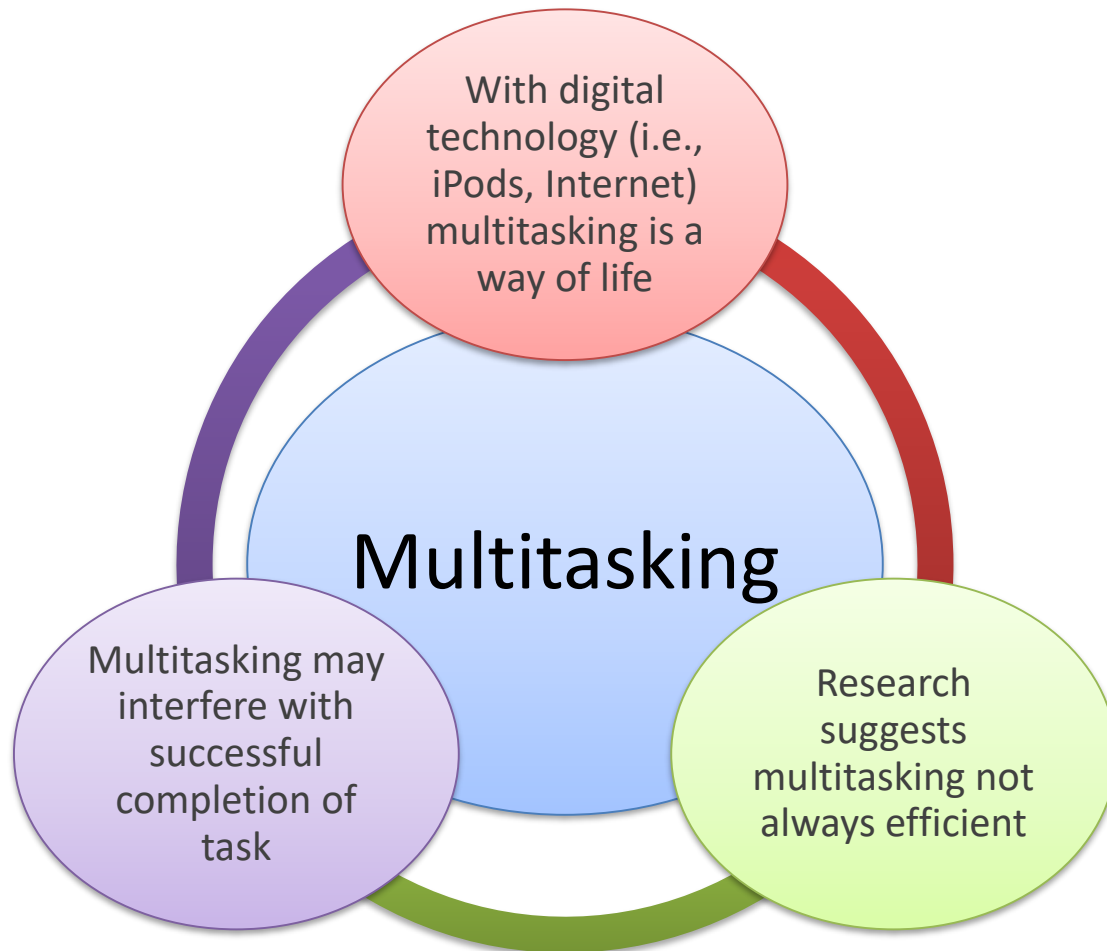


INTELLIGENCE

Multitasking



Intelligence

It is the capacity to understand the world, think rationally and use resources effectively when faced with a challenge.

Theories of Intelligence

Defined
intelligence as
general term

Refers to ability or
abilities involved
in learning and
adaptive behavior

Early
Theorists

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graph TD; A[Defined intelligence as general term] --> C((Early Theorists)); B[Refers to ability or abilities involved in learning and adaptive behavior] --> C;
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The diagram illustrates the contributions of early theorists to the field of intelligence. It features a central blue circle labeled 'Early Theorists'. Two boxes point towards this central circle: a red box on the left containing the text 'Defined intelligence as general term', and a green box on the right containing the text 'Refers to ability or abilities involved in learning and adaptive behavior'. Arrows from each box point directly to the central circle.

g- factor theory

- This theory was given by Spearman Brown.
- This theory states that the single, general factor for mental ability assumed to underlie intelligence.
- Spearman believed that a person who is good in one area is usually bright in all other areas as well.

Cattle's theory of intelligence

According to cattle there are two types of intelligence

- **Fluid intelligence**

Intelligence that reflects information processing capabilities, reasoning and memory.

