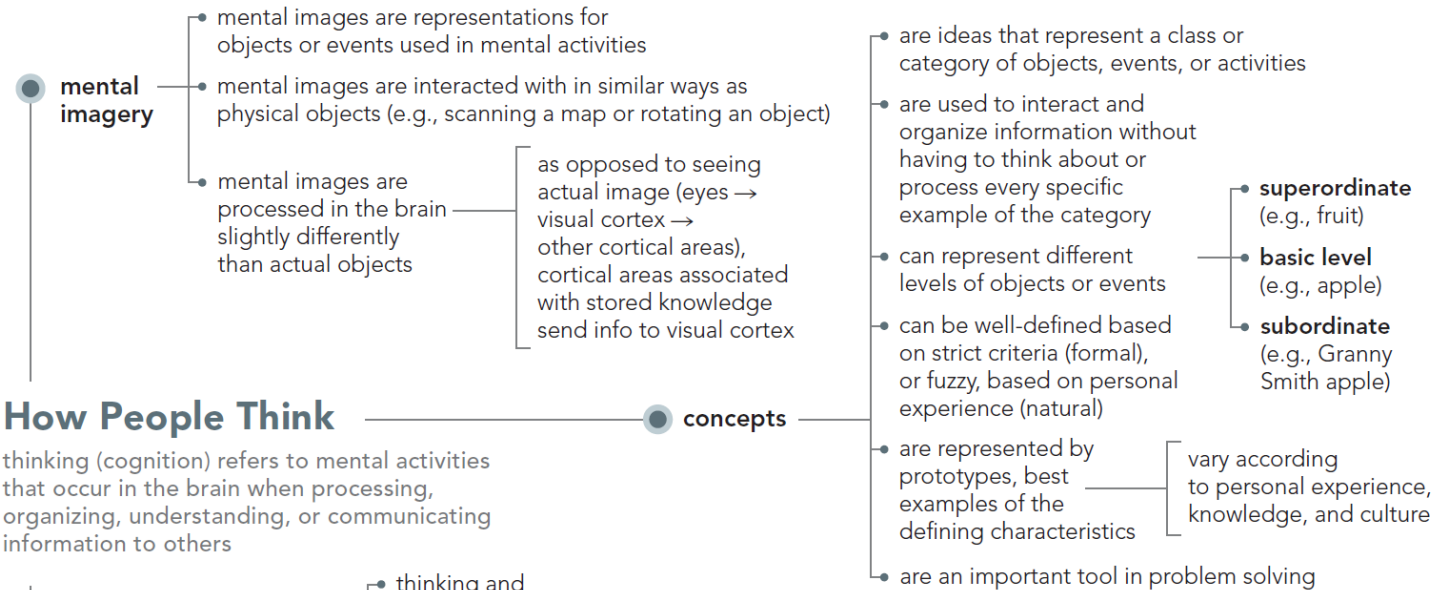
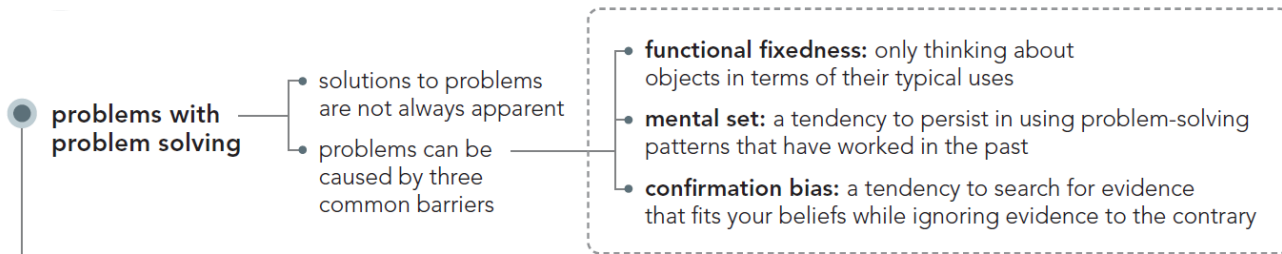
