

STUDY GUIDE

11: Testing and Individual Differences

UNIT OVERVIEW

An enduring controversy in psychology involves attempts to define and measure intelligence. Unit 11 discusses whether intelligence is a single general ability or several specific ones as well as research that attempts to assess the neurological basis of intelligence. It also describes the historical origins of intelligence tests and discusses several important issues concerning their use. These include the methods by which intelligence tests are constructed and whether such tests are valid, reliable, and free of bias. The unit also explores the stability of intelligence and the

extent of genetic and environmental influences on intelligence.

UNIT REVIEW

First, skim each section, noting headings and boldface items. After you have read the section, review each objective by answering the fill-in and essay-type questions that follow it. As you proceed, evaluate your performance by consulting the answers. Do not continue with the next section until you understand each answer. If you need to, review or reread the section in the textbook before continuing.

What Is Intelligence? (pp. 524-532)

Objective 1: Discuss the difficulty of defining intelligence, and explain what it means to reify intelligence.

1. Psychologists (do/do not) agree on a definition of intelligence.
2. To regard an abstract concept as a concrete entity is to commit the error known as _____. By doing this, we are viewing intelligence as something a person has, rather than a score obtained on an _____.
3. Intelligence is a _____ constructed concept.
4. In any context, intelligence can be defined as _____.
5. One controversy regarding the nature of intelligence centers on whether intelligence is one _____ ability or several _____ abilities.

Objective 2: Present arguments for and against considering intelligence as one general mental ability.

6. The statistical procedure used to identify groups of items that appear to measure a common ability is called _____.
7. Charles Spearman, one of the developers of this technique, believed that a factor called *g*, or _____, runs through the more specific aspects of intelligence.
8. Opposing Spearman, _____ identified seven clusters of _____.
9. One psychologist believes that general intelligence evolved as a means of helping people solve _____.

Objective 3: Compare Gardner's and Sternberg's theories of intelligence.

10. People with _____ score at the low end of intelligence tests but possess extraordinary specific skills.

11. Howard Gardner proposes that there are _____, each independent of the others. However, critics point out that the world is not so just: General intelligence scores (do/do not) predict performance on various complex tasks and in various jobs.
12. Sternberg's _____ theory distinguishes three types of intelligence: _____ intelligence, _____ intelligence, and _____ intelligence.

Objective 4: Describe the three aspects of emotional intelligence, and discuss criticisms of this concept.

13. A critical part of social intelligence is _____ – the ability to _____, _____, _____, and _____ emotions.
14. More specifically, the four components of emotional intelligence are as follows: the ability to _____ emotions in faces, the ability to _____ them and how they change and blend, the ability to _____ them correctly in varied situations, and the ability to use them to enable _____ or creative thinking.

Briefly describe emotionally intelligent people.

15. Some scholars believe that the concept of _____ intelligence stretches the idea of multiple intelligences too far.

Objective 5: Describe the relationship between intelligence and brain anatomy.

16. Earlier studies (did/did not) reveal a clear-cut correlation between head size (relative to body size) and intelligence score.
17. Newer studies that measure brain _____ using _____ scans reveal a (more/less) significant correlation between brain size (adjusted for body size) and intelligence score. The cause of this could be differing _____ nutrition, _____, or some combination of these.
18. A study of Einstein's brain revealed that it was 15 percent larger in the lower _____ lobe – known to be an important neural center for processing _____ and _____ information.
19. Postmortem analyses reveal that the brains of highly educated people have more _____ than do those of people with less education. Other evidence suggests that highly intelligent people differ in their neural _____. Higher intelligence scores have also been linked with more _____ in brain areas known to be involved in _____, _____, and _____.

Objective 6: Discuss findings on the correlations among perceptual speed, neural processing speed, and intelligence.

20. When people ponder intelligence test questions, for example, an area in the brain's becomes especially active in the (left/right) brain for verbal questions and (in the right brain/in the left brain/on both sides of the brain) for spatial questions. People who are able to more quickly retrieve information from memory tend to score high in ability.

21. Studies looking at a range of tasks have found that people with high intelligence scores tend to take in perceptual information (faster/more slowly) than people with low intelligence scores.
22. Other studies have found that the brain waves of highly intelligent people register simple stimuli more _____ and with greater _____.

Assessing Intelligence (pp. 532-539)

Objective 7: Discuss the history of intelligence testing.