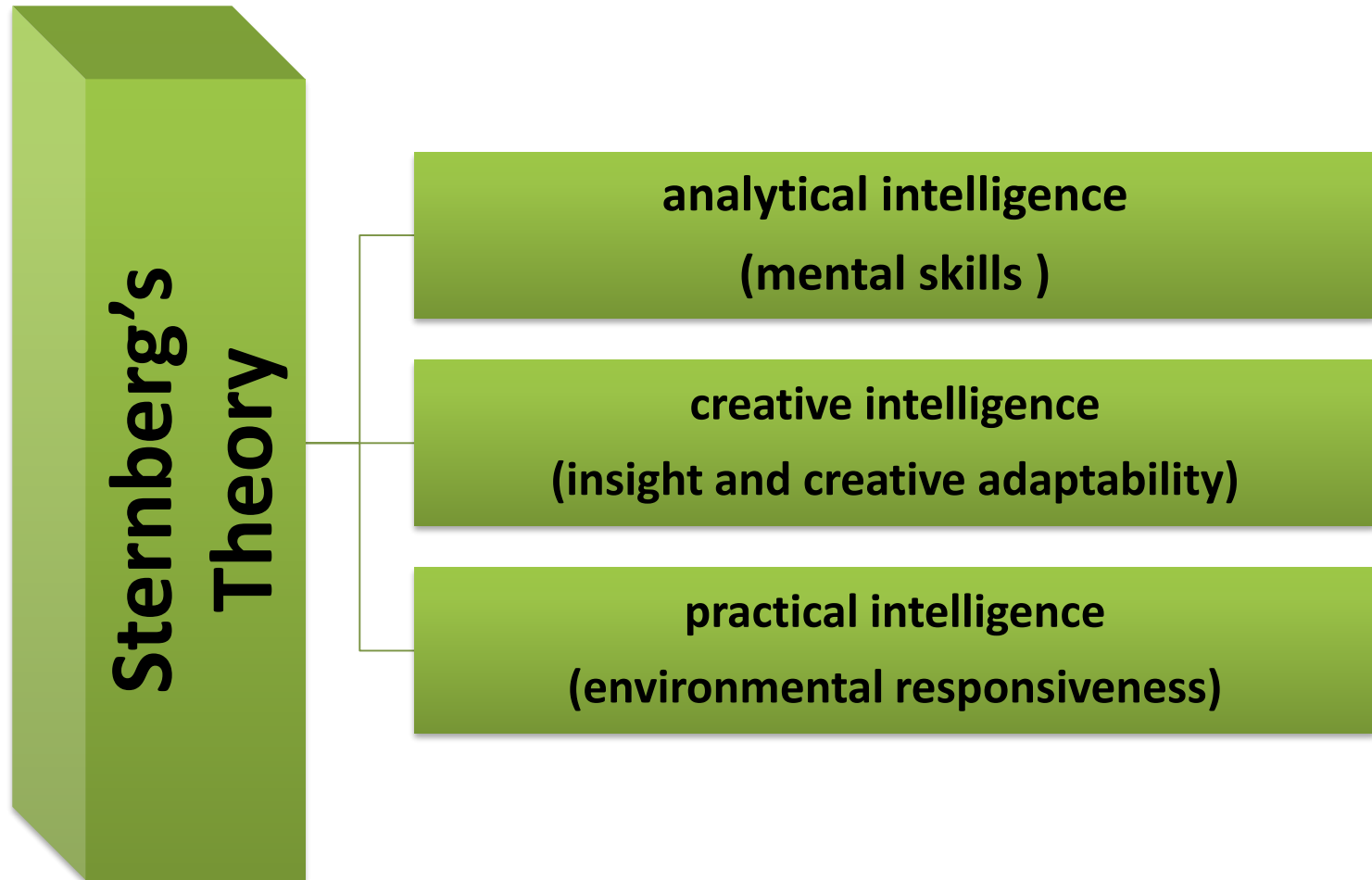
- **Crystallized intelligence**

The accumulation of information, skills and strategies that are learned through experience and can be applied in problem solving.

Thurston's theory of Intelligence

- According to Thurston intelligence is composed of seven types of mental abilities.
- These abilities are independent of the others.
- ✓ Spatial activity
- ✓ Memory
- ✓ Perceptual speed
- ✓ Word fluency
- ✓ Numerical ability
- ✓ Reasoning
- ✓ Verbal meaning

Triarchic Theory of Intelligence



Analytical intelligence

It refers to the mental processes like ability to learn, acquire new knowledge, solve problems and carry out tasks effectively.

