

Chapter 11: Intelligence - ability to learn from experience, solve problems, and use knowledge to

factor analysis - statistical procedure that identifies clusters of related items ^{adapt}

General intelligence "g" - underlies specific mental abilities (measured on an intelligence test)

↓ multiple intelligences

- Spearman**
- | | |
|-------------------------|-----------------------|
| 1. linguistic | 5. bodily-kinesthetic |
| 2. logical-mathematical | 6. intrapersonal |
| 3. musical | 7. interpersonal |
| 4. spatial | 8. naturalist |

successful intelligence

- analytical (test, one right answer)
- creative (generating ideas, reacting adaptively)
- practical - everyday tasks (ill defined, multiple solutions)

Emotional intelligence - ability to perceive, understand, manage / use emotions

↳ "g" gets you to the job, emotional intelligence make you successful

Creativity - produce ideas that are novel and valuable

5 components *how to foster (dismissing, disapproving, laissez faire, life coach)*

1. expertise
2. imaginative thinking skills (redefine/explore problems)
3. venturesome personality (tolerates ambiguity / risk)
4. intrinsic motivation (self satisfaction not external pressures)
5. creative environment

- HOW TO MEASURE:

Brain anatomy - higher intelligence (more grey matter)

Brain function

- perceptual speed - perceive quickly = more intelligent
- neurological speed - register stimulus more quickly + greater complexity

ASSESSING

mental age - test performance (Binet) age that corresponds with performance

Stanford-Binet - widely used intelligence test ← Terman edited

Intelligent quotient

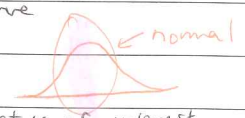
$$IQ = \frac{\text{mental age}}{\text{chronological age}} \times 100$$

↑ Stern

- modern tests - aptitude test (predict future performance)
- achievement test (what you previously learned)
- WAIS - intelligence (verbal + performance)

Test must be

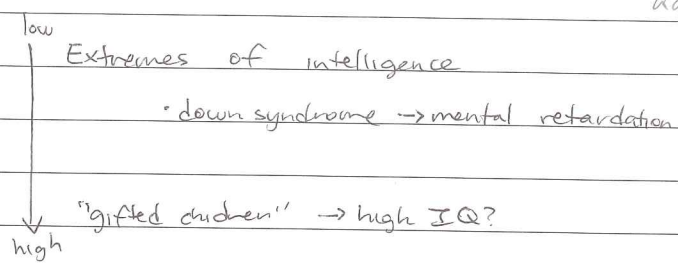
- standardized - meaningful data (standardization group) form normal curve
- reliable - consistent
- valid



↳ content - samples behaviour that is of interest
 criterion - the behaviour the test can predict
 predictive - success it predicts future behaviour

stability vs change

↳ only age 4 is able to start predicting intelligence
 age 7 = stable



genetic influences

- identical twins score similar
- identical twins have same grey matter volume
- certain genes (inserting genes)

Environmental influences

- early intervention (neglect, responsive caregiver)
- schooling

- * racial groups differ in their average scores
- * high scores = high levels of education + income

Gender similarities / differences

spelling, verbal ability, nonverbal memory, sensation, math + spatial → girls show aptitude

math champs, computation, architects → boys

are tests vehicles for discrimination? ⇒ bias

stereotype threat - threat one will be evaluated on a negative stereotype

reification → abstract thinking becomes concrete
 heritability of intelligence → percent of variation (genetic factors)