1. The early Greek philosopher _____ concluded that individuals differed in their natural endowments.
2. Although Francis Galton's search for a simple intelligence measure failed, he gave us some _____ techniques that we still use, as well as the terms _____ and _____.
3. The French psychologist who devised a test to predict the success of children in school was _____. Predictions were made by comparing children's chronological ages with their _____ ages, which were determined by the test. This test (was/was not) designed to measure inborn intelligence; Binet leaned toward an _____ explanation of intelligence.
4. Lewis Terman's revision of Binet's test is referred to as the _____ - _____. This test enables one to derive a(n) _____ for an individual.

Give the original formula for computing IQ, and explain any items used in the formula.

5. Today's tests compute (IQ/ an intelligence test score) by comparing the individual's performance to the average performance of people of (the same/different) age(s). These tests are designed so that a score of _____ is considered average.
6. The misguided movement called _____ proposed measuring human traits and using the results to determine who should be allowed to reproduce.
7. When given intelligence tests in the early 1900s, immigrants arriving in the United States often scored (above/below) average. This is because the tests were based on a particular _____ background.

Objective 8: Distinguish between aptitude and achievement tests, and describe modern tests of mental abilities such as the WAIS.

8. Tests designed to measure what you already have learned are called _____ tests. Tests designed to predict your ability to learn something new are called _____ tests.
9. The most widely used intelligence test is the _____. Consisting of 11 subtests, it provides not only a general intelligence score but also separate scores for _____, _____, _____, _____, and _____.

Objective 9: Discuss the importance of standardizing psychological tests, and describe the distribution of scores in a normal curve.

10. One requirement of a good test is the process of defining meaningful scores relative to a pretested comparison group, which is called _____ .
11. When scores on a test are compiled, they generally result in a bell-shaped pattern, or _____ distribution.

Describe the normal curve, and explain its significance in the standardization process.

12. The Stanford-Binet and the Wechsler Scales (are/are not) periodically restandardized, thereby keeping the average score near _____ .
13. During the 1960s and 1970s, college entrance aptitude scores showed a steady (increase/ decline). At the same time, intelligence test performance (improved/decreased). This phenomenon is called the _____ .
14. Although the actual cause of this effect is unknown, one explanation is that it is due to improved _____ . The recent performance gains on the W AIS are greatest among people at the lowest _____ levels.

Objective 10: Explain the meanings of reliability and validity in terms of test construction, and describe two types of validity.

15. If a test yields consistent results, it is said to be _____ .
16. When a test is administered more than once to the same people, the psychologist is determining its _____ reliability.
17. When a person's scores for the odd- and even-numbered questions on a test are compared, _____ - _____ reliability is being assessed.
18. The Stanford-Binet, WAIS, and WISE have reliabilities of about _____ .
19. The degree to which a test measures or predicts what it is supposed to is referred to as the test's _____ .
20. The degree to which a test measures the behavior it was designed to measure is referred to as the test's _____ .
21. The degree to which a test predicts future performance of a particular behavior, called the test's _____ , is referred to as the test's _____ .

Choose a specific example and use it to illustrate and explain the concept of criterion and its relationship to predictive validity.

22. Generally speaking, the predictive validity of general aptitude tests (is/is not) as high as their reliability. The predictive validity of these tests (increases/diminishes) as individuals move up the educational ladder.

The Dynamics of Intelligence (pp. 539-544)

Objective 11: Describe the stability of intelligence scores over the life span.

1. Some studies have found that infants who quickly become bored when looking at a picture score (higher/lower) on tests of brain speed and intelligence up to 21 years later.
2. Traditional intelligence tests before age _____ predict future aptitudes only modestly.
3. During childhood, the stability of intelligence scores _____ (increases/ decreases) with age. After about age, _____ intelligence scores stabilize. A long-term study of mental ability in Scottish children revealed that this (holds/does not hold) through late adulthood.

Objective 12: Describe the two extremes of the normal distribution of intelligence.

4. Individuals whose intelligence scores fall below 70 and who have difficulty adapting to life may be labeled _____ . This label applies to approximately _____ percent of the population.
5. Intellectual disability sometimes has a physical basis, such as _____ , a genetic disorder caused by an extra chromosome.
6. The current view is that children with mild intellectual disability should be integrated, or _____ , into regular classrooms.
7. At the high extreme, Lewis Terman's "gifted children" turned out to be _____ , well - _____ , and unusually successful _____ .

