
UNIT 5 INDIVIDUAL DIFFERENCES AND INTELLIGENCE*

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1.0 INTRODUCTION

Differences or variation is an inevitable part of our world. If you look around you can see innumerable variety of flowers, plants, trees, birds and animals. Humans too are no exception. Just like differences in their skin colour and features, human differ from each other at the behavioural level too. This variation in behaviours or individual differences makes the study of psychology worth.

However, psychologists are not unanimous regarding the cause of differences in behaviour among individuals. One can find numerous causes and theories related to individual differences in psychology textbooks. In this unit, we shall discuss the meaning of individual differences and see how intelligence plays a significant role in manifesting differences among individuals. We will also explore the concept of emotional intelligence and social intelligence in this unit.

5.1 OBJECTIVES

By the end of this Unit, you would be able to:

- Describe the concept and nature of individual differences;
- Explain the nature vs. nurture debate with reference to individual differences;
- Elucidate the different theoretical approaches explaining the concept of intelligence; and
- Discuss the concept of emotional intelligence and social intelligence.

5.2 CONCEPT AND NATURE OF INDIVIDUAL DIFFERENCES

Variation or difference is an inevitable aspect of all biological population of the Earth. Imagine if our Earth had only one type of tree, say only mango tree, or one type of animal everywhere or one type of flower everywhere. Then, how would the world look like? Boring, right? Similarly, imagine a world where every individual is similar to each other in thinking, attitudes, intelligence, social status, and personality (suppose all were extrovert only). Then again, it would become damn boring for us and especially for psychologists because we would not find anything interesting to study on. So, differences or diversity are a pervasive feature of this world and it is even more appealing for us (psychologist).

Now, what do you mean by “individual differences”? It refers to variation among individual with reference to a single or a number of characteristics. According to Plato, “No two persons are born exactly alike, but each differs from the other in natural endowments, one being suited for one occupation and the other for another”. Psychology studies “Individual differences in how we think, individual differences in how we feel, individual differences in what we want and what we need, individual differences in what we do. We study how people differ and we also study why people differ. We study individual differences” (Revelle, Wilt & Condon, 2011). Now the question is why we need to study individual differences. It is because it helps us in predicting and explaining the behaviour of the individual more accurately.

5.2.1 Nature vs. Nurture Debate in Individual Difference

Why some people are resilient and persistent in their efforts, while some others easily lose their motivational level and feel depressed? Why some are more intelligent than others? Why some people are more violent than others? Why siblings from the same family have a different aptitude and intelligence level?

To answer these and other similar questions, psychologists emphasize upon nature vs. nurture debate. This debate involves whether differences in human behaviour is the result of nature or nurture? Before moving forward, Let us see what exactly is nature or nurture?

- *Nature*: It refers to the genetic factors that we have inherited from our parents such as height or skin colour.
- *Nurture*: It refers to all those environmental factors that can impact us such

as rearing process, family socioeconomic conditions, social support or cultural factors.

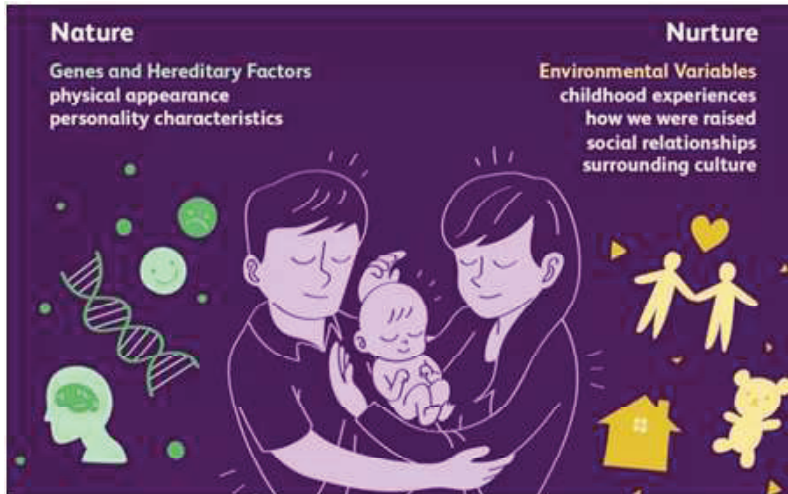


Fig.5.1: Nature vs. Nurture Debate

Source: <https://www.verywellmind.com>

The debate over the relative importance of hereditary vs. environmental factors is one of the oldest yet unresolved debates. People who believe that our behaviour is purely controlled by our hereditary factors are known as *nativists*. Those who support this view, regard differences in human behaviours as the result of different ‘genetic makeup’. Supporters of other end of this debate spectrum are known as *environmentalists* or *empiricists*. Advocates of this view believe that people differ from each other due to their experiences or environmental conditions. One of the well-known and prominent supporters of this view is John Locke. He equated human mind to *tabula rasa*-a blank slate, which gradually fills with our life experience. Following diagram suggest the nativists vs. empiricists take by different approaches of psychology:

