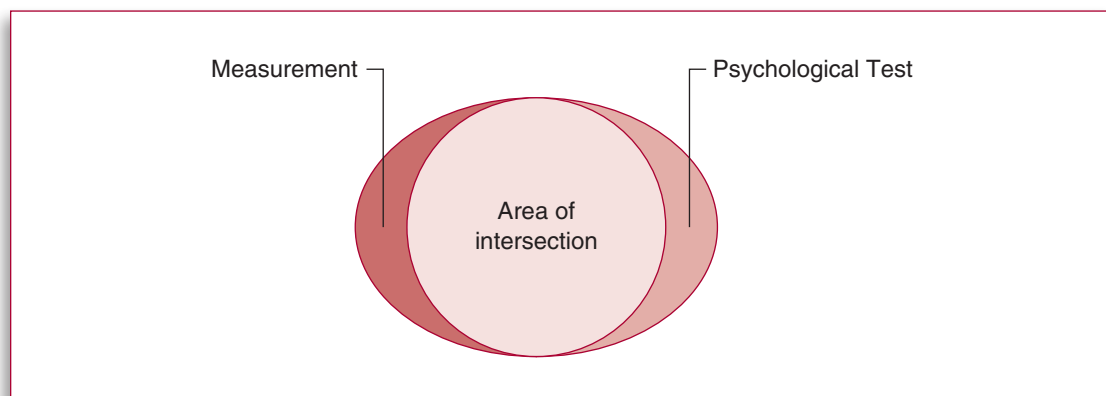## Psychological Assessments and Psychological Tests

Psychological assessments and psychological tests both are methods of collecting important information about people, and both are also used to help understand and predict behavior (Kline, 2000; Maloney & Ward, 1976). Assessment, however, is a broader concept than psychological testing. **Psychological assessment** involves multiple methods, such as personal history interviews, behavioral observations, and psychological tests, for gathering information about an individual. Psychological assessment involves *both* an objective component and a subjective component (Matarazzo, 1990), and psychological tests are only one tool in the assessment process. For example, a clinical psychologist may conduct a psychological assessment of a patient and, as a part of this assessment, may administer a psychological test such as the Minnesota Multiphasic Personality Inventory (MMPI).

Psychological Tests and Measurements

Although the meanings overlap, *psychological test* and *measurement* are not synonyms. **Measurement**, broadly defined, is the assignment of numbers according to specific rules. The concept of measurement is represented by the darker circle in Figure 1.2.

Psychological tests require test takers to answer questions or perform tasks to measure personal attributes. The concept of a psychological test is represented by the lighter circle in the figure. With psychological tests, test takers' answers to questions or their performance on some task is not initially expressed in physical units of any kind; instead, scores are derived according to some predetermined method. In some cases, the end result of a psychological test is not a derived score at all, but rather a verbal description of an individual. For example, there are some personality tests that, although they

Figure 1.2 A Comparison of Measurement and Psychological Testing (the area of intersection represents samples of behavior expressed as numerical scores)

have rules for scoring or summarizing information, do not produce overall scores. Instead, these tests yield profiles. The MBTI is an example of such a test.

Psychological tests can be considered psychological measurements when a sample of behavior can be expressed as a numerical score. This is represented by the overlapping section of the two circles in Figure 1.2.

You will find that many people use the terms *psychological test* and *psychological measurement* interchangeably. Although most psychological tests are measurements, not all psychological tests, strictly defined, meet the definition of a measurement. Throughout the remainder of this text, we follow the common practice of referring to all psychological tests as measurements because most of them are, but keep in mind the distinctions we have drawn in this section.

Psychological Tests and Surveys

Surveys, like psychological tests (and psychological assessments), are used to collect important information from individuals. Surveys differ from psychological tests in two important ways. First, psychological tests focus on individual outcomes, and surveys focus on group outcomes. Psychological tests provide important information about individual differences and help individuals and institutions make important decisions about individuals. For example, a psychological test may suggest that a child is unusually intelligent and therefore should be placed in a gifted or honors program. Surveys, on the other hand, provide important information about groups and help us make important decisions about groups. For example, an organizational survey may suggest that employees are displeased with a company benefits program and that a new benefits program is needed.