Discuss criticisms of programs that sort children into gifted and non-gifted tracks.

Genetic and Environmental Influences on Intelligence (pp. 544-556)

Objective 13: Discuss the evidence for the genetic contribution to individual intelligence, and explain what psychologists mean by the heritability of intelligence.

1. The intelligence scores of identical twins reared together are (more/no more) similar than those of fraternal twins. Brain scans also reveal that identical twins have similar volume to their brain's _____ , and those areas associated with _____ and _____ intelligence.
2. Because intelligence is influenced by many genes, it is said to be _____ .
3. The intelligence test scores of fraternal twins are (more alike/no more alike) than the intelligence test scores of other siblings. This provides evidence of a(n) (genetic/ environmental) effect because fraternal twins, being the same _____ , are treated more alike.
4. Studies of adopted children and their adoptive and biological families demonstrate that with age, genetic influences on intelligence become _____ (more/less) apparent. Thus, children's intelligence scores are more like those of their. (biological! adoptive) parents than their _____ (biological! adoptive) parents.

5. The amount of variation in a trait within a group that is attributed to genetic factors is called its _____. For intelligence, this has been estimated at percent.
6. If we know a trait has perfect heritability, this knowledge (does/does not) enable us to rule out environmental factors in explaining differences between groups.

Objective 14: Discuss the evidence for environmental influences on individual intelligence.

7. Studies indicate that neglected children (do/do not) show signs of recovery in intelligence and behavior when placed in more nurturing environments. Although normal brain development can be retarded by _____, _____ deprivation, and _____, there is no sure environment that will transform a normal baby into a genius.
8. High-quality programs for disadvantaged children, such as the government-funded _____ program, increase children's school readiness; that is, they increase their _____, creating better attitudes toward learning.

Objective 15: Describe gender differences in abilities.

9. Girls tend to outscore boys on _____ tests and are more _____ fluent. They also have an edge in _____ and _____ objects, in sensation, and in _____-detecting ability.
10. Although girls have an edge in math _____, boys score higher in math _____. Boys tend to outscore girls on tests of _____.
11. Working from an _____ perspective, some theorists speculate that these gender differences in spatial manipulation helped our ancestors survive.
12. There is evidence that spatial abilities are enhanced by high levels of _____ during prenatal development.
13. According to many, boys' and girls' interests and abilities are shaped in large part by _____ and divergent opportunities. The mental ability scores of males tend to vary (less / more) than those of females.

Objective 16: Describe ethnic similarities and differences in intelligence test scores, and discuss some genetic and environmental factors that might explain them.

14. Group differences in intelligence scores (do/do not) provide an accurate basis for judging individuals. Individual differences within a race are (greater than/less than) between-race differences.

Explain why heredity may contribute to individual differences in intelligence but not necessarily contribute to group differences.

15. Under the skin, the races (are/are not) alike. Race (is/is not) a neatly defined biological category.

16. Although Asian students on the average score (higher/lower) than North American students on math tests, this difference may be due to the fact that _____

17. On an infant intelligence measure (preference for looking at novel stimuli), Black infants score (lower than/higher than/as well as) White infants.

Objective 17: Discuss whether intelligence tests are biased, and describe the stereotype threat phenomenon.

18. In the sense that they detect differences caused by cultural experiences, intelligence tests probably (are/are not) biased.

19. Most psychologists agree that, in terms of predictive validity, the major aptitude tests (are/are not) racially biased.

20. When women and members of ethnic minorities are led to expect that they won't do well on a test, a _____ may result, and their scores may actually be lower.

PROGRESS TEST 1

Multiple-Choice Questions

Circle your answers to the following questions and check them with the answers on page 303. If your answer is incorrect, read the explanation for why it is incorrect and then consult the appropriate pages of the text (in parentheses following the correct answer).