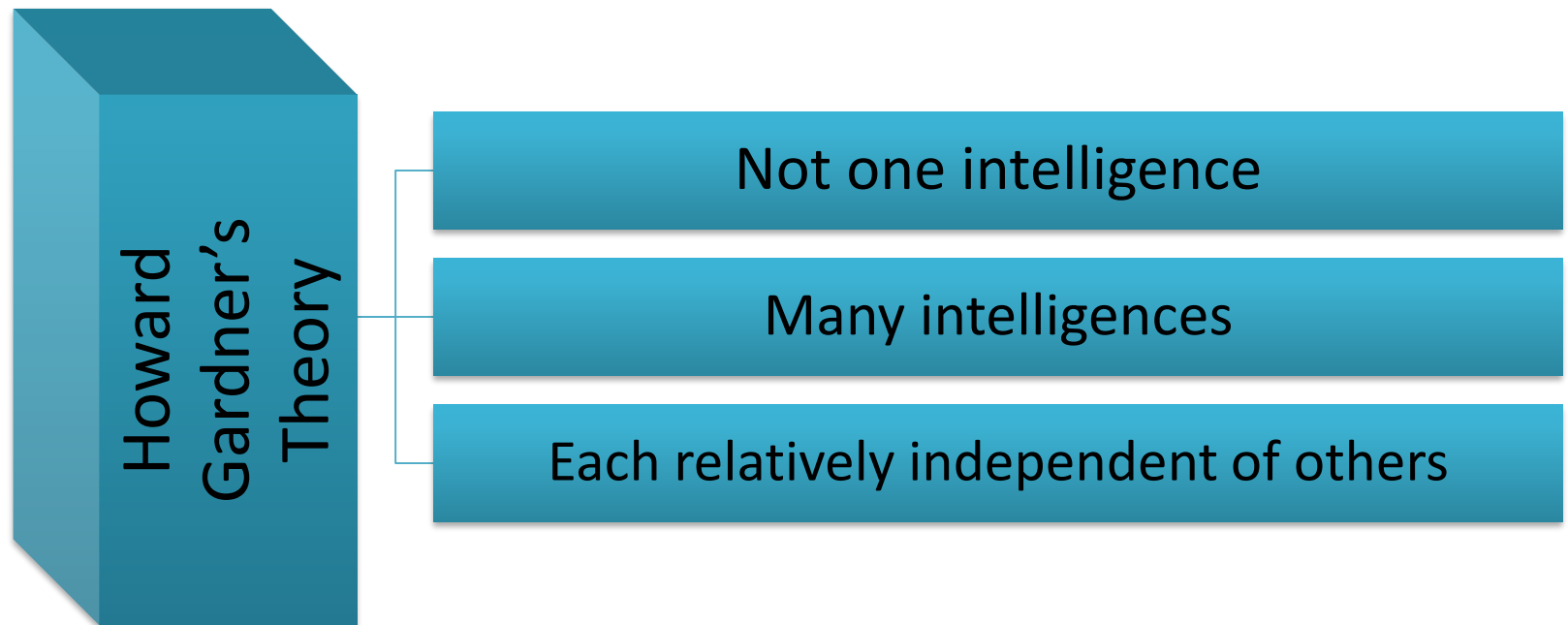
Practical intelligence

It refers to the ability to find solutions to practical and personal problems.

Creative intelligence

It is the ability to adjust to new tasks, use new concepts, respond effectively in new situations, gain insight and adapt creatively

Theory of Multiple Intelligences



- Logical- mathematical intelligence
- Linguistic intelligence
- Spatial intelligence
- Musical intelligence
- Bodily- Kinaesthetic intelligence
- Interpersonal intelligence
- Intrapersonal intelligence
- Naturalistic Intelligence

Visual-Spatial Intelligence

Strengths: Visual and spatial judgment

People who are strong in visual-spatial intelligence are good at visualizing things. These individuals are often good with directions as well as maps, charts, videos, and pictures

Characteristics

Characteristics of visual-spatial intelligence include:

- Enjoys reading and writing
- Good at putting puzzles together
- Good at interpreting pictures, graphs, and charts
- Enjoys drawing, painting, and the visual arts
- Recognizes patterns easily

Potential Career Choices

If you're strong in visual-spatial intelligence, good career choices for you are:

- Architect
- Artist
- Engineer

Linguistic-Verbal Intelligence

Strengths: Words, language, and writing

People who are strong in linguistic-verbal intelligence are able to use words well, both when writing and speaking. These individuals are typically very good at writing stories, memorizing information, and reading

Characteristics

Characteristics of linguistic-verbal intelligence include:

- Good at remembering written and spoken information
- Enjoys reading and writing
- Good at debating or giving persuasive speeches
- Able to explain things well
- Often uses humor when telling stories

Potential Career Choices

If you're strong in linguistic-verbal intelligence, good career choices for you are:

- Writer/journalist
- Lawyer
- Teacher

Logical-Mathematical Intelligence

Strengths: Analyzing problems and mathematical operations

People who are strong in logical-mathematical intelligence are good at reasoning, recognizing patterns, and logically analyzing problems. These individuals tend to think conceptually about numbers, relationships, and patterns.⁴

Characteristics

Characteristics of logical-mathematical intelligence include:

- Excellent problem-solving skills
- Enjoys thinking about abstract ideas
- Likes conducting scientific experiments
- Good at solving complex computations

Potential Career Choices

If you're strong in logical-mathematical intelligence, good career choices for you are:

- Scientist
- Mathematician
- Computer programmer
- Engineer
- Accountant

Bodily Kinesthetic Intelligence

Strengths: Physical movement, motor control

Those who have high bodily-kinesthetic intelligence are said to be good at body movement, performing actions, and physical control. People who are strong in this area tend to have excellent hand-eye coordination and dexterity.⁴

Characteristics

Characteristics of bodily-kinesthetic intelligence include:

- Good at dancing and sports
- Enjoys creating things with his or her hands
- Excellent physical coordination
- Tends to remember by doing, rather than hearing or seeing

Potential Career Choices

If you're strong in bodily-kinesthetic intelligence, good career choices for you are:

- Dancer
- Builder
- Sculptor
- Actor

Musical Intelligence

Strengths: Rhythm and music

People who have strong musical intelligence are good at thinking in patterns, rhythms, and sounds. They have a strong appreciation for music and are often good at musical composition and performance.⁵

Characteristics

Characteristics of musical intelligence include:

- Enjoys singing and playing musical instruments
- Recognizes musical patterns and tones easily
- Good at remembering songs and melodies
- Rich understanding of musical structure, rhythm, and notes

Potential Career Choices

If you're strong in musical intelligence, good career choices for you are:

- Musician
- Composer
- Singer
- Music teacher

Interpersonal Intelligence

Strengths: Understanding and relating to other people

Those who have strong interpersonal intelligence are good at understanding and interacting with other people. These individuals are skilled at assessing the emotions, motivations, desires, and intentions of those around them.⁵

Characteristics

Characteristics of interpersonal intelligence include:

- Good at communicating verbally
- Skilled at nonverbal communication
- Sees situations from different perspectives
- Creates positive relationships with others
- Good at resolving conflict in groups

Potential Career Choices

If you're strong in interpersonal intelligence, good career choices for you are:

- Psychologist
- Philosopher
- Counselor
- Salesperson

Intrapersonal Intelligence

Strengths: Introspection and self-reflection

Individuals who are strong in intrapersonal intelligence are good at being aware of their own emotional states, feelings, and motivations. They tend to enjoy self-reflection and analysis, including daydreaming, exploring relationships with others, and assessing their personal strengths.⁵

Characteristics

Characteristics of intrapersonal intelligence include:

- Good at analyzing his or her strengths and weaknesses
- Enjoys analyzing theories and ideas
- Excellent self-awareness
- Clearly understands the basis for his or her own motivations and feelings

Potential Career Choices

If you're strong in intrapersonal intelligence, good career choices for you are:

- Philosopher
- Writer
- Theorist
- Scientist

Naturalistic Intelligence

Strengths: Finding patterns and relationships to nature

According to Gardner, individuals who are high in this type of intelligence are more in tune with nature and are often interested in nurturing, exploring the environment, and learning about other species. These individuals are said to be highly aware of even subtle changes to their environments.

Characteristics

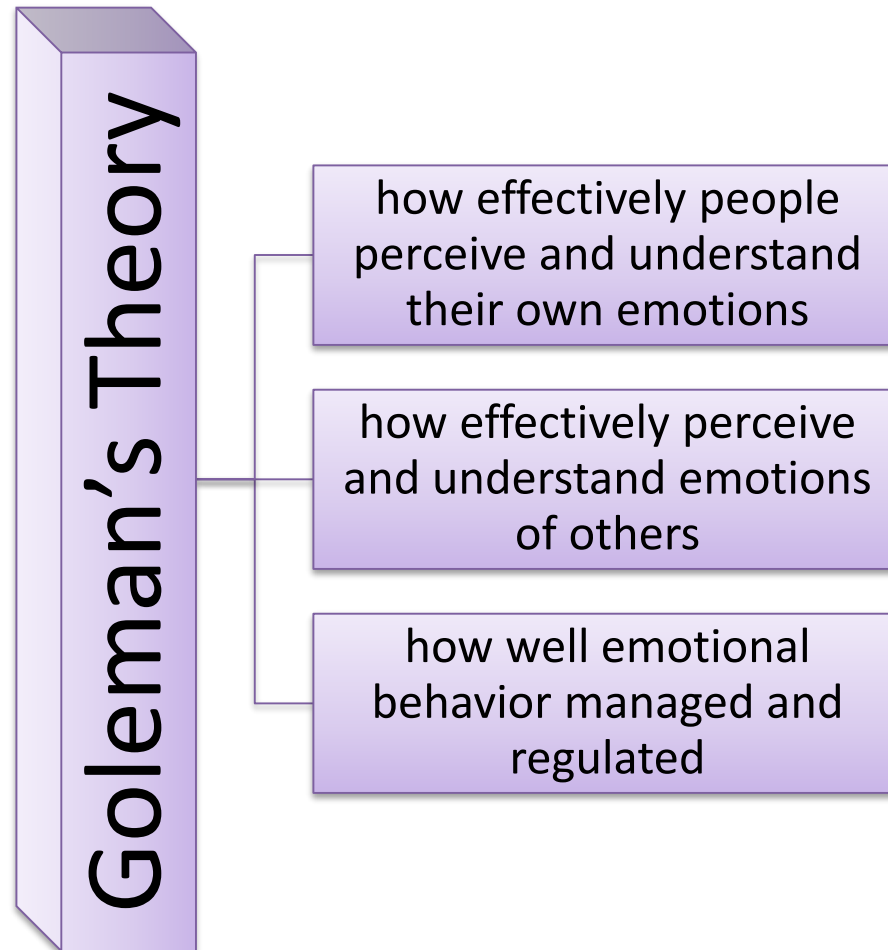
- Characteristics of naturalistic intelligence include:
- Interested in subjects such as botany, biology, and zoology
- Good at categorizing and cataloging information easily
- May enjoy camping, gardening, hiking, and exploring the outdoors
- Doesn't enjoy learning unfamiliar topics that have no connection to nature

