

Intelligence

Intelligence: the ability to learn from experience, solve problems, and use our knowledge to adapt to new situations.

Reify: to make an abstract concept concrete.

g factor: a single, underlying factor that is responsible for a person's overall intelligence.

Factor analysis: A method used to identify clusters of test items that have a common ability. Ex. look at your midterm and pull out all of the questions for neuroscience, states of consciousness, etc.

Fluid intelligence: intelligence that includes reasoning abilities, memory, and speed of information processing. ***Declines with age. Think of the difficulty older people have w/technology.

Crystallized intelligence: intelligence that is based off of life experiences. ***Increases with age.

Analytical intelligence: the ability to analyze, evaluate, judge, and compare and contrast.

Creative intelligence: the ability to come up with new ideas, hypothesize, theorize, and use divergent thinking.

Practical intelligence: the ability to deal with everyday life skills.

Multiple intelligences: independent intelligences which include a broad range of skills that go beyond traditional school smarts. Gardner is speculating about a ninth one — *existential intelligence*. Existential intelligence is the ability to think about the question of life, death and existence.

Savant Syndrome: people who have low general intelligence, but who excel in other abilities, such as music, memory, and art.

Intrinsic motivation: doing something because you enjoy it.

Extrinsic motivation: doing something for rewards or fear of consequences.

GARDNER'S EIGHT INTELLIGENCES

Aptitude	Exemplar
1. Linguistic	T. S. Eliot, poet
2. Logical-mathematical	Albert Einstein, scientist
3. Musical	Igor Stravinsky, composer
4. Spatial	Pablo Picasso, artist
5. Bodily-kinesthetic	Martha Graham, dancer
6. Intrapersonal (self)	Sigmund Freud, psychiatrist
7. Interpersonal (other people)	Mahatma Gandhi, leader
8. Naturalist	Charles Darwin, naturalist

Emotional intelligence: the ability to perceive, express, understand, and regulate emotions, part of social intelligence.

Intelligence tests: tests devised to identify a person's level of intelligence.

Psychometrics: performing psychological testing and measuring mental traits, abilities, and processes.

Mental age: the age at here someone is mentally, not necessarily how old someone is chronologically.

Intelligence quotient: the mathematical formula that was used to determine intelligence scores. $\text{Mental age} / \text{chronological age} \times 100$.

WAIS test: Wechsler Adult Intelligence Scale, the most widely used intelligence test used today.

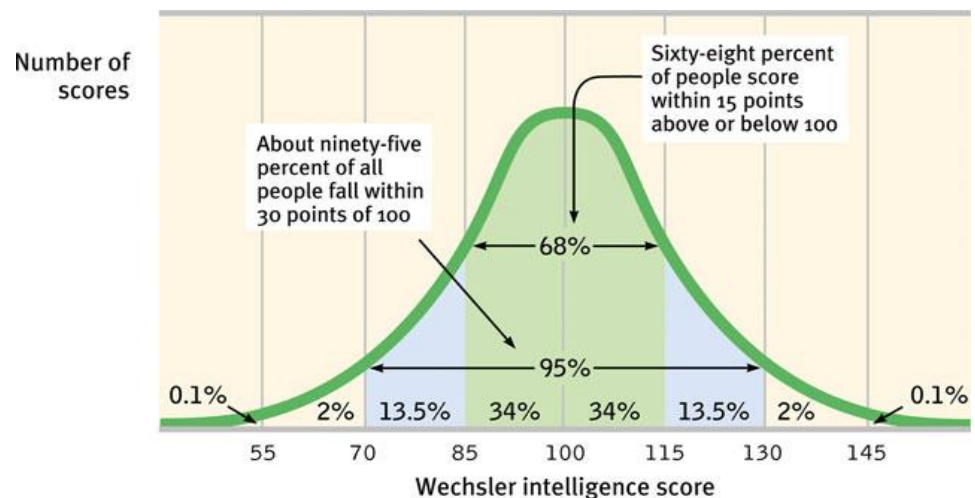
WISC test: Wechsler Intelligence Scale for Children.

Aptitude tests: tests used to predict future performance, such as SATs and LSATs.

Achievement tests: tests used to measure what was learned, such as SOLs, AP exams, and unit tests.

Self-report tests: tests that measure a person's characteristics and test for disorders, such as the MMPI-2.

Standardization: the process of establishing norms, or rules, for a test, based on a bell (normal) curve. *****Remember, 68% of the people fall within one standard deviation (15 points) above or below the mean and 95% fall within 2 standard deviations.*****



Reliability: the consistency of a test.

Test-retest reliability: comparing participants' scores on the same test after taking it 2 separate times.

Split-half reliability: looking at the degree of similarity between scores on 2 halves of the test. Is the 1st half consistent with the 2nd half? Are the odd and even questions consistent?

Equivalent-form reliability: using an alternative but equivalent test when retesting.

Validity: the extent to what test is supposed to measure or predict.

Criterion validity: was the subject of the test on what it was supposed to be? Ex. a chemistry test isn't valid if it asks physics questions.