- Studies of adopted children and their biological and adoptive families demonstrate that with age, genetic influences on intelligence
 - become more apparent.
 - become less apparent.
 - become more difficult to disentangle from environmental influences.
 - become easier to disentangle from environmental influences.
- A 6-year-old child has a mental age of 9. The child's IQ is
 - 96.
 - 100.
 - 125.
 - 150.
- Which of the following is NOT true?
 - In math grades, the average girl typically equals or surpasses the average boy.
 - The gender gap in math and science scores is increasing.
 - Women are better than men at detecting emotions.
 - Males score higher than females on tests of spatial abilities.
- Most psychologists believe that racial gaps in test scores
 - have been exaggerated when they are, in fact, insignificant.
 - indicate that intelligence is in large measure inherited.
 - are in large measure caused by environmental factors.
 - are increasing.
- Standardization refers to the process of
 - determining the accuracy with which a test measures what it is supposed to.
 - defining meaningful scores relative to a representative pretested group.
 - determining the consistency of test scores obtained by retesting people.
 - measuring the success with which a test predicts the behavior it is designed to predict.
- Down syndrome is normally caused by
 - an extra chromosome in the person's genetic makeup.
 - a missing chromosome in the person's genetic makeup.
 - malnutrition during the first few months of life.
 - prenatal exposure to an addictive drug.
- Which of the following is NOT a requirement of a good test?
 - reliability
 - reification
 - standardization
 - validity
- First-time parents Geena and Brad want to give their baby's intellectual abilities a jump-start by providing a super enriched learning environment. Experts would suggest that the new parents should
 - pipe stimulating classical music into the baby's room.
 - hang colorful mobiles and artwork over the baby's crib.
 - take the child to one of the new "superbaby" preschools that specialize in infant enrichment.
 - relax, since there is no surefire environmental recipe for giving a child a superior intellect.
- Which of the following statements is true?
 - The predictive validity of intelligence tests is not as high as their reliability.
 - The reliability of intelligence tests is not as high as their predictive validity.
 - Modern intelligence tests have extremely high predictive validity and reliability.
 - The predictive validity and reliability of most intelligence tests is very low.
- Before about age _____, intelligence tests generally do not predict future scores.
 - 1
 - 3

- c. 5
d. 10
11. Sorting children into gifted and non-gifted educational groups
a. creates a self-fulfilling prophecy.
b. increases social isolation between the groups.
c. promotes racial segregation and prejudice.
d. has all of these effects.
12. Studies of infants show that babies who quickly become bored with a picture
a. often develop learning disabilities later on.
b. score lower on infant intelligence tests.
c. score higher on intelligence tests many years later.
d. score very low on intelligence tests many years later.
13. The existence of reinforces the generally accepted notion that intelligence is a multidimensional quality.
a. adaptive skills
b. intellectual disability
c. general intelligence
d. savant syndrome
14. Which of the following provides the strongest evidence of the role of heredity in determining intelligence?
a. The IQ scores of identical twins raised separately are more similar than those of fraternal twills raised together.
b. The intelligence scores of fraternal twins are more similar than those of ordinary siblings.
c. The intelligence scores of identical twins raised together are more similar than those of identical twins raised apart.
d. The intelligence scores of adopted children show relatively weak correlations with scores of adoptive as well as biological parents.
15. Current estimates are that percent of the total variation among intelligence scores can be attributed to genetic factors.
a. less than 10
b. approximately 25
c. about 50
d. 75 and over

Matching Items

Match each term with its definition or description.

Terms

- _____ 1. intelligence test score
- _____ 2. g
- _____ 3. eugenics
- _____ 4. savant syndrome
- _____ 5. factor analysis
- _____ 6. aptitude test
- _____ 7. achievement test
- _____ 8. Stanford-Binet
- _____ 9. criterion
- _____ 10. content validity
- _____ 11. reliability

Definitions or Descriptions

- a. a test designed to predict a person's ability to learn something new
- b. a test designed to measure current knowledge
- c. the consistency with which a test measures performance
- d. the degree to which a test measures what it is designed to measure
- e. Terman's revision of Binet's original intelligence test
- f. the behavior that a test is designed to predict
- g. an underlying, general intelligence factor
- h. a person's score on an intelligence test based on performance relative to the average performance of people the same age
- i. a very low intelligence score accompanied by one extraordinary skill
- j. a program for the selective breeding of the most intelligent individuals
- k. a statistical technique that identifies related items on a test

16. Since 1910, college aptitude test scores have ___ and WAIS scores have
 - a. declined; remained stable
 - b. remained stable; declined
 - c. risen; declined
 - d. declined; risen
17. The bell-shaped distribution of intelligence scores in the general population is called a
 - a. g distribution.
 - b. standardization curve.
 - c. bimodal distribution.
 - d. normal curve.
18. Research on the effectiveness of Head Start suggests that enrichment programs
 - a. produce permanent gains in intelligence scores.
 - b. improve school readiness and may provide a small boost to emotional intelligence.
 - c. improve intelligence scores but not school readiness.
 - d. produce temporary gains in intelligence scores.