Potential Career Choices

If you're strong in naturalistic intelligence, good career choices for you are:

- Biologist
- Botanist /zoologist
- Gardener
- Farmer

Theory of Emotional Intelligence



Intelligence Tests

Stanford-Binet Intelligence Scale

- First test to measure intelligence yielding an IQ

Intelligence quotient (IQ)

- Numerical value given to intelligence
- Determined from scores on intelligence test
- Score of 100 for average intelligence

- ***Mental Age***

The average age of individuals who achieve a particular level of performance on intelligence test.

- ***Chronological Age***

It is the physical age of a person in years.

FORMULA FOR CALCULATION OF IQ

$$IQ = MA/CA \times 100$$

Intelligence Tests

Wechsler Adult Intelligence Scale—Third Edition (WAIS-III)

- Individual intelligence test
- Developed for adults
- Measures verbal and performance abilities

Wechsler Intelligence Scale for Children—Third Edition (WISC-III)

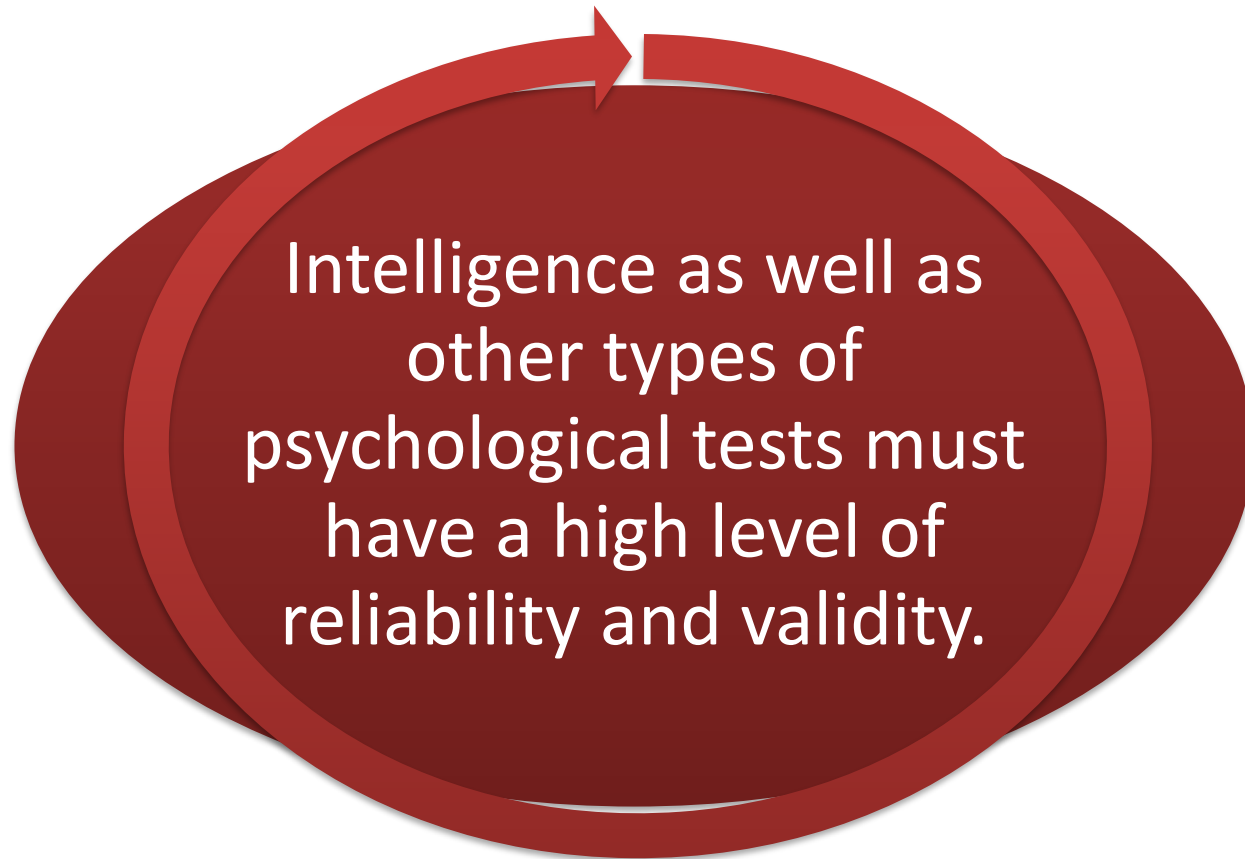
- Individual intelligence test
- Developed for school-aged children
- Measures verbal and performance abilities