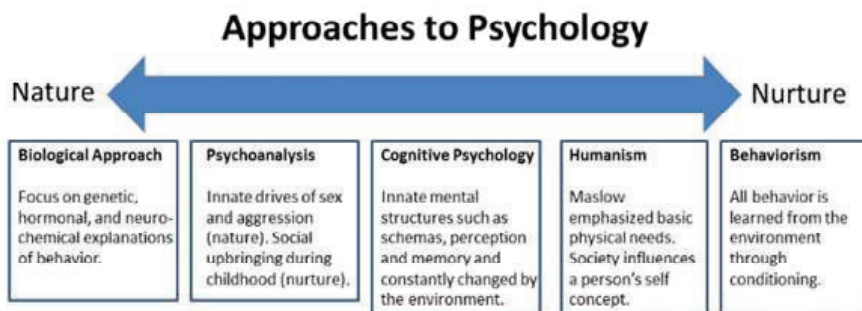


Fig.5.2: Nativists vs. Empiricists Take by Different Approaches of Psychology

Source: <https://www.simplypsychology.org>

However, contemporary view on this debate suggests that defending any extreme side would be a catastrophe in explaining human behaviour and differences among them. Recently, many studies have suggested that both genetic and environmental factors play a vital role in shaping our behaviour. For example, height as a physical trait has been found to be influenced by both genetic and environmental factors. If parents of a child are tall and if he may have inherited these genes for tall height then whether he will also be tall or not depends on received nourishment. If he had not received proper nourishment then his genes of tall height would not

manifest and he will remain shorter than his parents. You will also find many examples of nature-nurture interaction in your textbooks on abnormal psychology or psychopathology, where the roots of all mental disorders have been explained with the help of both genetic predisposition and environmental factors.

5.3 DEFINITION OF INTELLIGENCE

Intelligence is a hypothetical construct, which refers to a higher level of abstract thought processes. “Intelligence”, has always been a topic of discussion among social scientists and philosophers. But defining it in the most appropriate way has always been a challenge for psychologists. In 1986, a symposium was organised by Sternberg and Detterman to define intelligence, however unable to define it, this symposium described intelligence as “a quality of adaptive behaviour (Anastasi), as the end product of development in the cognitive-psychological domain, as a societal concept that operates in several domains - academic, technical, social, and practical (Carroll), as error-free transmission of information through the cortex (Eysenck), as acquired proficiency (Glaser), as mental self-government (Sternberg)” (Fogarty,1999). Alferd Binet (1905), the first psychologist who developed standardised intelligence test, defined intelligence as, “the ability to judge well, understand well, and reason well.” As per Wechsler (1944), “Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his/her environment.” After having a discussion on the definition of intelligence, let us move to some prominent theories of intelligence.

5.4 THEORIES OF INTELLIGENCE

5.4.1 Spearman Theory of Intelligence

Charles Spearman’s theory of intelligence is known as the two-factor theory. Spearman noticed that children who perform well in one subject tend to have good marks in other subjects also. This observation led him to propose that there is a common factor which affect all of your activities. Using a statistical method called as “factor analysis”, he proposed that all cognitive activity or mental activity consist of two factors namely, “general” or “g” factor and “specific” or “s” factor. So, your intelligence is a sum of “g” factor and “s” factor. The “g” factor affects all kind of mental activities whereas; “s” factor influences your performance on specific or particular mental activity. Further, “g” factor is innate, and constant throughout one’s life, present in all cognitive activities. Whereas “s” factor is learned and varies with the task within the same individual, one can have many “s” factors and, it is associated with the only specific task. People who are high on “g” factor are more intelligent than others. One’s overall score on an intelligence test represents “g” factor.

