• Unit 7: Intelligence:

- Concept and Definition of Intelligence.
- Factors effecting Intelligence.
- Intelligent Age and Intelligent Quotient.



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Psychology for Nurses

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At the end of this lecture, learners will be able to:

1. Explain the introduction about Intelligence.
2. Describe the Types of Intelligence.
3. Explain the Factors Influencing Human Intelligence.
4. Understand the Intelligent Age and Intelligent Quotient.



- The concept of intelligence is one of the most elusive in the whole of psychology.



❑ Intelligence

❖ Introduction

- **Definition 1**: The ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought.
- **Definition 2:** The ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience.



Types of Intelligence

1. Linguistic Intelligence: “word smart”

➢ Capacity to use language, your native language, and perhaps other languages, to express what's on your mind and to understand other people Linguistic Intelligence traits.

➢ Linguistic intelligent is the sensitivity to the meanings and sounds of words and mastery of syntax: e.g. (Writers, poets, lawyers, and speakers).

2. Logical-Mathematical Intelligence "number/reasoning smart"

➢ The capacity to reason, calculate, recognize patterns, and handle logical thinking.

➢ Understanding of objects and symbols

➢ Logical-mathematical Intelligence traits: likes to count, likes to be organized, good at problem solving.

3. Spatial Intelligence “picture smart”

- The ability to represent the outer world internally in your mind.
- The capacity to perceive the visual world accurately and to perform transformations upon perceptions.
- It is the ability to re-create aspects of visual experience in the absence of physical stimuli.
- Spatial Intelligence Traits: likes art, drawing, sculpting, painting, good at reading maps, thinks in pictures, can visualize or imagine vividly.



4. Bodily-Kinesthetic Intelligence “body smart”

➢ The capacity to use your whole body or parts of your body: (your hands, your fingers, your arms), in highly skilled ways for expressive or goal-directed purposes (solve a problem or make something).

➢ Bodily-Kinesthetic Intelligence traits: good sense of balance, good sense of rhythm, is graceful in movements, good hand-eye coordination, can communicate ideas through gesture.

5. Musical Intelligence “music smart”

- Sensitivity to individual tones and phrases of music, an understanding of ways to combine tones and phrases into larger musical rhythms and structures, awareness of emotional aspects of music.
- Musical Intelligence traits: sensitive to sound patterns, has a good sense of pitch and rhythm, aware of complex structure of musical notes.

6. Interpersonal Intelligence “people smart”

- Ability to notice and make distinctions among the moods, temperaments, motivations, and intentions of other people and potentially to act on this knowledge.
- Interpersonal Intelligence traits: good at negotiating, enjoys company, gets on well with others, likes team work, sensitive to the feelings of others.

7. Intrapersonal Intelligence “self-smart”

- The ability to access, understand and communicate one's own inner feelings.
- ability to draw on one’s emotions to guide and understand one’s behavior, recognition of personal strengths and weaknesses
- Intrapersonal Intelligence traits: self-knowledge, deeply aware of one’s own feelings, good at following instincts, self-motivated.

8. Naturalist Intelligence “nature smart”

- The ability to see patterns in nature and work in natural environment
- Sensitivity and understanding of plants, animals, and other aspects of nature
- Naturalist Intelligence traits: feels at their best in nature, sensitive to ecology, sensitive to environmental and animal abuse.

Factors Influencing Human Intelligence

1. Genetics

- Heredity provided the physical body to be developed with certain inherent capabilities while environment provides for the maturation and training of the organism.

2. Human Health and physical development

- Physical and mental health is related to one's ability to engage in mental activity to the extent that an individual achieves success.
- Physical defects such as immaturity of brain cells sensory and physical handicaps interfere with observable intelligent behavior.

3. Gender

- Boys and girls tend to be equivalent in most aspects of intelligence.
- The average IQ scores of boys and girls is virtually identical.
- On the average, females seem to be stronger in verbal fluency, in writing, in perceptual speed (starting at age 2)
- On average, males tend to be stronger in visual-spatial processing, in science, and in mathematical problem solving (starting at age 3).
- Differences in intelligence are caused partially by environmental conditions.

4. Schooling (Attending Schools)

- Attending school makes individuals more intelligent
- Children from families of low socioeconomic state and those from families of high socioeconomic state make comparable improvements in school achievement during the school year

❑ **During summer break?**

➲ Children from families of low socioeconomic state have a drop in achievement scores

➲ Children from families of high socioeconomic state have achievement scores that stay constant or rise slightly.

❑ **Notes:**

- During the academic year -- schools provide children of all backgrounds with the same stimulating intellectual environment.
- Over the summer, children from low-SES families are less likely to have the kinds of experiences that would maintain their academic achievement.
- Going to school more days of the year --- better for achievement scores. Attending school increases IQ scores and specific academic skills (such as increased mastery of reading and math).