PROGRESS TEST 2

Progress Test 2 should be completed during a final unit review. Answer the following questions after you thoroughly understand the correct answers for the section reviews and Progress Test 1.

Multiple-Choice Questions

1. The test created by Alfred Binet was designed specifically to
 - a. measure inborn intelligence in adults.
 - b. measure inborn intelligence in children.
 - c. predict school performance in children.
 - d. identify mentally retarded children so that they could be institutionalized.
2. Which of the following provides the strongest evidence of environment's role in intelligence?
 - a. Adopted children's intelligence scores are more like their adoptive parents' scores than their biological parents'.
 - b. Children's intelligence scores are more strongly related to their mothers' scores than to their fathers'.
 - c. Children moved from a deprived environment into an intellectually enriched one show gains in intellectual development.
 - d. The intelligence scores of identical twins raised separately are no more alike than those of siblings.
3. If a test designed to indicate which applicants are likely to perform the best on the job fails to do so, the test has
 - a. low reliability.
 - b. low content validity.
 - c. low predictive validity.
 - d. not been standardized.
4. By creating a label such as "gifted," we begin to act as if all children are naturally divided into two categories, gifted and non-gifted. This logical error is referred to as
 - a. rationalization.
 - b. nominalizing.
 - c. factor analysis.
 - d. reification.
5. The formula for the intelligence quotient was devised by
 - a. Sternberg.
 - b. Binet.
 - c. Terman.
 - d. Stern.
6. Current intelligence tests compute an individual's intelligence score as
 - a. the ratio of mental age to chronological age multiplied by 100.
 - b. the ratio of chronological age to mental age multiplied by 100.
 - c. the amount by which the test-taker's performance deviates from the average performance of others the same age.
 - d. the ratio of the test-taker's verbal intelligence score to his or her nonverbal intelligence score.
7. J. McVicker Hunt found that institutionalized children given "tutored human enrichment"
 - a. showed no change in intelligence test performance compared with institutionalized children who did not receive such enrichment.
 - b. responded so negatively as a result of their impoverished early experiences that he felt it necessary to disband the program.
 - c. thrived intellectually and socially on the benefits of positive care giving.
 - d. actually developed greater intelligence than control subjects who had lived in foster homes since birth.
8. The concept of a g factor implies that intelligence
 - a. is a single overall ability.
 - b. is several specific abilities.
 - c. cannot be defined or measured.
 - d. is a reified concept.
9. Gerardeen has superb social skills, manages conflicts well, and has great empathy for her friends and co-workers. John Mayer, Peter Salovey, and David Caruso would probably say that Gerardeen possesses a high degree of
 - a. g.
 - b. social intelligence.
 - c. practical intelligence.
 - d. emotional intelligence.