5.4.2 Thurstone Theory of Intelligence

Thurstone criticised Spearman’s theory of intelligence by suggesting that there is no “g” factor. Instead, intelligence consists of a group of primary mental abilities (PMA). There are basically seven PMA and all are independent of each other. Details of these PMA are:

- i) *Word Fluency*: Ability to think or use words rapidly, such as in the task of anagrams.
- ii) *Verbal Comprehension*: Ability to understand the meaning of the word, concept or ideas correctly. Vocabulary tests can assess verbal comprehension.
- iii) *Spatial Ability* : Ability to manipulate patterns and forms of objects in space visually.
- iv) *Perceptual Speed*: Tendency to perceive details quickly in every stimulus accurately.
- v) *Numerical Ability*: One's ability to solve a numerical problem quickly and accurately.
- vi) *Inductive Reasoning*: Ability to observe facts and making a general rule out of it.
- vii) *Memory* : Ability to memorise and recall quickly and accurately.

5.4.3 Sternberg Theory of Intelligence

Robert Sternberg (1984) proposed 'Triarchic Theory of Intelligence'. As the name suggests, there are three forms of intelligence, namely, Componential, Experiential, and Contextual.

Componential intelligence is also known as analytical intelligence and is measured by a traditional intelligence test. People high on this form of intelligence, often score high on traditional IQ tests. Such individuals have highly critical and analytical abilities and usually perform well in academic tasks and school. They are also good at mathematical and verbal skills.

Experiential intelligence or creative intelligence is the ability to develop novel ideas or solutions. People high on this intelligence are creative. They have the ability to use previous experiences in making new inventions.

Contextual intelligence or practical intelligence refers to the ability to adapt to the environment or situational demands. It involves applying knowledge and information to your real world and thus adapting successfully to the situation. Here, adaptation involves both adapting to your existing environment and/or ability to modify your environment to fulfill your needs. People who are high on this intelligence are street smart and often successful in their life.

5.4.4 Gardner Theory of Intelligence

Gardner refuted the classic view of intelligence as a capacity for logical reasoning. He proposed that there is no one form of intelligence but a number of intelligence work together. According to him, intelligence is the "ability to solve problems or fashion products that are of consequence in a particular cultural setting or community" (1993). Initially, he proposed seven distinct types of intelligence namely,

- 1) *Linguistic*: People who are high on this type of intelligence have good linguistic abilities i.e., they can easily articulate and express their thoughts by choosing the most appropriate words. They can easily play with the words. Poets and writers have a higher level of linguistic abilities.
- 2) *Musical*: People high on this are knowledgeable and sensitive to music. They can manipulate musical pattern to create different music. People

carrying this intelligence are good singers, play musical instruments and are good music composers.

- 3) *Logical-mathematical*: This involves having the ability to think critically and work on abstract problems. Such people have a scientific aptitude and are good with numbers and abstract problems. Scientists have a higher level of this intelligence.
- 4) *Spatial*: This intelligence is related to one's ability to manipulate and use visual images or mental images. Navigators, pilots, architects and painters have this intelligence.
- 5) *Bodily-kinesthetic*: It is the ability to control and train your body or part of it for construction of products and problem-solving. People serving in the military, intelligence agencies, sports person, actors and, dancers have higher levels of bodily-kinesthetic intelligence.
- 6) *Intrapersonal*: People who are aware of one's own feelings, emotions, needs, and motives are having with level of intrapersonal intelligence. Philosophers and spiritual leaders are high on intrapersonal intelligence.
- 7) *Interpersonal*: Your ability to understand other person's behavior, motive, and feelings. People high on this intelligence use their understanding of other people to develop a comfortable bond with other people. Counselors, politicians, teachers, social workers are high on interpersonal intelligence.

Later, he added another type of intelligence; (8) *Naturalist*: It refers to being sensitive to different features of nature. The individual who are highly naturalist, have compassion for nature and are usually nature lovers. Hunters, wild lifers, botanists possess a higher level of this intelligence.

Each individual has a unique combination of these seven types of intelligence, which explains the individual difference. Gardner and his colleagues proposed that the typical paper-pencil tests for intelligence do not measure many aspects of intelligence such as interpersonal ability. Many students performed poorly on the intelligence test but become great leaders because of their refined interpersonal qualities. Suggesting, that the intelligence is more than your mathematical, verbal and analytical abilities, measured by the traditional intelligence test.