Intelligence Tests

Other Intelligence Tests

- Group tests
- Performance tests
- Culture-fair tests

What Makes A Good Test?



Reliability

Reliability

- Test produces consistent and stable scores

Split-half reliability

- Reliability tested by dividing into two parts and checking agreement of scores on both parts

Correlation coefficients

- Statistical measures of degree of association between two variables

Validity

Validity

- Ability of test to measure what it was developed to measure

Content validity

- Adequate sample of questions measuring skills or knowledge the test is supposed to measure

Criterion-related validity

- Comparison of test score and independent measures of what test is designed to measure

Achievement and Aptitude Tests

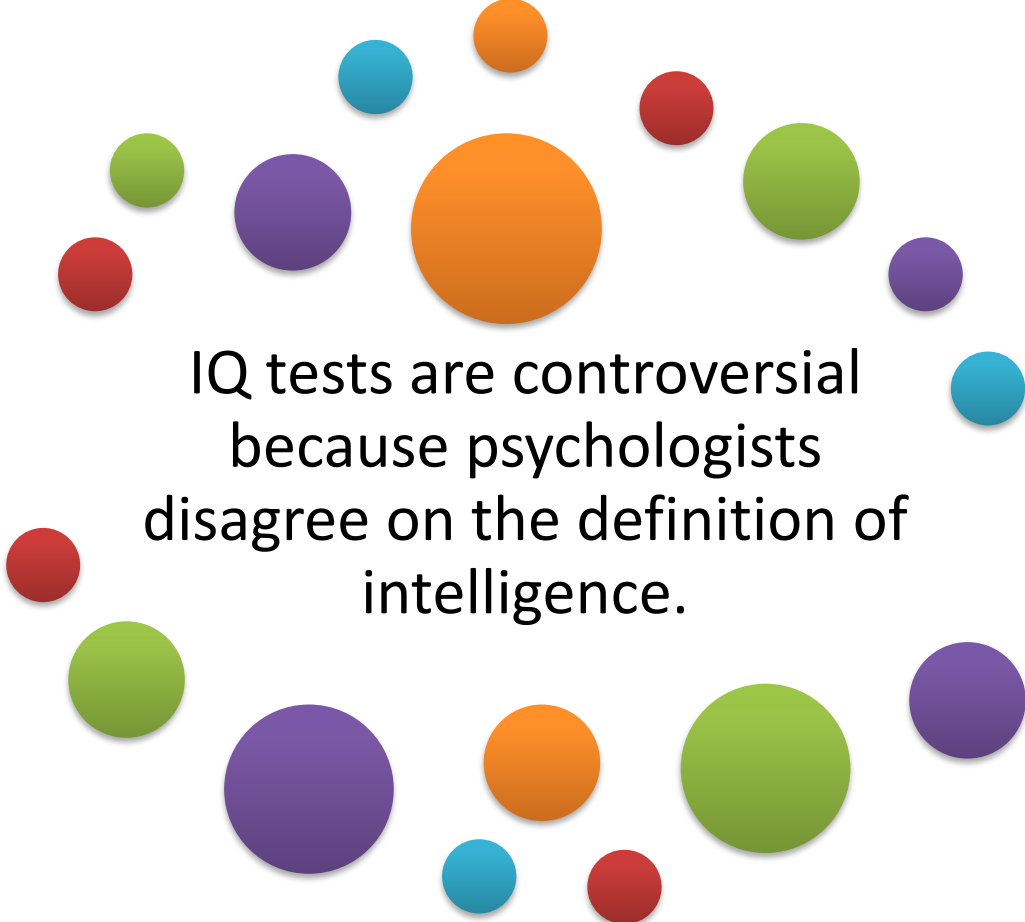
- **Achievement test**

A test designed to determine a person's level of knowledge in given subject area.

