Testing and Individual Differences

Test Measures:

Reliability = repeatability or consistency of a measure

- Split-half reliability = dividing a test into two sections – see if results are similar for both sections (both sections not necessarily the same, and are done at the same time)
- Equivalent-form reliability = divide a test into equal sections – see if results are similar for both sections (both sections are usually similar in questions, and done at separate times)
- Test-retest reliability = Administering same test multiple times and seeing if results are similar each time

Validity = how close a measure is to what it actually is

- Face validity = how well a test appears to measure a certain criterion
- Content validity = how well a measure reflects the entire range of tested items
- Predictive validity = how well the future results can be estimated
- Concurrent validity = how well a test shows current measures
- Construct validity = how well a test measures what it claims to measure

Types of Tests:

- Aptitude test = measures potential
- Achievement test = measures accomplishment
- Speed test = measures how quick something can be done
- Power test = measures the level of difficulty that can be done
- Group test = measures in large numbers of people in a single given time
- Individual test = measures people one at a time

Theories and Tests of Intelligence:

Fluid intelligence = ability to solve abstract problems and pick up new information/skills

Crystal intelligence = knowledge/skills accumulated over time

	Theory
Charles Spearman	General Intelligence Factor (*g* factor): • Intelligence can be measured by a single general factor
Howard Gardner	Multiple Intelligences: • People possess varying degrees of intelligences in different areas, broken down to: - Linguistic - Logical-mathematical - Spatial - Musical - Bodily-kinesthetic - Intrapersonal - Interpersonal - Naturalist
Daniel Goleman	Emotional Intelligence (EQ): • Ability to understand and regulate oneself as well as getting along with others; needed in conjunction with IQ to be successful
Robert Sternberg	Triarchic Theory of Intelligence: • 3 types of intelligence: - Analytic (compare and contrast, explain, etc.) - Creative (ability to think and rationalize differently) - Practical (applications to real-world problems)

Theorist/Researcher	**Test**
Alfred Binet Louis Terman	Stanford-Binet IQ Test: • Standardized tests with a large variety of questions to find mental age • Divide mental age by actual age multiplied by 100 • 20 years and older are all assigned an actual age of 20
David Weschsler	Wechsler intelligence scale: • Tests with 100 as average, and a standard deviation of 15 • Yields not just a single IQ score, but also subscale scores, (such as verbal IQ, performance IQ) • Differences in scores of subscales can be used to identify learning disabilities

Bias in Intelligence Testing:

- Different races, sexes, and background can yield different results, each with different interpretations
- Culture isn't factored in for standardized tests
- Academic potential may be stunted due to lack of available resources

Nature Vs. Nurture for Intelligence

- Observed Flynn effect (performance on intelligence tests had been increasing steadily throughout the century worldwide)
- Monozygotic (identical) twins who share 100% of genetic material score more similarly than dizygotic (fraternal) twins
- Research done with separated identical twins give evidence to importance of environment on intelligence growth
- Racial differences in IQ scores – do African Americans usually score 10-15 points lower than White counterparts because they are less intelligent, or because more African Americans are unable to afford proper educations?