Second, the results of a psychological test are often reported in terms of an overall derived score or scaled scores. Results of surveys, on the other hand, are often reported at the question level by providing the percentage of respondents who selected each answer alternative. Of course, in some cases, surveys focus on individual outcomes and are constructed using scales. In such cases, the survey approximates a psychological test. (Chapter 10 is devoted to an in-depth discussion of surveys.)

Locating Information About Tests

With so many psychological tests available, we are sure you can imagine that finding the most appropriate one for your specific purpose can be a difficult task. To choose an appropriate test for a particular circumstance, you must know the types of tests that are available and their merits and limitations. Prior to the 1950s, test users had few resources for obtaining such information. Today, however, numerous resources are available. Although all have the same general purpose—to help test users make informed decisions—the information such resources contain varies. Some resources provide only general descriptive information about psychological tests, such as the test's name, author, and publisher, and others contain detailed information, including test reviews and detailed bibliographies. Some resources focus on commercially available, standardized published tests, and others focus on unpublished tests. Some references include information about tests for particular groups (for example, children), and others include a broad range of tests for various populations.

Some of the most commonly used resource books, including a brief synopsis of the contents, are described in For Your Information Box 1.3. The first four resource books, *Tests in Print* (*TIP*), the *Mental Measurements Yearbook* (*MMY*), *Tests*, and *Test Critiques,* are often viewed as the most useful and popular (APA, 2012a).

F Y I

FOR YOUR INFORMATION BOX 1.3

Commonly Used Resource Books

Book Title	Contents
Tests in Print (multiple volumes)	*Tests in Print (TIP)* is published in multiple volumes. Each volume contains descriptive listings of commercially published tests that are available for purchase. *TIP* also serves as a comprehensive index to the contents of previously published *Mental Measurements Yearbooks*. Each descriptive listing, or test entry, contains extensive information, including but not limited to the title of the test, the purpose of the test, the intended population, publication dates, the acronym used to identify the test, scores the test provides, whether the test is an individual test or group test, whether the test has a manual, the author(s), the publisher, the cost of the test, and available foreign adaptations. Each entry also contains brief comments about the test as well as cross-references to reviews in the *Mental Measurements Yearbooks*.
Mental Measurements Yearbook (multiple volumes)	The *Mental Measurements Yearbook (MMY)* is published in multiple volumes. Each volume contains descriptive information and test reviews of new English-language, commercially published tests and tests that have been revised since the publication of the previous *MMY* edition. The *MMY* is cumulative, meaning that later volumes build on earlier ones rather than replace them. Each descriptive listing, or test entry, contains extensive information about a particular test. If the test is a revision of a previous test, the entry also includes the volume of the *MMY* in which the test was originally described. Each entry also typically includes information about the test's reliability and validity, one or two professional reviews, and a list of references to pertinent literature. For a guide to descriptive entries in the *MMY*, see Figure 1.3. The *MMY* is very likely accessible electronically through your college's library system.
Tests	*Tests* contains descriptions of a broad range of tests for use by psychologists, educators, and human resource professionals. Each entry includes the test title, the author, the publisher, the intended population, the test purpose, major features, the administration time, the cost, and the availability.
Test Critiques (multiple volumes)	*Test Critiques* is published in multiple volumes. Each volume contains reviews of frequently used psychological, business, and educational tests. Each review includes descriptive information about the test (for example, author, attribute measured, norms) and information on practical applications and uses. *Test Critiques* also contains in-depth information on reliability, validity, and test construction.
Personality Test and Reviews (multiple volumes)	*Personality Test and Reviews* is published in volumes. Each volume contains a bibliography of personality tests that are contained in the *MMY*. Each entry contains descriptive information about the test as well as test reviews.
Tests in Education	*Tests in Education* contains descriptive and detailed information about educational tests for use by teachers, administrators, and educational advisers.
Testing Children	*Testing Children* contains descriptions of tests available for children. These descriptions include the knowledge, skills, and abilities measured by each test; the content and structure of the test; the time required to administer the test; the scores that are produced; the cost; and the publisher.
Tests and Measurements in Child Development: A Handbook	*Tests and Measurements in Child Development* contains a listing of unpublished measures for use with children as well as detailed information about each measure.
Measures for Psychological Assessment: A Guide to 3,000 Original Sources and Their Applications	*Measures for Psychological Assessment* is a guide that contains annotated references to thousands of less recognized assessment devices developed and described in journal articles.