Mental retardation: anyone with an intelligence score under 70.

Terman's study: a longitudinal study that tracked the lives of gifted children. The kids achieved a high level of success both in school and work. There were things, however, in which they weren't successful. Ex. the divorce rate equaled the national average.

Self-fulfilling prophecy: when a person's expectations of another person leads that person to behave in an expected way.

"Oak School" experiment: an experiment in which researchers informed elementary school teachers that about 20% of their students were academically gifted, or "spurters". In reality, these students were randomly chosen. After a year, the "spurters" were happier, more curious, and better adjusted than the other students. The "spurters'" academic performance proved to be consistent with teacher's biased expectations. They achieved high grades and made substantial gains in IQ scores.

Nature vs Nurture views of intelligence: a person's intelligence is based both on genetic and environmental factors.

Perceptual speed: how quickly a person can perceive things, the quicker the perceptual speed, the higher the intelligence.

Neural processing speed: how fast neurons fire and pass messages.

Flynn Effect: intelligence scores have risen 27 points over the last 60 years. Why? Better education, more testing, and availability of technology.

Head Start: government sponsored preschool for lower income families.

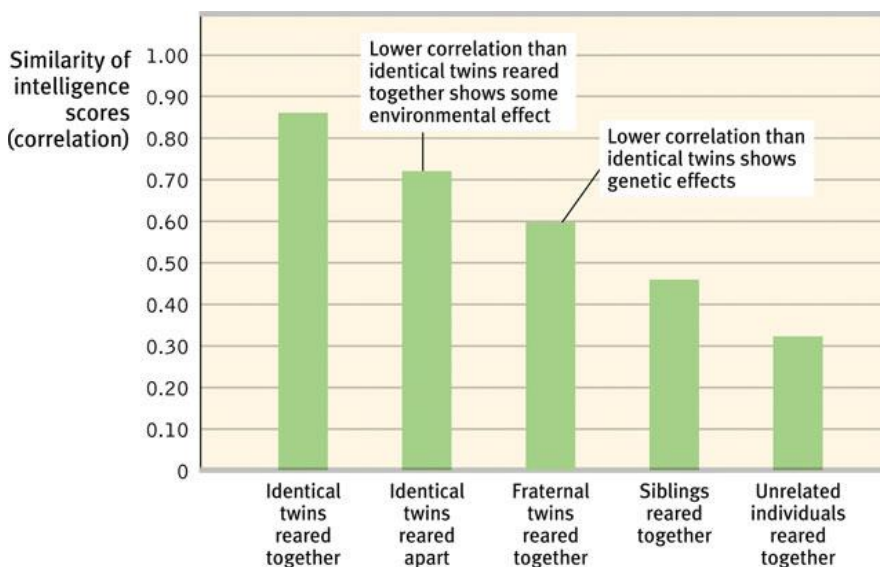
With-in group differences: differences between members of the same group (culture, race, ethnicity), usually socio-economic.

Between-group differences: differences in intelligence scores between different ethnic and racial groups.

Stereotype threat: a self-confirming concern that one will be evaluated based on a negative stereotype.

DEGREES OF MENTAL RETARDATION			
Level	Approximate Intelligence Scores	Percentage of Persons with Retardation	Adaptation to Demands of Life
Mild	50-70	85%	May learn academic skills up to sixth-grade level. Adults may, with assistance, achieve self-supporting social and vocational skills.
Moderate	35-50	10%	May progress to second-grade level academically. Adults may contribute to their own support by laboring in sheltered workshops.
Severe	20-35	3-4%	May learn to talk and to perform simple work tasks under close supervision but are generally unable to profit from vocational training.
Profound	Below 20	1-2%	Require constant aid and supervision.

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Intelligence Key People:

Charles Spearman: British psychologist who proposed that intelligence is a single, underlying factor which he termed the *g* factor (general intelligence), people who score high on one factor, usually score high on others.

Louis Thurstone: proposed that intelligence was made up of 7 primary mental abilities including: word fluency, verbal comprehension, spatial ability, perceptual speed, numerical ability, inductive reasoning, and memory.

Raymond Cattell & David Horn: divided *g* into 2 subgroups: fluid and crystallized intelligence.

Robert Sternberg: known for his triarchic theory of intelligence that includes analytical intelligence, creative intelligence, and practical intelligence. Sternberg believes each of these intelligences is learned and can therefore be developed and enhanced.

Howard Gardner: known for his theory of multiple intelligences (frames of mind), believes that there are 8 (working on a 9th).

Sir Francis Galton: a British psychologist who said the size and shape of a person's head could objectively measure his/her intelligence, started the eugenics movement.

Alfred Binet: French psychologist who founded modern intelligence test, tested kids' *mental age*.

Lewis Terman: Stanford professor who revised Binet's test for intelligence testing in the United States. His test was known as the Stanford-Binet.

David Wechsler: developed today's most widely used intelligence test, the WAIS test.

Rosenthal and Jacobson: ran the "Oak School" experiment.

James Flynn: studied the Flynn Effect.