10. By what age does a child's performance on an intelligence test stabilize?
 - a. 2
 - b. 3
 - c. 6
 - d. 7
11. The Flynn effect refers to the fact that a. Neither education level nor intelligence scores
 - a. White and Black infants score equally well on measures of infant intelligence.
 - b. Asian students outperform North American students on math achievement tests.
 - c. The IQ scores of today's better-fed and educated population exceed that of the 1930s population.
 - d. Individual differences within a race are much greater than between-race differences.
12. In his study of children with high intelligence scores, Terman found that
 - a. the children were more emotional and less healthy than a control group.
 - b. the children were ostracized by classmates.
 - c. the children were healthy and well-adjusted, and did well academically.
 - d. later, as adults, they nearly all achieved great vocational success. .
13. When highly skilled people are performing a task, their brains
 - a. retrieve information from memory more quickly.
 - b. register simple stimuli more quickly.
 - c. demonstrate a more complex brain-wave response to stimuli.
 - d. do all of these things.
14. Most experts view intelligence as a person's
 - a. ability to perform well on intelligence tests.
 - b. innate mental capacity.
 - c. ability to learn from experience, solve problems, and adapt to new situations.
 - d. diverse skills acquired throughout life.
15. Which of the following statements is true?
 - a. About 1 percent of the population is intellectually disabled.
 - b. More males than females are intellectually disabled.
 - c. A majority of the intellectually disabled can learn academic skills.
 - d. All of these statements are true.
16. Prenatal hormones have an influence on
 - a. verbal reasoning.
 - b. spatial abilities.
 - c. overall intelligence.
 - d. emotional perception.
17. Which of the following is NOT cited as evidence of the reciprocal relationship between schooling and intelligence?
 - a. Intelligence scores tend to rise during the school year.
 - b. High school graduates have higher intelligence scores than do those who drop out early.
 - c. High intelligence scores correlate with prolonged schooling.
18. Originally, IQ was defined as
 - a. mental age divided by chronological age and multiplied by 100.
 - b. chronological age divided by mental age and multiplied by 100.
 - c. mental age subtracted from chronological age and multiplied by 100.
 - d. chronological age subtracted from mental age and multiplied by 100.
19. Tests of measure what an individual can do now, whereas tests of predict what an individual will be able to do later.
 - a. aptitude; achievement
 - b. achievement; aptitude
 - c. reliability; validity
 - d. validity; reliability
20. Which of the following statements most accurately reflects the text's position regarding the relative contribution of genes and environment in determining intelligence?
 - a. Except in cases of a neglectful early environment, each individual's basic intelligence is largely the product of heredity.
 - b. Except in those with genetic disorders such as Down syndrome, intelligence results primarily from environmental experiences.
 - c. Both genes and life experiences significantly influence performance on intelligence tests.
 - d. Because intelligence tests have such low predictive validity, the question cannot be addressed until psychologists agree on a more valid test of intelligence.

True-False Items

Indicate whether each statement is true or false by placing T or F in the blank next to the item.

- ___ 1. In the current version of the Stanford-Binet intelligence test, one's performance is compared only with the performance of others the same age.
- ___ 2. Intelligence scores in the United States have been dropping over the past 50 years.
- ___ 3. Most of the major aptitude tests have higher validity than reliability.
- ___ 4. People with high intelligence scores tend to process sensory information more quickly.
- ___ 5. The gap in intelligence scores between Black and White children is increasing.
- ___ 6. The intelligence scores of adopted children are more similar to those of their adoptive parents than their biological parents.
- ___ 7. The consensus among psychologists is that most intelligence tests are extremely biased.
- ___ 8. Most psychologists agree that intelligence is mainly determined by heredity.
- ___ 9. The Stanford-Binet test and the Wechsler scales are periodically restandardized.
- ___ 10. The variation in intelligence scores within a racial group is much larger than that between racial groups.
- ___ 11. Telling students they are unlikely to succeed often erodes their performance on aptitude tests.

PSYCHOLOGY APPLIED

Answer these questions the day before a test as a final check on your understanding of the unit's terms and concepts.

Multiple-Choice Questions

- 1. To say that the heritability of a trait is approximately 50 percent means
 - a. that genes are responsible for 50 percent of the trait in an individual, and the environment is responsible for the rest.
 - b. that the trait's appearance in a person will reflect approximately equal genetic contributions from both parents.
 - c. that of the variation in the trait within a group of people, 50 percent can be attributed to heredity.
 - d. all of these things.
- 2. Twenty-two-year-old Dan has an intelligence score of 63 and the academic skills of a fourth grader, and he is unable to live independently. Dan PROBABLY
 - a. has Down syndrome.
 - b. has savant syndrome.
 - c. is intellectually disabled.
 - d. will eventually achieve self-supporting social and vocational skills.
- 3. At age 16, Angel's intelligence score was 110. What will her score probably be at age 32?
 - a. 125
 - b. 110
 - c. 115
 - d. There is no basis for predicting an individual's future IQ.
- 4. A school psychologist found that 85 percent of those who scored above 115 on an aptitude test were A students and 75 percent of those who scored below 85 on the test were D students. The psychologist concluded that the test had high
 - a. content validity because scores on it correlated highly with the criterion behavior.
 - b. predictive validity because scores on it correlated highly with the criterion behavior.
 - c. content validity because scores on it correlated highly with the target behavior.
 - d. predictive validity because scores on it correlated highly with the target behavior.
- 5. Benito was born in 1937. In 1947, he scored 130 on an intelligence test. What was Benito's mental age when he took the test?
 - a. 9
 - b. 10
 - c. 11
 - d. 13
- 6. Melvin has been diagnosed as having savant syndrome, which means that he
 - a. has an IQ of 120 or higher.
 - b. would score high on a test of analytical intelligence.
 - c. is limited in mental ability but has one exceptional ability.
 - d. was exposed to high levels of testosterone during prenatal development.