Whether you are trying to locate tests that measure intelligence, self-esteem, or some other attribute, trait, or characteristic, we suggest that you begin your search with one of the first four resource books in For Your Information Box 1.3. *TIP* and the *MMY* are two of the most helpful references, and students often find it most helpful to begin with *TIP*. Figure 1.3 includes a descriptive guide of the type of information you will find in the *MMY*. Figure 1.4 includes a summary of how to use *TIP* to find tests. You can find more information on how to use both of these resources, as well as how to use the information contained in these resources to evaluate a test, on the Buros Institute of Mental Measurements homepage, discussed in On the Web Box 1.2.

Figure 1.3   A Guide to Descriptive Entries in the *Mental Measurements Yearbook*

BUROS INSTITUTE OF MENTAL MEASUREMENTS

Mental Measurements Yearbook and *Tests in Print*
A Guide to the Descriptive Entries

Entry Number: The number cited in all indexes when referring to this test.

Title: Test titles are printed in boldface type; secondary or series titles are set off from main titles by colon.

Population: A description of the groups for which the test is intended.

Administration: Individual or group administration is indicated.

Distribution: This is noted only for tests that are put on a special market by the publisher.

Special Editions: Various types of special editions are listed here.

Author: All test authors' names are reported, exactly as printed on the test materials.

Cross References: For tests that have been previously listed in a Buros publication, cross references to the reviews, excerpts, and references will be noted here. "9:1410," for example, refers to test 1410 in the *Ninth Mental Measurements Yearbook*; "T4:3010" refers to test 3010 in *Tests in Print IV*.

[420]
The Hypothetical Test: Reading.
Purpose: Designed to "measure achievement in reading."
Population: Grades 9-12.
Publication Dates: 1989—1994.
Acronym: HYPE.
Scores, 3: Vocabulary, Comprehension, and Total.
Administration: Individual or group.
Forms, 3: Survey, Abbreviated, Complete Battery.
Restricted Distribution: Distribution of Survey Form restricted to school principals.
Price Data, 1995: $70 per complete kit including 100 tests, scoring key, and manual ('94, 120 pages); $9 per scoring key; $32 per manual.
Special Editions: Braille edition available.
Time: 50(60) minutes.
Comments: May be self-scored.
Author: Jane J. Doe.
Publisher: Hypothetical Tests, Inc.
Cross References: See T4:3010 (2 references); for reviews by John Roe and Robert Smith of an earlier edition, see 9:1410 (6 references).

Purpose: A brief, clear statement describing the purpose of the test; often these are quotations from the test manual.

Publication Date: The inclusive range of publication dates.

Acronym: Acronym by which the test may be commonly known.

Scores: The number of explicit scores is presented along with the descriptions of what they are intended to measure.

Forms: All available forms, parts, and levels are listed.

Price Data: Price information is reported for test packages, answer sheets, accessories, and specimen sets.

Time: This is the amount of time to take, and administer, the test. The first number is the actual working time examinees are allowed, and the second (parenthesized) number is the total time needed to administer the test.

Comments: Special notations and comments.

Publisher: The publisher's full address can be found in the Publishers Directory and Index.

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Lincoln, NE 68588-0348

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SOURCE: Buros Institute of Mental Measurements, University of Nebraska-Lincoln. www.unl.edu/buros.

Because there is a wealth of psychological tests available, there is a wealth of resources available for you to use in gathering information about psychological tests. You are not limited to print resources; advances in technology now allow you to access the Internet and gather information about psychological tests on demand. On the Web Box 1.2 discusses some websites you can access to locate information on psychological tests. For Your Information Box 1.4 discusses where you can locate unpublished psychological tests.

Figure 1.4   How to Use *Tests in Print*

BUROS INSTITUTE
OF MENTAL MEASUREMENTS

How to Use
Tests in Print

Tests in Print (TIP) *consists of descriptive listings, without reviews, of commercially published tests in print.* TIP *is also a comprehensive index to the contents of previously published* Mental Measurements Yearbooks.