Self Assessment Questions (SAQ I)

Fill in the Blanks:

- 1) refers to variation among individual with reference to a single or a number of characteristics.
- 2) is a hypothetical construct, which refers to a higher level of abstract thought processes.
- 3) The Gardner's theory states that each individual has a unique combination of, which explains the individual difference.
- 4) Robert Sternberg (1984) proposed the theory of intelligence.
- 5) theory of intelligence is known as the two-factor theory.

5.5 ASSESSMENT OF INTELLIGENCE

Alfred Binet and Theodore Simon were attributed with the first attempt to measure intelligence scientifically. In 1905, they developed first intelligence test known as Binet-Simon Intelligence Scale Later in 1908 they coined a term –*Mental Age (MA)* to measure the intellectual ability of a person in comparison to his or her fellow age group. Whereas, Chronological Age (CA) refers to a person’s biological age. According to Binet, if a child has MA more than his CA, then he/she will be classified as bright. If the child scores MA below than his/her or CA, then he/she should be identified as mentally retarded.

In 1912, William Stern came with the concept called *Intelligent Quotient (IQ)*. It is derived by dividing MA with CA and multiplying the result with 100.

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

If MA equals CA, then your IQ will be 100. If your MA was less than CA, then your IQ will be less than 100.

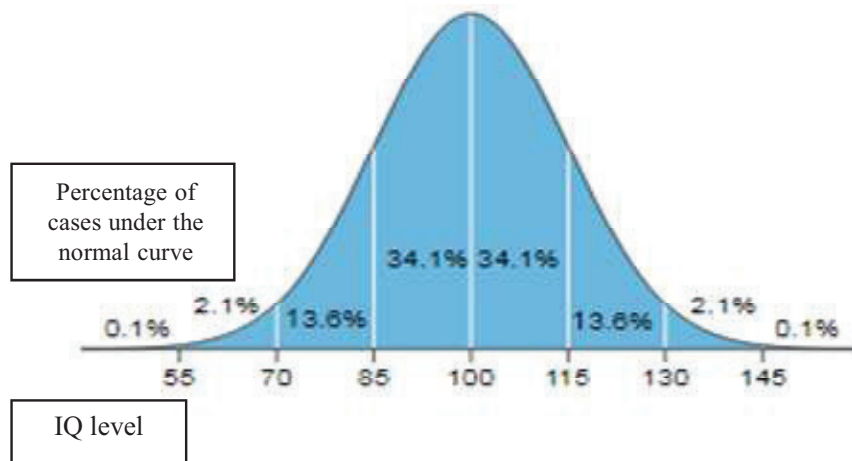


Fig.5.3: Normalised Distribution of IQ with the Mean of 100 and Stranded Deviation 15

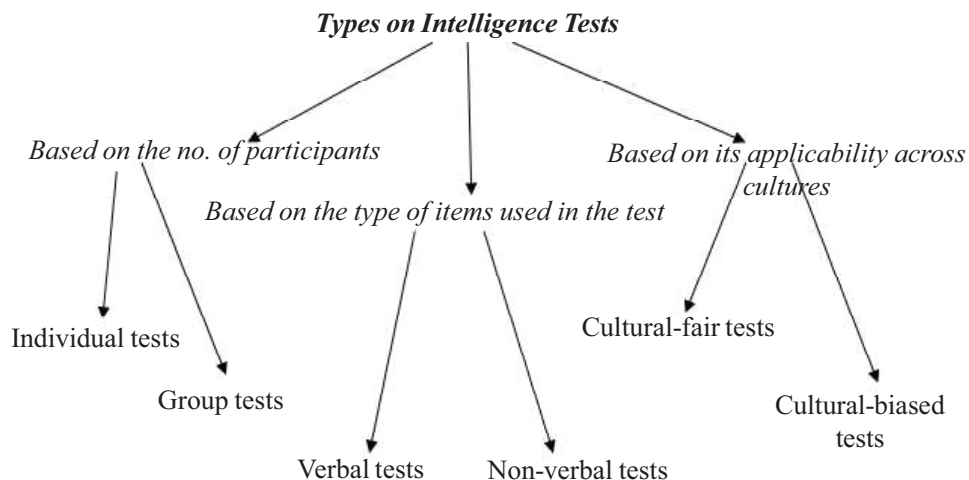
Source: <https://commons.wikimedia.org>

In this normal distribution following scores suggest different types of intellectual abilities:

IQ Range	Descriptive Label
Above 130	Very Superior Intelligence (gifted)
120 to 129	Superior Intelligence
110 to 119	High Average Intelligence
90 to 109	Average Intelligence
80 to 89	Low Average Intelligence
71 to 79	Borderline Intellectual Functioning
55 to 70	Mild Mental Retardation
40 to 54	Moderate Retardation
25 to 39	Severe Mental Retardation
Below 25	Profound Mental Retardation

5.5.1 Types of Intelligence Tests

Intelligence test has been classified based on a number of criteria such as based on the number of participants who can attempt the test, based on items used in the test and whether the test can be used across different cultures or not. Following is the diagram of the classification of intelligence tests:



5.5.1.1 Individual and Group Intelligence Tests

5.5.1.1.1 Individual Tests

An individual test is one that can be administered to one individual at a time. There are many standardised individual tests such as The Kaufman Scales, Stanford-Binet Scale and Wechsler Intelligence Scales. Let us discuss about the two most famous intelligence tests i.e., Stanford - Binet Test and Wechsler Intelligence Tests.

Stanford-Binet Scale (SBS) of Intelligence

As you already know this was the first intelligence test, developed by Binet and Simon (1905), it is one of the popular intelligence tests among psychologists. Later, this test was revised and adapted by an American psychologist – Lewis M. Terman who was working at Stanford University. After validating it on the American population, he renamed the original scale as “Stanford-Binet Scale”. In 2003, the fifth version of the Stanford-Binet Scale (SB5) was introduced with 10 subtests measuring following five factors:

- Fluid reasoning
- Knowledge
- Quantitative Reasoning
- Visual-Spatial Processing
- Working Memory

Other than scores with reference to these five factors the scale gives three IQ scores (Full score IQ, Verbal IQ, and Nonverbal IQ), as well. The SBS can be used for age of 2 years to 85 years old individuals. On American sample of 4800 individuals, the reliability of the three IQ scores was found to be in the .90s and that of the subtests it ranged from 70 to .85 (Roid, 2002).

The Wechsler Scales

The Wechsler scales were developed by Dr. David Wechsler. He developed three scales; for adults, for school-age children, and one for preschool children. All three of his tests contain several subtests from verbal as well as nonverbal domain and they can measure intelligence and cognitive abilities. He developed his first test (Wechsler- Bellevue scale) in 1939 when he was working in Bellevue hospital.

He devised a new formula for calculating IQ from his scales. As we know the usual formula of IQ is,

$$\text{IQ} = \text{Mental Age} / \text{Chronological Age}$$

According to Wechsler,

$$\text{IQ} = \text{Attained or Actual Score} / \text{Expected Mean score for Age}$$

Do You Know?



Fig.5.4: David Wechsler

Source: <https://wechsleriqtest.com/#>

Wechsler was a Romanian-American psychologist who was born on Jan 12, 1896, in Romania. His family relocated to the states in New York when he was just a boy. He earned a Master's Degree from Columbia University in 1917. By 1925, his further delve into education and earned him a Ph.D. It was Robert S. Woodworth that first took a chance on the young psychologist. Woodworth was a big shot in the United States Army, and he was overwhelmed by the number of soldiers that were experiencing mental issues after the war. Working alongside Charles Spearman and Karl Pearson, Wechsler was to develop a test to help the army screen new draftees. However, things took a very different turn.

Wechsler dedicated himself to the study of memory loss in soldiers from WWI. His curiosity built a foundation to test the very intelligence of his patients. Studying the brain was a fascinating undertaking, so he expanded his test to include children. He felt the very formation of the intellect could help him resolve the current problems with memory loss.

What he found was mind-blowing. The IQ of a person is directly predisposed to the atmosphere in which they live. Biological and environmental influences can dictate a person's intellect. Wechsler knew that many factors affected intelligence and cognitive ability, but he also found that persistence had a sizable effect too. He realized that one test would not accommodate all age groups, so he developed a series that would be used for all ages.