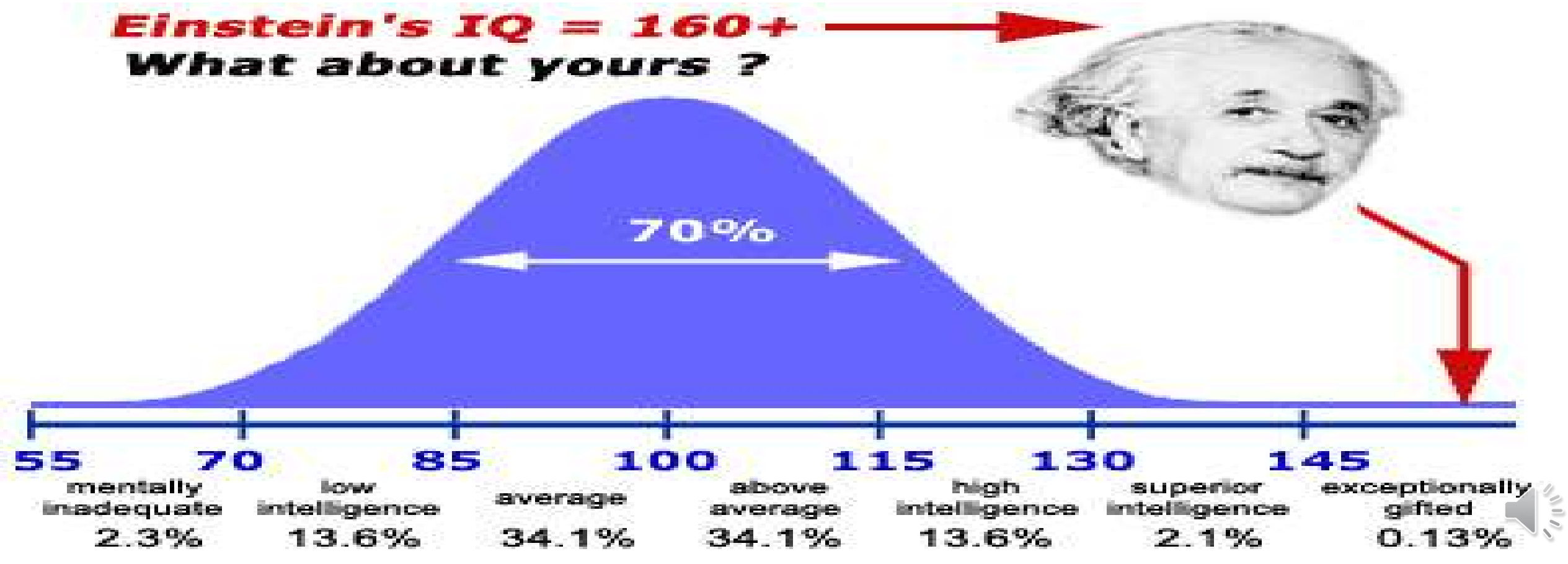


5. Poverty

- The more years children spend in poverty, the lower their IQs tend to be
- Children from lower economic state homes score 10-15 points below their middle-class age mates on IQ tests.
- Children from wealthier homes score better on IQ test than children from poorer homes.
- The greater the gap in wealth in a country the greater the difference in IQ scores.
- Inadequate diet for long-term period can disrupt brain development.
- Long-term or short-term inadequate diet at any point in life can impair immediate intellectual functioning

Intelligence Quotient (IQ)

- This measure is used to indicate a child's intelligence comparative to others of the same age.
- IQ tests measure an individual's probable performance in school and similar settings.



Frequently used test for IQ: The Wechsler Intelligence Scale

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

- Used with children 6 to 16.

B. Wechsler Adult Intelligence Scale-Third Edition (WAIS-III)

- Used with people 17 and older.



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

- **Each test is made of 12 parts**

- Each part begins with the simplest questions and progresses to increasingly difficult ones

- **Verbal Scale (6 parts)**

- General knowledge of the world and skill in using language

- **Performance Scale (6 parts)**

- Spatial and perceptual abilities



❖ Verbal IQ is based on:

➢ Information

- Measures a child's range of factual information
- Examples:

1. What day of the year is New Year Day?
2. How many wings does a bird have?
3. What is steam made of?



➢Similarities

- Measures a child's ability to categorize
- Examples:

1. In what way are wool and cotton alike?
2. In what way are a lion and a tiger alike?
3. In what way are a saw and a hammer alike?

➢Arithmetic

- Measures the ability to solve computational math problems
- Example: If I buy 250 dinars worth of chocolate and give the clerk 1300 dinars.

  How much I would get back in change?



➢ Vocabulary

- Measures the ability to define words
- Example: What does “telephone” mean?

➢ Comprehension

- Measures the ability to answer common sense questions
- Examples:

1. Why do people buy electrical heater?
2. What should you do if you see someone forget his book when he leaves a restaurant?
3. What is the advantage of keeping money in a bank?

➢ Digit Span

- Measures short-term auditory memory



❖ Performance IQ is based on:

➢ **Coding**

- Copying marks from a code; visual rote learning
- Example: TRIPPLE is written as SQHOOKD. How is DISPOSE written as code ?

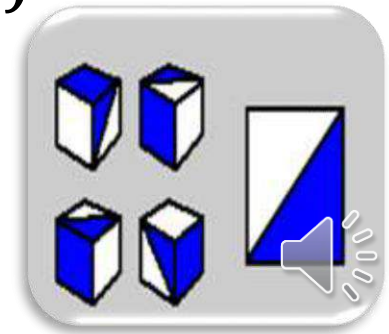
A. CHRONRDB **B.** DSOESPIC. **C.** ESJTPTFD. **D.** ESOPSIDE

➢ **Picture Completion**

- Telling what's missing in various pictures.
- Example: Children are shown a picture, such as a car with no wheels, and are asked: What part of the picture is missing?



- **Picture Arrangement**
  - Arranging pictures to tell a story
- **Block Design**
  - Arranging multi-colored blocks to match printed design
  - Example: Using the four blocks, make one just like this

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