1. If you know the
TEST TITLE:

Use the "**Index of Titles**." The index lists all tests in that volume plus all tests out of print since last being listed. "2458," for example, refers to test 2458 in that volume; "9:1128" refers to now out-of-print test 1128 in the *Ninth Mental Measurements Yearbook. Citation numbers refer to entry numbers, not to page numbers.*

Example from "Index of Titles":

Short Tests of Clerical Ability, 2458
Shortened Edinburgh Reading Test, 2459
Shortened Aptitude Test, T4:2195
Signals Learning Test, 2461
Silver Burdett Music Competency Tests, 9:1128
Silver Drawing Test of Cognitive Skills and Adjustment, 2462
Simile Interpretations, T4:2198
Similes, T4:2199

Buros Institute of Mental Measurements
University of Nebraska-Lincoln
21 Teachers College Hall
Lincoln, NE 68588-0348

2. If you know the
TYPE OF TEST:

Use the "**Classified Subject Index**" to locate various categories of tests, such as achievement, intelligence, personality, etc. This index organizes all tests into 18 major categories; tests appear alphabetically within each category. *Citation numbers refer to entry numbers, not to page numbers.*

Example from "Classified Subject Index, Education":

Gifted Program Evaluation Survey, Gifted and talented programs, see 1040
Graduate Records Examinations Education Test, Graduate School candidates, see 1063
High School Characteristics Index, Grades 9-13, 4-13, see 1157
How a Child Learns, Classroom teachers, see 1175
Hudson Educational Skills Inventory, Grades K-12, see 1184

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See the Buros Institute website at **www.unl.edu/buros**

3. If you know the
NAME OF THE TEST
AUTHOR OR REVIEWER:

Use the "**Index of Names**." This index includes test authors (for example, "test, 1460"), review authors ("rev, 2589"), and authors of referenced articles ("ref, 2222"). (Parenthesized numbers indicate the reference number.) *Citation numbers refer to entry numbers, not to page numbers.*

Example from "Index of Names":

Caeglio, G.: test, 1460
Caffey, C. A.: ref, 2222(1)
Caggiula, A. A.: ref, 2563(449)
Cahalane, J.: ref, 268(395), 1043(39)
Cahen, L. S.: rev, 2589
Cahill, C.: ref, 1705(65), 2937(935)
Cahir, N.: ref, 1135(14), 2674(188)
Cahn, T. S.: ref, 268(90)
Cain, J.: ref, 93(84), 1690(84)
Cain, L. F.: test, 2844

SOURCE: Buros Institute of Mental Measurements, University of Nebraska-Lincoln. www.unl.edu/buros.

ON THE WEB BOX 1.2

Locating Information About Tests on the Web

Computer technology lets us connect to the Internet and locate websites containing valuable information about psychological tests. These websites include information such as the following:

- Frequently asked questions about psychological testing
- How to find a particular type of psychological test
- How to locate reviews of psychological tests
- How to select an appropriate test
- What qualifications are necessary to purchase psychological tests
- How to contact test publishers
- How to obtain copies of specific psychological tests

Although there are many available websites, here are four that we have found to be extremely valuable:

Website	Description
American Psychological Association www.apa.org/ science/ programs/ testing/find-tests .aspx#findinfo	Although the American Psychological Association (APA) does not sell or endorse specific testing instruments, it does provide guidance on testing resources and how to find psychological tests. This website contains answers to the most frequently asked questions about psychological testing. One section focuses on questions about published psychological tests (those that can be purchased from a test publisher); here you will find advice on how to find information about a particular test and about the proper use of tests, how to contact test publishers and purchase tests, and available software and scoring services. Another section focuses on unpublished psychological tests and measures (those that are not commercially available); here you will find advice on how to find unpublished tests in your area of interest and important information regarding your responsibilities as a user of unpublished tests.
Buros Institute of Mental Measurement www.unl.edu/ buros/bimm/ index.html	The Buros Institute of Mental Measurement promotes the appropriate use of tests and provides professional assistance, expertise, and information to those who use commercially published tests. This website contains a number of instructional resources, tools, and links. For example, it contains detailed instructions on what information can be found in two popular Buros publications that we have already discussed: the *Mental Measurements Yearbook* and *Tests in Print.* This site also contains some great "how to" resources such as how to use *Tests in Print* and the *Mental Measurements Yearbook* and how to use the information in these resources to evaluate a test. In addition, it contains a link to *Test Reviews Online,* a service that provides access to more than 2,000 test reviews, beginning with those that were published in the *Ninth Mental Measurements Yearbook.* Likewise, there are links to the *Code of Fair Testing Practices* (discussed further in Chapter 3) and the APA's frequently asked questions website mentioned previously.
Test Collection at ETS www.ets.org/ test_link/ about	The Test Collection at ETS is the world's largest database of tests and measurement instruments that have been available since the early 1900s. This online database contains descriptions of more than 20,000 tests (published and unpublished) and research instruments, collected from test publishers and test authors from around the world. Each description includes the title of the test/instrument, the author, the publication date, availability (how to obtain the test or measurement), the intended population, and specific uses of the test/instrument. In addition to providing information about specific tests, this database contains valuable information on how to order tests.
O*Net Resource Center www .onetcenter .org/guides .html	The Occupational Information Network (O*Net) is sponsored by the U.S. Department of Labor and is a primary source for occupational information. Consisting of a comprehensive database of worker attributes and job characteristics, O*Net also provides valuable resources on testing and assessment—resources intended to support public and private sector efforts to identify and develop the skills of the American workforce. This website provides access to three extremely valuable testing and assessment guides: • *Testing and Assessment: A Guide to Good Practices for Workforce Investment Professionals* includes information on how assessment instruments can be used to promote talent development in career counseling, training, and other talent development activities. It discusses how to evaluate and select assessment instruments, administer and score assessments to meet business and individual client needs, and accurately and effectively interpret assessment results. It also lists the professional and legal standards related to assessment use in talent development. • *Tests and Other Assessments: Helping You Make Better Career Decisions* includes an explanation of how assessment instruments are used in employment selection and career counseling and provides tips and strategies for taking tests and other assessments. • *Testing and Assessment: An Employer's Guide to Good Practices* helps managers and workforce development professionals understand and use employment testing and assessment practices to meet their organizations' human resources goals.

F Y I

FOR YOUR INFORMATION BOX 1.4

Locating Unpublished Psychological Tests

Although there are thousands of commercially available tests, there are just as many, if not more, unpublished tests designed and used by researchers. A number of print and nonprint resources are available for locating information on unpublished tests.

Two of the most popular print resources are the *Directory of Unpublished Experimental Mental Measures* and *Measures for Psychological Assessment: A Guide to 3,000 Original Sources and Their Applications*. Three of the most popular nonprint resources for locating information about unpublished or noncommercial tests are Tests in Microfiche, the PsycINFO database, and the Health and Psychosocial Instruments database.

Directory of Unpublished Experimental Mental Measures (Goldman & Mitchell, 2007)

This directory provides easy access to more than 5,000 experimental mental measures, tests, and surveys that have been used by other researchers but are not commercially available. Topics range from educational adjustment and motivation to personality and perception. The measures, tests, and surveys are arranged in a 24-category system and grouped according to function and content, noting purpose, format, psychometric information (where available), and related research. First published in 1974 and currently in its ninth edition, this resource is updated periodically by the publisher.

Measures for Psychological Assessment: A Guide to 3,000 Original Sources and Their Applications (Chun, Cobb, & French, 1975)

This guide includes annotated references to psychological measures that have appeared in journal articles and other publications. Although a bit outdated, this can be a useful resource. It has two sections: primary references and applications. The primary references section includes the name of each measure, the reference in which the measure originally appeared, and one or more other researchers who have used the measure in experimental research. The applications section includes other research studies that have used the original measures and references other experimental tests.

Tests in Microfiche

This resource can be accessed through the Test Collection at ETS. It contains a variety of educational and psychological instruments that are cited in the literature but are either out of date or unpublished. It contains more than 800 tests, and new tests are added each year. For more information, go to www.ets.org/test_link/about or check with your college's library.

PsycINFO Database

This bibliographic database indexes published studies in psychology. By using the Form/Content field "Tests & Measures" to search the PsycINFO database, you can find tests that have been used in research and written about in the literature. For more information, go to www.apa.org/pubs/databases/psycinfo/index.aspx.