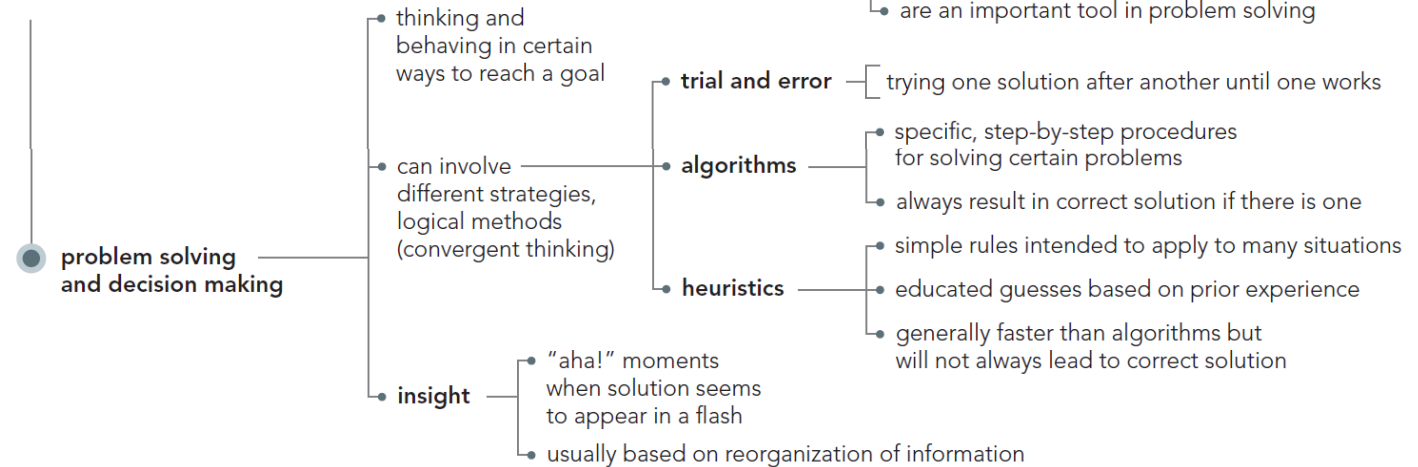