7. The contribution of environmental factors to racial gaps in intelligence scores is indicated by
- evidence that individual differences within a race are much greater than differences between races.
 - evidence that White and Black infants score equally well on certain measures of infant intelligence.
 - the fact that Asian students outperform North American students on math achievement and aptitude tests.
 - all of this evidence.
8. Hiroko's math achievement score is considerably higher than that of most American students her age. Which of the following is true regarding this difference between Asian and North American students?
- It is not a recent phenomenon.
 - It may be due to the fact that Asian students have a longer school year.
 - It holds only for girls.
 - It holds only for boys.
9. Jack takes the same test of mechanical reasoning on several different days and gets virtually identical scores. This suggests that the test has
- high content validity.
 - high reliability.
 - high predictive validity.
 - been standardized.
10. You would not use a test of hearing acuity as an intelligence test because it would lack
- content reliability.
 - predictive reliability.
 - predictive validity.
 - content validity.
11. Before becoming attorneys, law students must pass a special licensing exam, which is an ___ test. Before entering college, high school students must take the SAT, which is an ___-test.
- achievement; aptitude
 - aptitude; achievement
 - achievement; achievement
 - aptitude; aptitude
12. If you compare the same trait in people of similar heredity who live in very different environments, heritability for that trait will be ___ heritability for the trait is most likely to be ___ among people of very different heredities who live in similar environments.
- low; high
 - high; low
 - environmental; genetic
 - genetic; environmental
13. A psychologist who is looking at a student's intelligence score finds a jump of 30 points between the earliest score at age 2 and the most recent at age 17. The psychologist's knowledge of testing would probably lead her to conclude that such a jump
- indicates that different tests were used, creating an apparent change in intelligence level, although it actually remained stable.
 - signals a significant improvement in the child's environment over this period.
 - is unsurprising, since intelligence scores do not become stable until late adolescence.
 - is mainly the result of the age at which the first test was taken.
14. If you wanted to develop a test of musical aptitude in North American children, which would be the appropriate standardization group?
- children all over the world
 - North American children
 - children of musical parents
 - children with known musical ability
15. Dan's intelligence scores were only average, but he has been enormously successful as a corporate manager. Psychologists Sternberg and Wagner would probably suggest that
- Dan's verbal intelligence exceeds his performance intelligence.
 - Dan's performance intelligence exceeds his verbal intelligence.
 - Dan's academic intelligence exceeds his practical intelligence.
 - Dan's practical intelligence exceeds his academic intelligence.
16. According to the text, what can be concluded from early intelligence testing in the United States?
- Most European immigrants were "feeble-minded."
 - Army recruits of other than West European heritage were intellectually deficient.
 - The tests were biased against people who did not share the culture assumed by the test.
 - None of these things could be concluded.
17. If asked to guess the intelligence score of a stranger, your best guess would be
- 75.
 - 100.
 - 125.
 - "I don't know, intelligence scores vary too widely."
18. Which of the following is true of people who score high on aptitude tests?
- They achieve greater career success.
 - They are likely to be happier.
 - They always do well in school.
 - None of these statements are true.

Essay Question

You have been asked to devise a Psychology Achievement Test (PAT) that will be administered to freshmen who declare psychology as their major. What steps will you take to ensure that the PAT is a good intelligence test? (Use the space below to list the points you want to make, and organize them. Then write the essay on a separate sheet of paper.)

KEY TERMS

Using your own words, write on a separate piece of paper a brief definition or explanation of each of the following terms.

1. intelligence test
2. intelligence
3. general intelligence (g)
4. factor analysis
5. savant syndrome
6. emotional intelligence
7. mental age
8. Stanford-Binet
9. intelligence quotient (IQ)
10. achievement tests
11. aptitude tests
12. Wechsler Adult Intelligence Scale (WAIS)
13. standardization
14. normal curve (normal distribution)
15. reliability
16. validity
17. content validity
18. predictive validity
19. intellectual disability
20. Down syndrome
21. stereotype threat