Health and Psychosocial Instruments Database (HAPI)

This computerized database includes citations to unpublished health and psychosocial evaluation and measurement tools (for example, questionnaires, interviews, tests, checklists, rating scales) that have appeared in journals and technical reports since 1985. HAPI is updated quarterly and contains more than 15,000 measurement instruments. HAPI is provided online by Ovid Technologies, which typically must be accessed through BRS Information Technologies at your college's library. Some libraries maintain the database on CD-ROM. For more information, see www.ovid.com/site/catalog/DataBase/866.jsp.

Another valuable resource for locating psychological tests is APA's new PsycTESTS database. For more information, see In the News Box 1.2

IN THE NEWS

Box 1.2   PsycTESTS Database

In September 2011, the APA issued the following news release:

> The American Psychological Association (APA) announces the release of its new database, PsycTESTS. This new resource joins APA's suite of renowned research databases, providing a simple yet comprehensive solution for libraries and their patrons looking for access to test content.

PsycTESTS will be updated monthly and includes over 2,200 indexed test records, with more than 1,500 ready-to-use instruments. PsycTESTS is a research database that provides access to an abundance of full-text psychological tests, measures, scales, and other assessments as well as descriptive and administrative information for each. PsycTESTS spans the full breadth of assessment in psychological research including neuropsychological tests, personality assessments, skills and proficiency tests, and IQ and aptitude scales and measurements. The majority of the test records found in PsycTESTS are research instruments which are available for immediate use. The database also covers select commercially published tests, and provides direct links to their respective publisher sites. All test records in PsycTESTS are created by skilled indexers with deep knowledge of the psychology literature.

"PsycTESTS is an ideal resource for students, librarians, researchers, and practitioners," remarks Gary R. VandenBos, PhD, APA Publisher. "It goes a long way towards facilitating research and practice in the field of psychology and behavioral science."

Available tests include those compiled from a systematic review of peer-reviewed journals published by APA, Hogrefe Publishing Group, and other large publishers; technical reports from PsycEXTRA; contributions from individual test authors; collections from the Archives of the History of American Psychology; and more. Tests are available as printable PDFs, or as images, audio, or software for easy download and display. Records include information on the scope of the test, test implementation, a high-level overview of the test's development, and reliability and validity data.

"PsycTESTS fills an immediate need for a variety of full-text psychological tests, measures and assessments to be available and easily accessible. It will make finding relevant tests easier and more efficient," stated Linda Beebe, the Senior Director of PsycINFO.

PsycTESTS will be available through APA PsycNET as well as through several of APA's current vendor partners.

You can find more information on the PsycTESTS database at www.apa.org/pubs/databases/psyctests/index.aspx.

SOURCE: American Psychological Association (2011).

Chapter Summary

By now, we hope you understand that psychological testing extends well beyond the use of intelligence and personality tests. Anything that requires a test taker to perform a behavior that is used to measure some personal attribute, trait, or characteristic or to predict an outcome can be considered a psychological test. The quizzes and exams you take in class are psychological tests. The written and

road portions of driving exams are psychological tests. Even the structured job interviews you have participated in, or will participate in as you conduct your job search, qualify as psychological tests.

Psychological tests have various similarities and many differences. All psychological tests require an individual to perform one or more behaviors, and these behaviors are used to measure some personal attribute, trait, or characteristic thought to be important in describing or understanding behavior or to predict an outcome. However, psychological tests can and do differ in terms of the behaviors they require individuals to perform, the attributes they measure, their content, how they are administered and formatted, how they are scored and interpreted, and their psychometric quality.

Although the use of psychological tests can be traced to ancient China, most scholars agree that the advent of formal psychological testing did not begin until Binet published the first test of intelligence in 1905. Today, psychological testing is a big business, with tens of thousands of commercially available, standardized psychological tests as well as thousands of unpublished tests.

All good tests have three defining characteristics in common. First, they include a representative sample of behaviors. Second, they collect the sample under standardized conditions. Third, they have rules for scoring. When using psychological tests, we must make some assumptions. We must assume that a test measures what it says it measures, that any inferences that are drawn about test takers from their scores on the test are appropriate, that an individual's behavior (and therefore test scores) will remain stable over time, that individuals understand test items similarly, that individuals can and will report accurately about their thoughts and feelings, and that the test score an individual receives is equal to his or her true behavior/ability in the real world plus some error.