- **Aptitude test**

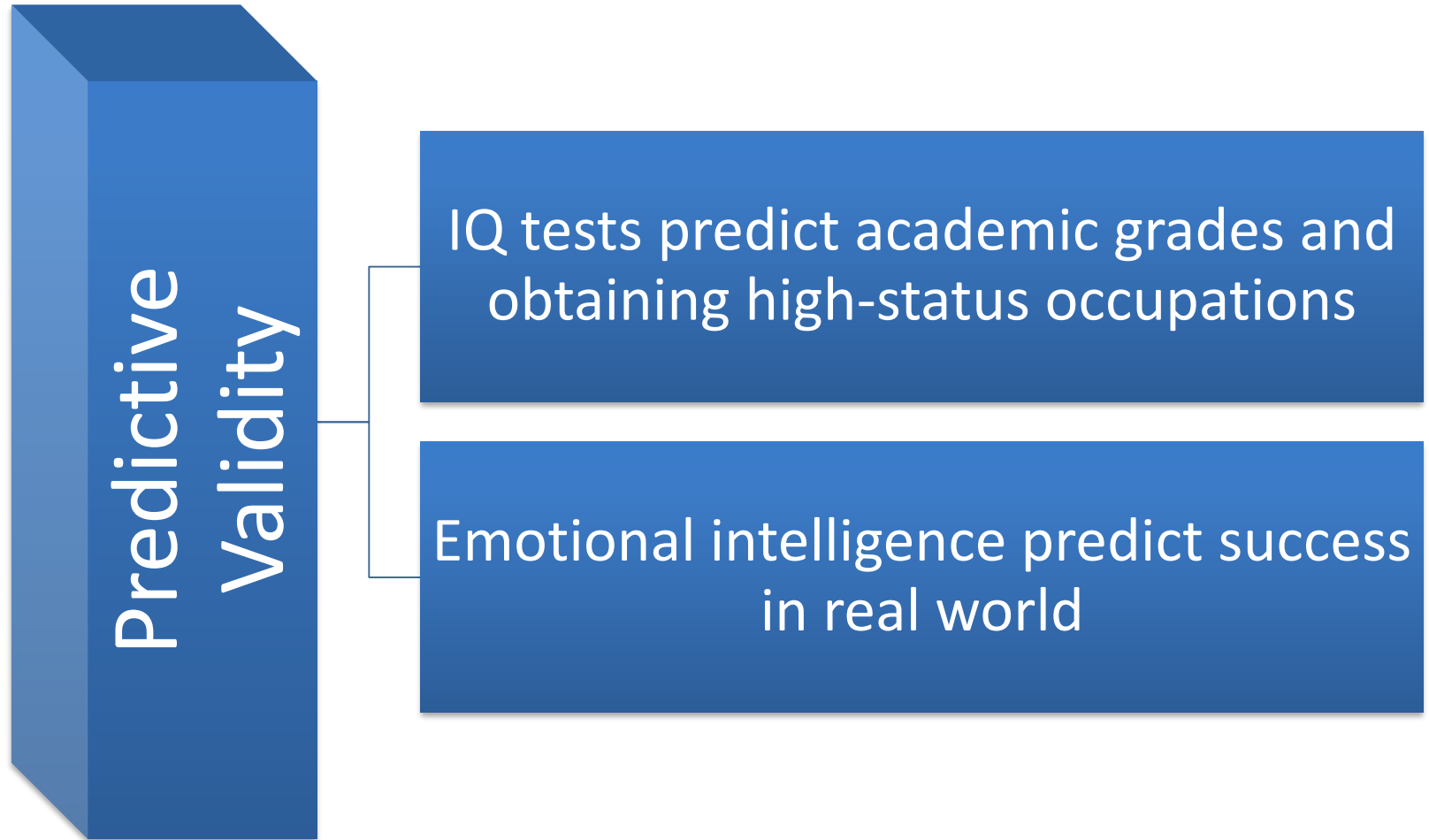
A test to predict a person's ability in a particular area or line of work.

Controversy



IQ tests are controversial
because psychologists
disagree on the definition of
intelligence.

