

7. Intelligence Throughout the Life Span



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7.2 Developmental Stability and Change

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7.1 Concepts of Intelligence and Creativity



Intelligence

- **Memory, understanding, communicating, planning, problem-solving**

Intelligence

- **3 components (Sternberg)**
 - **Processing/analytical**
 - **Contextual/practical**
 - **Experiential/creative**
- **Fluid vs. crystallized (Cattell)**

Intelligence categorized

- **Gardner's 8 dimensions**
 - **Linguistic**
 - **Logical/mathematical**
 - **Spatial**
 - **Musical**

- **Bodily/kinesthetic**
- **Interpersonal (between)**
- **Intrapersonal (within)**
- **Naturalistic**

Creativity factors

- **Uses 3 types of intelligence**
 - **Ability to analyze**
 - **Ability to synthesize**
 - **Ability to make practical applications and changes**
- **Needs divergent thinking to restructure problems or see multiple solutions**

7.2 Developmental Stability and Change



Intelligence

- **Measured intelligence fairly stable and predictive**
- **“*g* factor” concept of generalized intelligence**

Intelligence

- **Crystallized intelligence increases with age**
 - **Intelligence stable**
 - **Knowledge and ability to use knowledge changes**

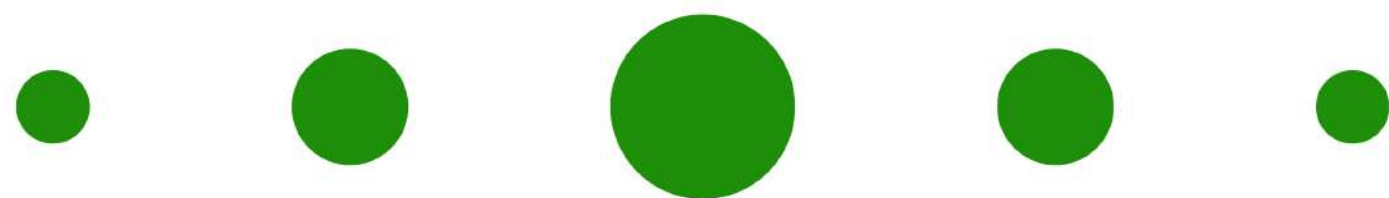
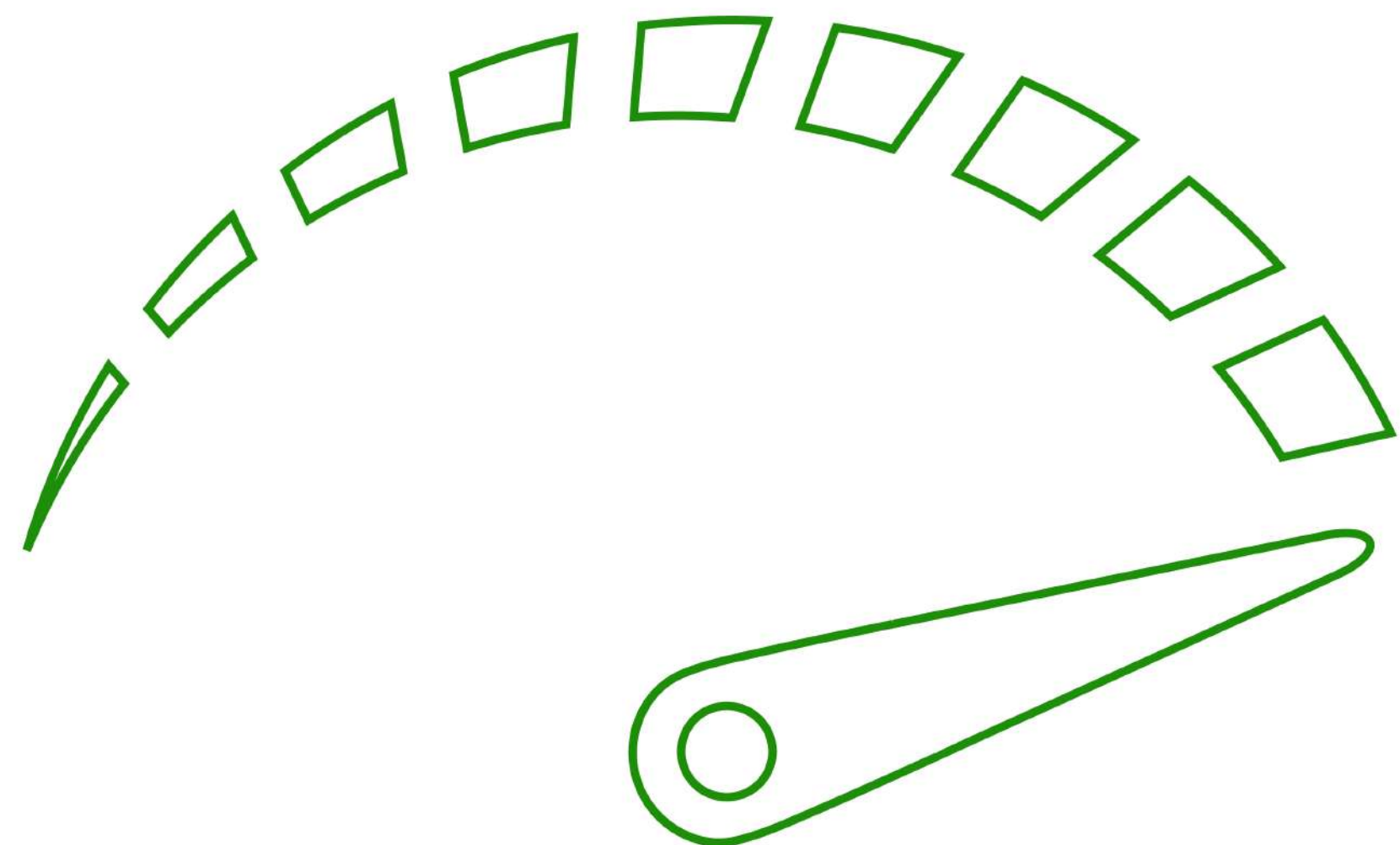
7.3 Heredity and Environment



Boosting intelligence?