Testing professionals refer to psychological tests in various ways. Sometimes they refer to them as tests of maximal performance, behavior observations, or self-reports. Sometimes they refer to them as standardized or nonstandardized. Other times they refer to them as objective or projective. Professionals also refer to tests based on the dimensions they measure.

It is important to remember the distinctions among four commonly misunderstood terms: *psychological assessment, psychological test, measurement,* and *survey.* First, although both psychological assessments and psychological tests are used to gather information, a psychological test is only one of many tools in the psychological assessment process. Second, a psychological test can be considered to be a measurement when the sampled behavior can be expressed in a derived score. Third, psychological tests are different from surveys in that psychological tests focus on individual differences and often report one overall derived score (or scaled scores), and surveys focus on group similarities and typically report results at the question or item level.

Last, but not least, a number of resources are available, in print and online, to locate information about published and unpublished psychological tests and measures. The *Mental Measurements Yearbook* and *Tests in Print* are two of the most popular references for learning more about available tests.

Engaging in the Learning Process

KEY CONCEPTS

After completing your study of this chapter, you should be able to define each of the following terms. These terms are bolded in the text of this chapter and defined in the Glossary.

- achievement tests
- aptitude tests

- behavior
- behavior observation tests

- emotional intelligence
- intelligence tests
- interest inventories
- measurement
- nonstandardized tests
- norms
- objective tests
- personality tests
- projective tests

- psychological assessments
- psychological tests
- psychometrics
- self-report tests
- standardization sample
- standardized tests
- surveys
- tests of maximal performance
- vocational tests

LEARNING ACTIVITIES

The following are some learning activities you can engage in to support the learning objectives for this chapter.

Learning Objectives	Study Tips and Learning Activities
After completing your study of this chapter, you should be able to do the following:	*The following study tips will help you meet these learning objectives:*
Define what a psychological test is, and understand that psychological tests extend beyond personality and intelligence tests.	• Write your definition of a psychological test. List examples of psychological tests, from what comes to your mind first to what comes to your mind last. Compare your list of examples with Figure 1.1. • Ask various professionals, in and outside of the psychology field, to define what a psychological test is. Compare and contrast their definitions. Compare these definitions with the definitions provided in this textbook. Discuss why definitions might vary.
Trace the history of psychological testing from Alfred Binet and intelligence testing to the tests of today.	• Reflect on the history of testing. Create a timeline showing significant events in testing, beginning with testing in ancient China and ending with testing today.
Describe the ways in which psychological tests can be similar to and different from one another.	• Think about two exams you recently took. Make two lists: one of how they were similar and another of how they were different. Compare your lists with Interim Summary 1.1.
Describe the three characteristics that are common to all psychological tests, and understand that psychological tests can demonstrate these characteristics to various degrees.	• Recall the three characteristics common to all psychological tests. Make three columns, and label them Representative Sample of Behaviors, Standardized Conditions, and Rules for Scoring. Select one or two psychological tests that you have taken. Write how the test(s) demonstrates each characteristic. • Construct an eight-question quiz, with one question for each learning objective. Give the quiz to your classmates (your professor will determine the logistics of this). As a class, discuss whether the quiz meets all of the characteristics of a psychological test. What were the strengths of your quiz? How could your quiz have been improved?

(Continued)

Learning Objectives	Study Tips and Learning Activities
Describe the assumptions that must be made when using psychological tests.	• Describe the six assumptions we must make when using psychological tests. Without looking in your book, see how many assumptions you can write. Compare your written assumptions with the assumptions in the book. Explain why we must make these assumptions.
Describe the different ways that psychological tests can be classified.	• Review the test classification methods in your book. Think about the road portion of the driving test, the SAT, a job interview, the NEO Personality Inventory, and a multiple-choice test you took recently. Classify each test using the different test classification methods.
Describe the differences among four commonly used terms that students often get confused: psychological assessment, psychological tests, psychological measurement, and surveys.	• Draw a picture or diagram illustrating how these four commonly confused terms overlap.
Identify and locate printed and online resources that are available for locating information about psychological tests.	• Go to your college library and find *Tests in Print* and the *Mental Measurements Yearbook*. Write the names of three tests and what they measure. • Go to each of the websites referenced in your book. Compare and contrast the information found on these websites. • Select a psychological test that is mentioned in Chapter 1 or 2 or that is suggested by your instructor. Using reference books available at your college library and online, collect as much of the information as possible about your test. Keep track of where you found the information.