Thinking

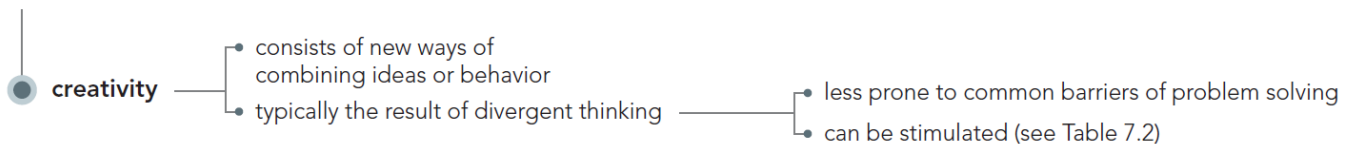


How People Think

thinking (cognition) refers to mental activities that occur in the brain when processing, organizing, understanding, or communicating information to others

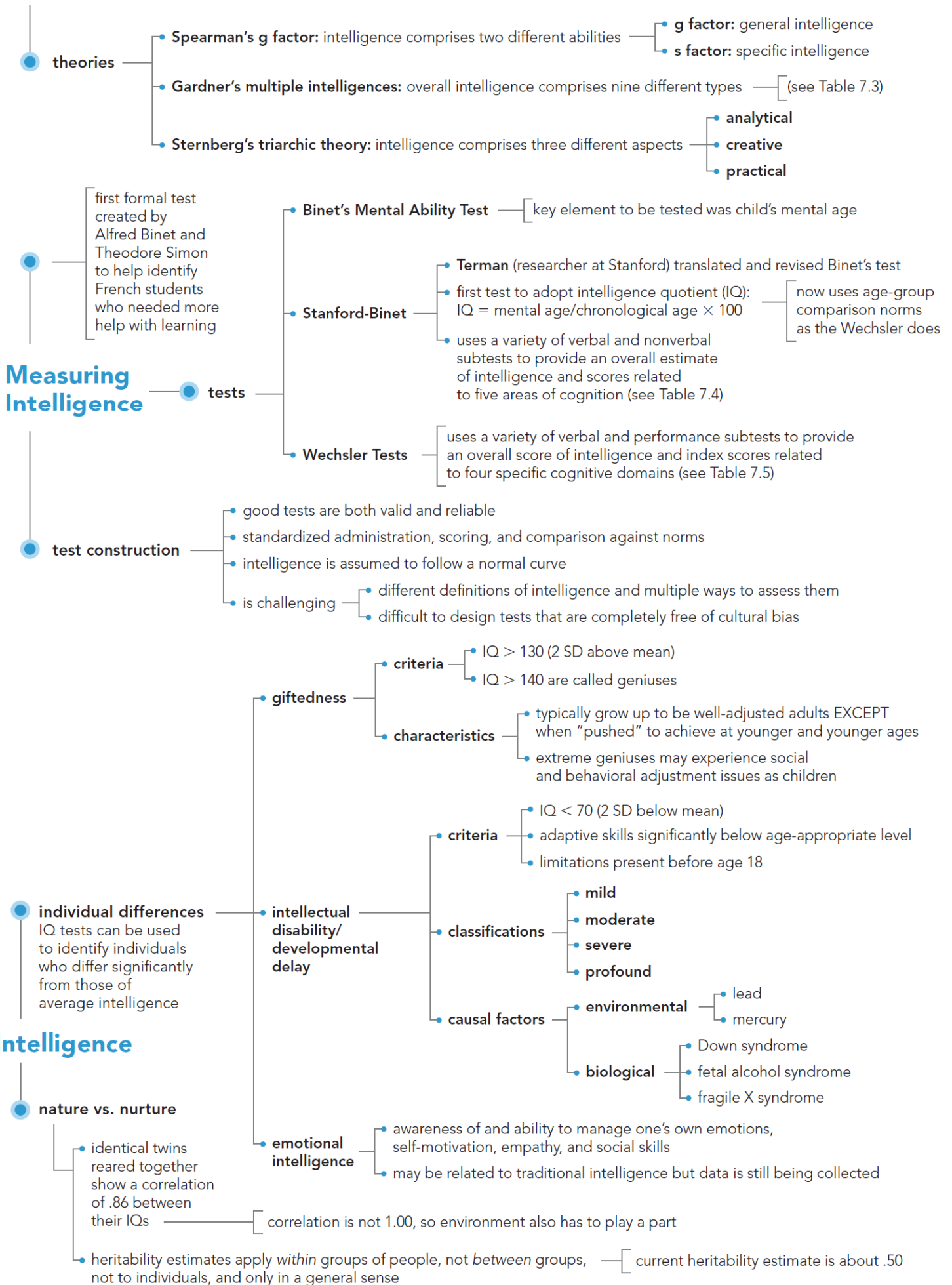


Problem Solving and Decision Making

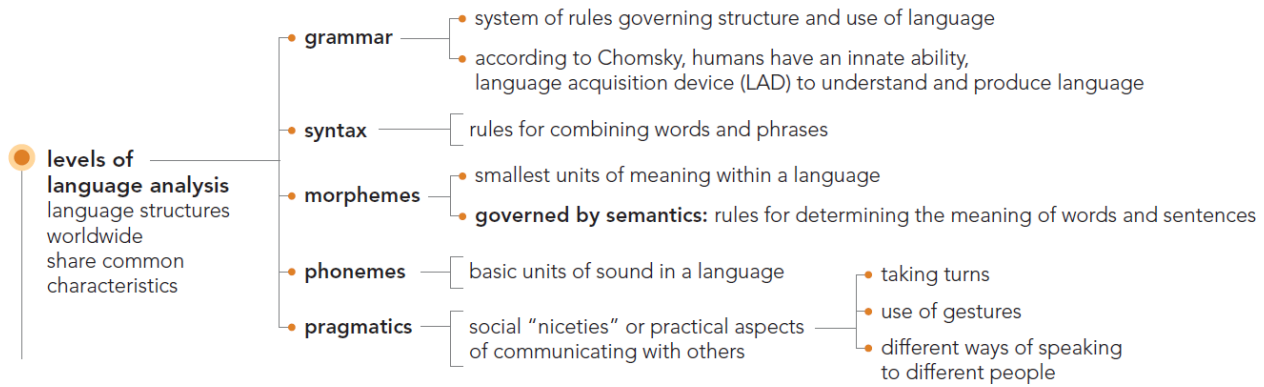


Intelligence

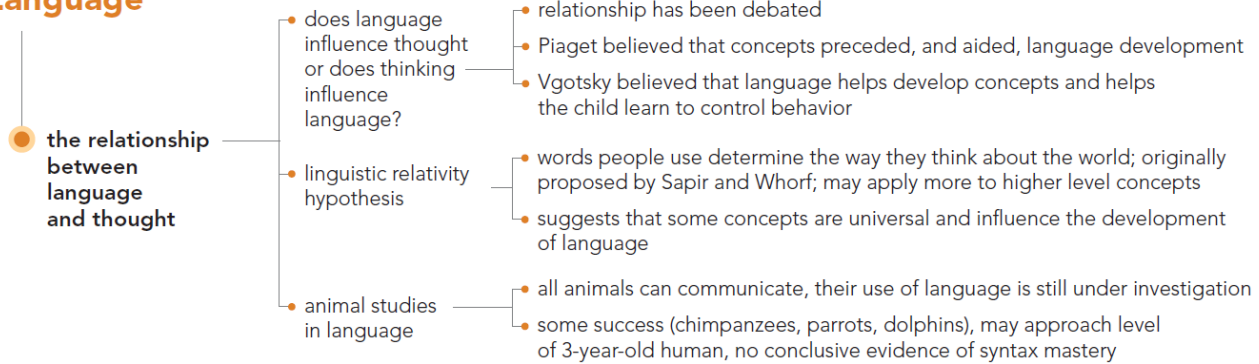
(the ability to learn from one's experiences, acquire knowledge, and use resources effectively)



Language



Language





7 cognition

thinking, intelligence, and language

7.1

7.2

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mental imagery

- mental images are representations for objects or events used in mental activities
- mental images are interacted with in similar ways as physical objects (e.g., scanning a map or rotating an object)
- mental images are processed in the brain slightly differently than actual objects

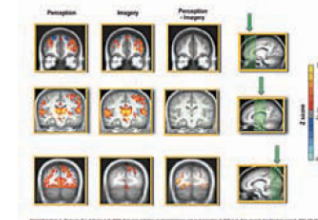
How People Think

thinking (cognition) refers to mental activities that occur in the brain when processing, organizing, understanding, or communicating information to others

concepts



- are ideas that represent a class or category of objects, events, or activities
- are used to interact and organize information without having to think about or process every specific example of the category
- can represent different levels of objects or events
- can be well-defined based on strict criteria (formal), or fuzzy, based on personal experience (natural)
- are represented by prototypes, best examples of the defining characteristics
- are an important tool in problem solving