- Can a person's intelligence be increased?
- Genetic material is fixed
- If environment/education improved
 - Increase IQ scores
 - Increase some abilities, not *g* factor

7.4 Reaction Range



Reaction range

- **Defines upper/lower limits of phenomenon**
- **Intelligence reaction = range of IQ set by genes, influenced by environment**
- **Explains IQ differences in twins raised apart**

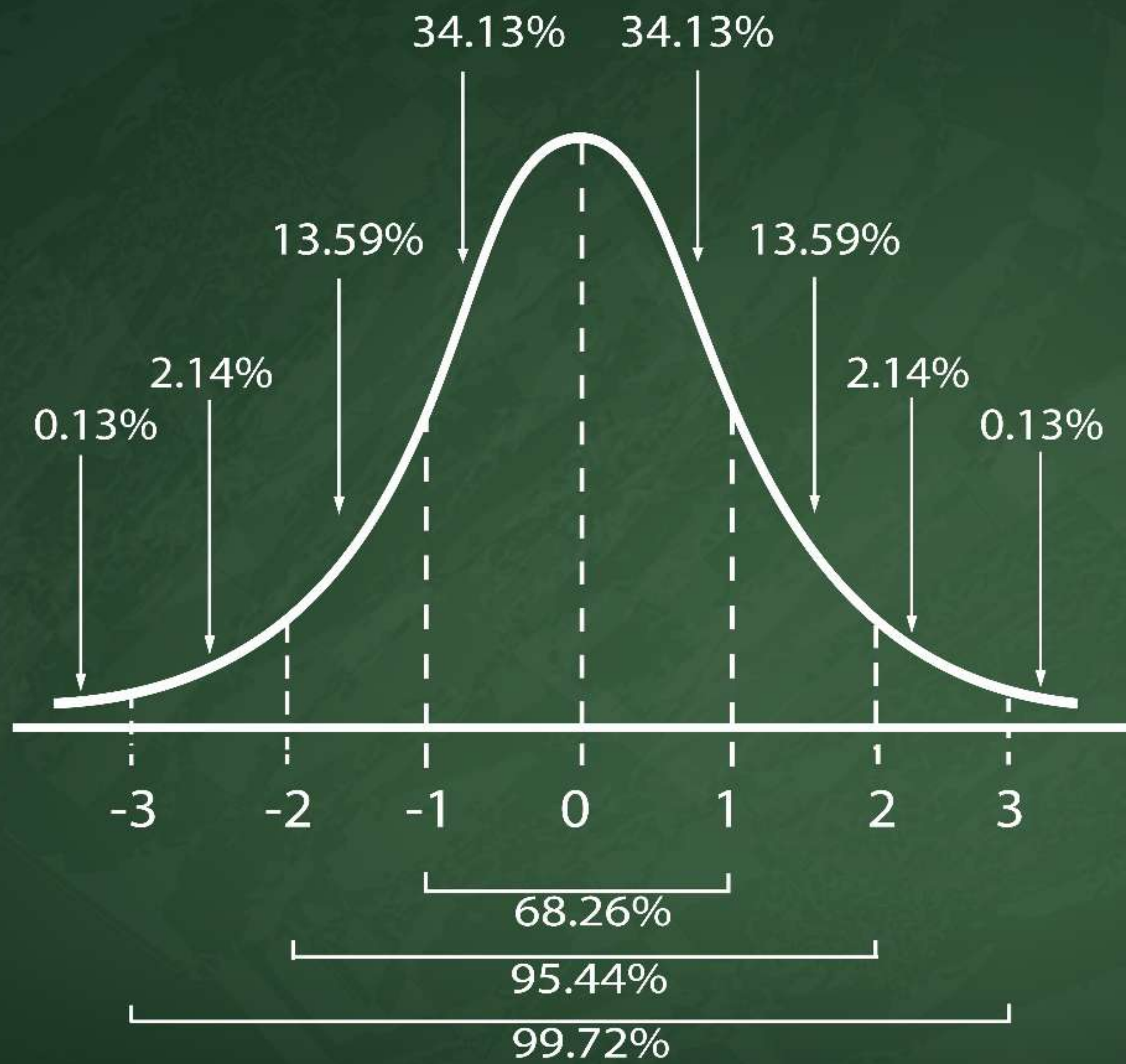
7.5 Intelligence Tests

Intelligence testing

- **Measures verbal and non-verbal abilities/ aptitude (functioning ability)**
- **Aptitude is predictive of future ability and success**

Intelligence testing

- “Normed” = 100 is average with 15 pts per marking (standard deviation)
- Bell-shaped curve



IQ categories

- **130+ very superior (2%)**
- **116-129 superior (13.5%)**
- **101-115 above avg. (34%)**
- **85-99 below avg. (34%)**
- **70-84 borderline (13.5%)**
- **69- mentally defective (2%)**

7.6 Giftedness



Giftedness

- **High IQ + 1 or more of these:**
 - **High achievement**
 - **Persistence on task**
 - **Creativity and/or artistry**
 - **Leadership ability**

- **Other possible traits:**
 - **Highly verbal/
imaginative**
 - **Prefer working alone**
 - **Emotional/social
difficulty**