Practice Questions

The following are some practice questions to assess your understanding of the material presented in this chapter.

Multiple Choice

Choose the one best answer to each question.

1. What do all psychological tests require that you do?
   a. Answer questions
   b. Fill out a form
   c. Perform a behavior
   d. Sign a consent form

2. According to the textbook, which one of the following is least typical of psychological tests?

   a. Personality tests
   b. Intelligence tests
   c. Structured interviews
   d. Classroom tests

3. Who published the first test of intelligence in 1905?
   a. Lewis Binet
   b. Alfred Simon

c. Robert Woodworth
d. Alfred Binet

4. Who published the Stanford–Binet?
   a. Henry Murray
   b. Robert Woodworth
   c. Lewis Terman
   d. Alfred Binet

5. What test did Robert Woodworth develop during World War I to help the U.S. military detect soldiers who would not be able to handle the stress associated with combat?
   a. Thematic Apperception Test
   b. Stanford–Binet
   c. Personal Data Sheet
   d. Rorschach Inkblot Test

6. What was the first widely used personality inventory?
   a. Woodworth Psychoneurotic Inventory
   b. Personal Data Sheet
   c. Rorschach Inkblot Test
   d. Thematic Apperception Test

7. A test that requires you to demonstrate your driving ability can best be classified as what type of test?
   a. Test of maximal performance
   b. Self-report test
   c. Behavior observation test
   d. Projective test

8. A test that requires you to respond to test questions about your feelings and beliefs can best be described as what type of test?
   a. Test of maximal performance
   b. Self-report test
   c. Behavior observation test
   d. Projective test

9. The role of the test taker is least clear in which type of test?
   a. Objective test
   b. Projective test
   c. Standardized test
   d. Self-report test

10. What type of test is administered to a large group of individuals who are similar to the group for which the test has been designed?
    a. Nonstandardized test
    b. Standardized test
    c. Objective test
    d. Subjective test

11. What type of test would a classroom teacher most likely administer?
    a. Achievement test
    b. Aptitude test
    c. Intelligence test
    d. Interest inventory

12. If Jose took a test to identify his potential for learning or his ability to perform in an area in which he had not been specifically trained, what type of test would he be taking?
    a. Achievement test
    b. Intelligence test
    c. Aptitude test
    d. Vocational test

13. Joe took three tests. One required him to respond to true/false questions, one to multiple-choice questions, and one to rating scales. What type of tests did he take?
    a. Projective tests
    b. Nonstandardized tests
    c. Subjective tests
    d. Objective tests

14. What type of test would a career development counselor most likely administer?
    a. Achievement test
    b. Aptitude test
    c. Intelligence test
    d. Interest inventory

15. If you wanted to locate a professional test review for a commercially available published test, which one of the following would be the best source?
    a. Tests in Print
    b. Tests in Microfiche
    c. Mental Measurements Yearbook
    d. Measures for Psychological Assessment

Short Answer/Essay

Read each of the following, and consider your response carefully based on the information presented in this chapter. Write your answer to each question in two or three paragraphs.

1. What is a psychological test?

2. Why is it important for you to understand foundations of psychological testing?

3. Identify three different psychological tests. Discuss how they are similar and how they are different.

5. When using a psychological test, what assumptions must be made? Why are these assumptions important?

6. What are the similarities and differences among intelligence tests, aptitude tests, and achievement tests? Provide an example of each.

7. Identify a psychological assessment, psychological test, and measurement. Discuss how they are similar and different.

8. How are psychological tests and surveys similar? How are psychological tests and surveys different?

ANSWER KEYS

Multiple Choice

1. c	2. c	3. d	4. c	5. c
6. a	7. a	8. b	9. b	10. b
11. a	12. c	13. d	14. d	15. c

Short Answer/Essay

Refer to your textbook for answers. If you are unsure of an answer and cannot generate the answer after reviewing your book, ask your professor for clarification.