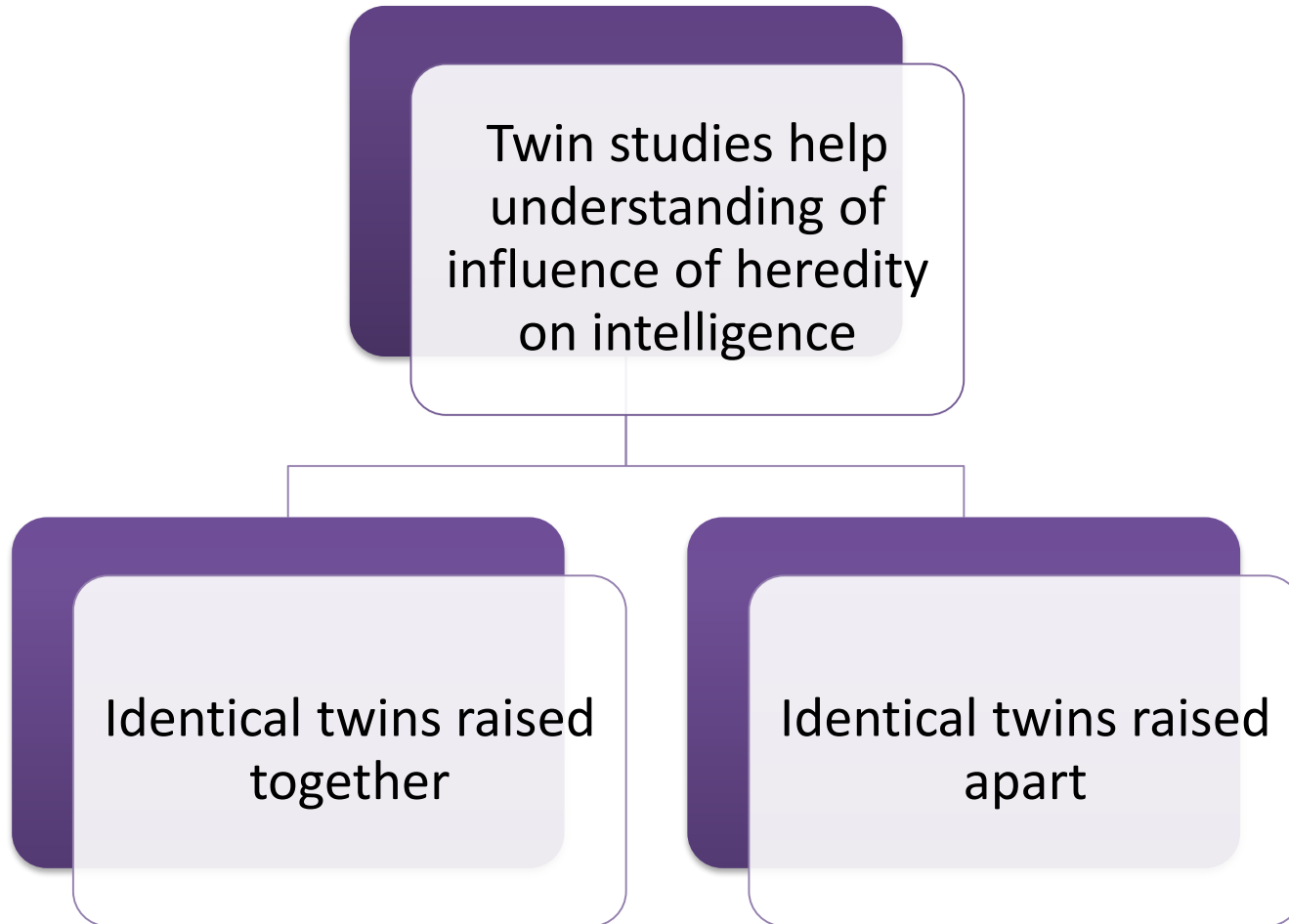
Predictive Validity



Heredity, Environment, and Intelligence

The question of whether heredity or environment is more influential in intelligence is a long-standing debate among psychologists.

Heredity



The IQ Debate: A Useful Model

Both heredity
and
environmental
factors
influence
intelligence

Heredity
useful in
explaining
within group
differences

Familiarity
with
intelligence
tests lead to
the Flynn
Effect

Mental Abilities and Human Diversity, Gender and Culture

No significant
difference in most
cognitive abilities



Some gender
differences in math,
verbal skills, and
visual-spatial abilities

Cultural Differences

Cultural attitudes
can significantly
influence mental
abilities



American students
perform at lower
levels than Asian
students

Flynn effect

- The Flynn effect is the substantial increase in average scores on intelligence tests all over the world.
- The causes of Flynn effect are said to be that the brains of children now a days are more developed than before.
- Improved environment has led to this phenomenon.
- Familiarity with the test also leads to Flynn effect.

Extremes of Intelligence

Mental retardation

- Significantly sub-average intelligence combined with deficiencies in adaptive behavior

Giftedness

- Superior IQ combined with demonstrated or potential ability in various academic areas

- **Mental retardation**

A condition characterized by significant limitations both in intellectual functioning and in conceptual, social, and adaptive skills. Having IQ level less than 70 at the age of 18.

Types of Mental retardation

Type	IQ Level
Mild	55-69
Moderate	40-54
Severe	25-39
Profound	Below 25

- **Intellectually gifted**

The 2 to 4 percent of the population who have IQ scores greater than 130.