Source: Wechsler IQ Test website <https://wechsleriqtest.com/#>

There are basically three versions of Wechsler's intelligence scale:

- *WPPSI – Wechsler Pre-School & Primary Scale of Intelligence*: This scale can be conducted on children from 2 years and 6 months to 7 years and 7 months. It was introduced in 1967 and originally designed for children between 4 years and 6.5 years old. It consists of 14 subtests measuring three indexes viz., verbal, performance and full-scale IQ. Currently, it is in fourth revision as WPPSI-IV.
- *WISC – Wechsler Intelligence Scale for Children*: This test can be conducted on children from 6 to 16 years old. This test was developed from the Wechsler-Bellevue Intelligence Scale and was first introduced in 1949. This test is often used in schools and other educational steps with the aim to identify gifted children as well as children with learning difficulties. The most recent version of the test is the WISC-V, which was released in 2014.
- *WAIS – Wechsler Adult Intelligence Scale*: This test covers teenagers from 16 years of age to adulthood. The current version of the test is the WAIS-IV which was launched in 2008.

5.5.1.1.2 Group Tests

A group test is one that can be administered to more than one person at the same time. There are many intelligence tests which can be considered as group tests such as Multidimensional Aptitude Battery (MAB; Jackson, 1984), Cognitive Abilities Test (Lohman & Hagen, 2001), Culture Fair Intelligence Test (1940) and, Raven's Progressive Matrices (1938,1992). As an example, we will discuss only Raven's Progressive Matrices briefly.

Raven's Progressive Matrices (RPM)

Raven's Progressive Matrices (RPM) was developed by John C. Raven in 1938. It is a non-verbal test of inductive reasoning, designed to measure fluid intelligence. It consist of 60 multiple choice items; it can be administered on children from 5years-old to the elderly. The test contains visual geometric designs with a missing piece and the task of the test taker is to choose the missing part of the matrix from six to eight given alternatives. Raven constructed three different forms of tests: Standard Progressive Matrices, Coloured Progressive Matrices and Advanced Progressive Matrices.

5.5.1.2 Verbal and Nonverbal Tests

5.5.1.2.1 Verbal Tests

Verbal intelligence is the ability to use and solve problems using language-based reasoning. Verbal tests are those which require the use of language for successful performance in it. Verbal intelligence is the ability to comprehend and solve language-based problems. Initially, approximately all intelligence tests were based on language only but later it was realised that such tests are of no use for people who were illiterate, young children who haven't acquired the language abilities fully and people with speech difficulties. To overcome the limitation of these verbal tests, many psychologists came up with a number of non-verbal intelligence tests. Moreover, many verbal standardised tests such as Wechsler scales and Kaufman scales now also have some non-verbal test components.

5.5.1.2.2 Non-Verbal Tests

A nonverbal test of intelligence measures one's ability to analyze visual information and solve problems without necessarily using words. Nonverbal tests are also known as performance tests as they generally require a construction of certain patterns. Some of the famous nonverbal tests are Koh's Block Design Test, Cube Construction Tests, and Pass along Tests. Raven's Progressive Matrices (1938, 1986, 1992, 1995) is also a well-known nonverbal intelligence test which has been discussed in the previous section.

5.5.1.3 Culture Fair Tests and Cultural Biased Tests

5.5.1.3.1 Culture-Fair Tests

Every culture is unique in terms of their values, language, expectations, demands and environmental experiences. A child reared in America will be very different in many respects with a child brought-up in Indian sub-urban area. Due to this reason, in order to assess individual belonging to different cultures psychologists came up with tests which are free from any cultural biases. Some of the famous culture-fair tests are. The Culture Fair Test (Cattell, 1940), Raven's Progressive Matrices (Raven, 1938, 1986, 1995), The Leiter International Performance Scale-Revised (Roid & Miller, 1997) and Draw-a-Man Test (Goodenough, 1926). All these and other culturally faired tests are non-verbal in nature. Now we will discuss an example of culture-fair intelligence test-Draw-a-Man test (Goodenough, 1926).

Draw-a-Man Test

This test was developed by Goodenough (1926) initially. Later it was revised by Goodenough and Harris in 1963 known as Goodenough-Harris Drawing Test. Based on the projective technique, this test requires a test taker (children only) to make three pictures on three separate papers. They are asked to draw a man, women and themselves without giving any further instructions. Interestingly, instead of artistic skill, emphasize is given upon the child's ability to observe accurately and think conceptually.

5.5.1.3.2 Cultural Biased Tests

Many psychologists have attempted to develop culture-fair intelligence tests by making it non-verbal in nature. However, it was realized that the impact of culture cannot be eliminated completely from these tests even after making it nonverbal completely. Due to this reason, only the term 'culture fair' is used in place of 'culture free' tests.

