

# 8. Intelligence

Dr. Abhimanyu R. Dhormare

Head & Assistant Professor,

Department of Psychology,

Babuji Avhad Mahavidyalaya, Pathardi.

# Theories of Intelligence

- ❑ Is intelligence a single, general ability or is it a cluster of different mental abilities?
- ❑ Do current IQ tests measure it or should it be more broadly defined?

# Two Kinds of Intelligence

- **Crystallized Intelligence** : learning from past experiences and learning.
  - Situations that require crystallized intelligence include reading comprehension and vocabulary exams.
  - This type of intelligence is based upon facts and rooted in experiences.
  - This type of intelligence becomes stronger as we age and accumulate new knowledge and understanding.

# Two Kinds of Intelligence

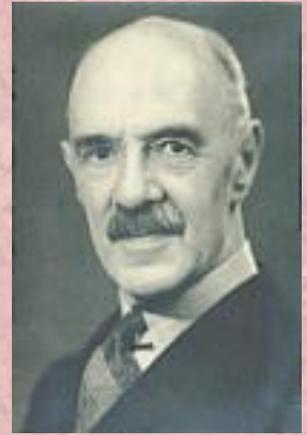
- **Fluid Intelligence** : the ability to think and reason abstractly and solve problems.
- - This ability is considered independent of learning, experience, and education.
  - Examples: solving puzzles and coming up with problem solving strategies.
  - Both types of intelligence increase throughout childhood and adolescence.
  - Fluid intelligence peaks in adolescence and begins to decline progressively beginning around age 30 or 40.

# Theories of Intelligence

- Charles Spearman : “g” factor
- Louis Thurstone : intelligence as a person’s “pattern” of mental abilities
- Howard Gardner : multiple intelligences
- Sternberg : triarchic theory
- Emotional Intelligence : ability to perceive, express, understand, and regulate emotions

# Charles Spearman (1863-1945)

## Spearman's General Intelligence



- Theorized that a general intelligence factor (g) underlies other, more specific aspects of intelligence
- Based this on how he noticed people who did well on one test tended to do similarly well on others.
- Agreed with Terman that a single overall IQ score was best.

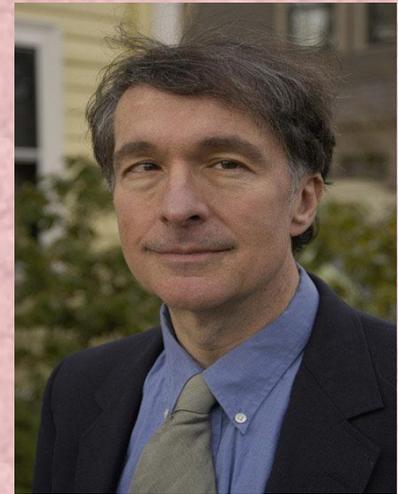


## Louis L. Thurstone

- Intelligence is a cluster of abilities.
- Believed that there were 7 different “primary mental abilities” each independent from the other.
- Examples: Verbal Comprehension, numerical ability, reasoning & perceptual speed
- The  $g$  factor was just an overall average score of these independent abilities.
- Looked for a pattern of mental abilities like Wechsler.

# Howard Gardner (1943)

## Multiple Intelligences



- Author of a contemporary theory of multiple intelligences consisting of eight separate kinds of intelligence
- Multiple Intelligences - several independent mental abilities that allow a person to solve problems, create products that are valued within one's culture.
- Intelligence defined within the context of culture

# Howard Gardner's Multiple Intelligences

## **Linguistic intelligence**

Adept use of language: poet, writer, public speaker, native storyteller

## **Logical-mathematical intelligence**

Logical, mathematical, and scientific ability: scientist, mathematician, navigator, surveyor

## **Musical intelligence**

Ability to create, synthesize, or perform music: Musician, composer, singer

## **Spatial intelligence**

Ability to mentally visualize the relationships of objects or movements: sculptor, painter, expert chess player, architect

## **Bodily-kinesthetic intelligence**

Control of bodily motions and capacity to handle objects skillfully: athlete, dancer, craftsman