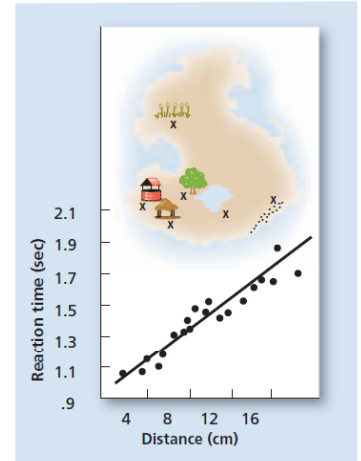
problem solving and decision making

- thinking and behaving in certain ways to reach a goal
- can involve different strategies, logical methods (convergent thinking)

- trial and error
- algorithms
- heuristics



- insight
 - "aha!" moments when solution seems to appear in a flash
 - usually based on reorganization of information



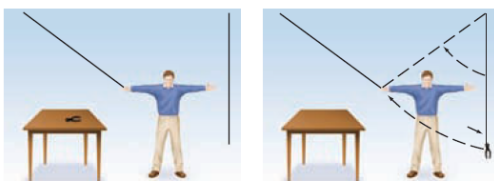
7.3

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problems with problem solving

- solutions to problems are not always apparent
- problems can be caused by three common barriers

Problem Solving and Decision Making



creativity

- consists of new ways of combining ideas or behavior
- typically the result of divergent thinking



Intelligence

(the ability to learn from one's experiences, acquire knowledge, and use resources effectively)

theories

- **Spearman's g factor:** intelligence comprises two different abilities
- **Gardner's multiple intelligences:** overall intelligence comprises nine different types
- **Sternberg's triarchic theory:** intelligence comprises three different aspects

first formal test created by Alfred Binet and Theodore Simon to help identify French students who needed more help with learning

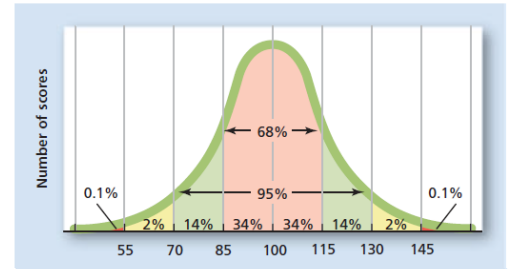
Measuring Intelligence

tests

- **Binet's Mental Ability Test**
- **Stanford-Binet**
- **Wechsler Tests**

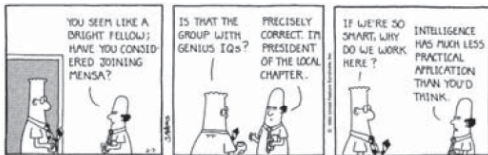
test construction

- good tests are both valid and reliable
- standardized administration, scoring, and comparison against norms
- intelligence is assumed to follow a normal curve
- is challenging (e.g., different definitions, ways to assess, culture bias)



individual differences

IQ tests can be used to identify individuals who differ significantly from those of average intelligence



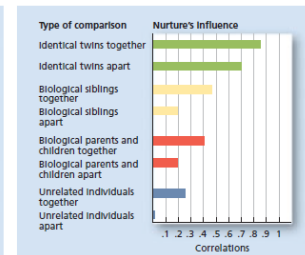
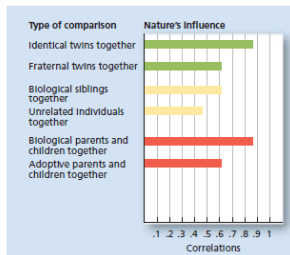
giftedness

- criteria
- characteristics

intellectual disability/developmental delay

- criteria
- classifications
- causal factors

emotional intelligence



Intelligence

identical twins reared together show a correlation of .86 between their IQs

nature vs. nurture

- heritability estimates apply *within* groups of people, not *between* groups, not to individuals, and only in a general sense

levels of language analysis

language structures worldwide share common characteristics

- grammar
- syntax
- morphemes
- phonemes
- pragmatics

the relationship between language and thought

- does language influence thought or does thinking influence language?
- linguistic relativity hypothesis
- animal studies in language

Language