## **Interpersonal intelligence**

Understanding of other people's emotions, motives, intentions: politician, salesperson, clinical psychologist

## **Intrapersonal intelligence**

Understanding of one's own emotions, motives, and intentions: essayist, philosopher

## **Naturalist intelligence**

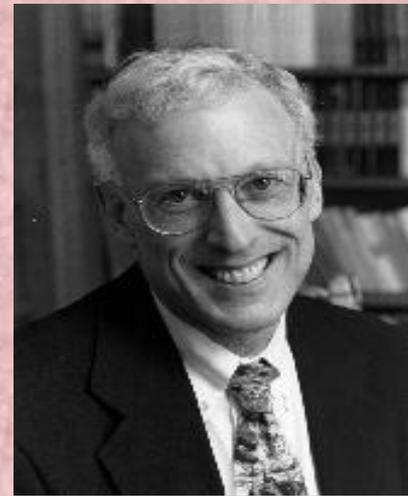
Ability to discern patterns in nature: ecologist, zoologist, botanist.

# Howard Gardner's Eight Intelligences

<b>Aptitude</b>	<b>Example</b>
1. Linguistic (“word smart”)	Toni Morrison, writer
2. Logical-mathematical (“number smart”)	Albert Einstein, scientist
3. Musical (“music smart”)	Wynton Marsalis, musician
4. Spatial (“art smart”)	Frida Kahlo, artist
5. Bodily-kinesthetic (“body smart”)	Tiger Woods, athlete
6. Intrapersonal (“self smart”)	Anna Freud, psychoanalyst
7. Interpersonal (“people smart”)	Mahatma Gandhi, leader
8. Naturalist (“nature smart”)	John Audubon, naturalist

## Robert Sternberg (1949)

### Triarchic Theory of Intelligence



- Author of a Triarchic theory of multiple intelligences consisting of 3 mental *abilities*
- Disagrees with Gardner in calling these *intelligences*. Instead believes these are talents or abilities. Said Intelligence is a general quality
- Stresses both the universal aspects of intelligent behavior and the importance of adapting to a certain social and cultural climate.
- Also called Successful Intelligence

# Robert Sternberg

- Analytic intelligence : mental processes used in learning how to solve problems
- Creative intelligence : ability to deal with novel situations by drawing on existing skills and knowledge
- Practical intelligence : ability to adapt to the environment (street smarts)

# Triarchic Examples in Literature

Character	Academic	Practical	Creative
Scrooge	Strong: his career as an accountant dictates good analytic skills	Strong: his money-making abilities attest to his street smarts	Weak: he conforms to conventions to an extreme degree
Mary Poppins	Strong: her tutoring skills are unparalleled	Strong: she is interpersonally shrewd ("practically perfect") and skilled at solving problems	Strong: her strategies for child care reflected unconventional but successful solutions
Sherlock Holmes	Strong: his detective career offered the opportunity to show off an impressive range of knowledge	Strong: his problem-solving skills were legendary	Strong: he adopted unusual costumes and creative approaches to catch criminals
Winnie the Pooh	Weak: No sign of book-learning for poor Pooh!	Weak: poor Pooh works hard to "think, think, think" but such efforts are rarely successful; he often has difficulty figuring out how to do the tasks of everyday living	Strong: Pooh usually takes an unconventional point of view in coping with the world
Don Quixote	Strong: Prior to his quest, Don Quixote was respected as a learned man	Weak: Don Quixote's problem-solving skills were exquisitely unsuccessful	Strong: Don Quixote's romantic and nonconformist view of the world was impressive

# Emotional Intelligence

- The ability to perceive, express, understand, and regulate emotions
- People high in emotional intelligence are more in touch with their feelings and the feelings of others.

IQ Tests do a good job measuring:

- Abstract thinking
- Problem solving
- Capacity to acquire knowledge

IQ Tests however do not measure:

- Creativity
- Achievement motivation
- Goal-oriented behavior
- Ability to adapt to one's environment