5.6 EMOTIONAL AND SOCIAL INTELLIGENCE

5.6.1 Emotional Intelligence

The traditional intelligence test could measure only the cognitive aspect of one's mental ability, but many psychologists like Gardner (1983) proposed that there are many forms of non-cognitive intelligence that affect our behaviour. He further noted that one's intelligence quotient or IQ cannot explain cognitive ability fully. In the early 1990's, John Mayer and Peter Salovey introduced and defined one of the most important non-cognitive intelligence: Emotional Intelligence (EI). In the *Handbook of Intelligence (2000)* they defined emotional intelligence (EI)

as “*the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others*” (Mayer, Salovey, & Caruso, 2000, p. 396; see also Mayer & Salovey, 1997). Although Mayer and Salovey were responsible for introducing this term (EI) to the world of psychology it was Goleman’s (1995) bestselling book *Emotional Intelligence: Why it can matter more than IQ*, which made this term a common currency.

Mayer and Salovey proposed *an integrative model approach* to EI. According to them, EI comprised of the following four abilities:

- 1) Perceiving and expressing emotions- it is the ability to identify and express emotions in one’s and other’s physical state, feeling and thoughts.
- 2) Assimilating emotion in thoughts- the ability to use emotions to facilitate cognitive activities like thinking and problem-solving.
- 3) Understanding and analyzing emotions- ability to understand the language of emotion.
- 4) Regulation of emotions- the ability to regulate one’s and other’s emotions to achieve greater goals.

Whereas, according to Goleman’ model, EI comprised of the following five abilities:

- 1) Knowing one’s emotions,
- 2) Managing emotions,
- 3) Motivating oneself,
- 4) Recognizing emotions in others, and
- 5) Handling relationships.

5.6.2 Social Intelligence

The second type of non-cognitive intelligence is known as Social Intelligence (SI). Thorndike (1920) was the first psychologist to use this term to describe the skill of understanding and managing other people wisely. Goleman has defined SI as ‘being intelligent not just *about* our relationships but also *in* them’. According to Mayer and Salovey, emotional intelligence is a part of social intelligence. Due to this reason, Bar-on (2006) has proposed that these two terms are related to each other and may represent the component of the same construct. He further pointed out that in his theory of intelligence; Gardner’s (1983) conceptualisation of *personal intelligence* is also a combination of intrapersonal (emotional) intelligence and interpersonal (social) intelligence. Based on above assertions, he pointed out that it would be more accurate to club these two terms (SI and EI) into one construct. He named this new construct as “*emotional-social intelligence*” or “*ESP*”. According to Bar-On model, “*emotional-social intelligence is a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands*”.

Self Assessment Questions (SAQ II)

State whether the following statements are “True” or “False” :

- 1) Social intelligence is a type of cognitive intelligence. ()
- 2) Mayer and Salovey proposed an integrative model approach to EI. ()
- 3) Non verbal intelligence is the ability to use and solve problems using language-based reasoning. ()
- 4) Every culture is unique in terms of their values, language, expectations, demands and environmental experiences. ()
- 5) The first intelligence test was developed by Binet and Simon in 1905. ()

5.7 LET US SUM UP

In this Unit, we learned about the concept of individual difference and its relevance with reference to intelligence. We discussed how nature and nurture interact and plays important role in causing individual differences. To explain intelligence, we discussed Spearman’s, Thurstone’s, Sternberg’s and Gardner’s Theory of Intelligence in-depth. Then we discussed the classification of intelligence test and different methods to measure it. Lastly, other forms of intelligence such as emotional intelligence and social intelligence were also covered in this Unit.

5.8 UNIT END QUESTIONS

- 1) Explain the concept of individual differences and write a note on nature vs. Nurture debate in this context.
- 2) What is Spearman theory of intelligence? Compare it critically with Sternberg’s theory of intelligence.
- 3) Write a short note on Gardner’s and Thurstone’s theory of intelligence.
- 4) Define IQ, mental age and chronological age.
- 5) Write a note on the different types of intelligence tests available to a psychologist?

5.9 GLOSSARY

- G-factor** : Known as ‘general-factor’, this is an innate cognitive activity that influences all other kinds of mental activities. It remains constant throughout one’s life.
- S-factor** : Known as ‘specific-factor’. It represents our performance on a specific or particular mental activity. It is learned and one can have many s-factors. If we put all the s-factors together, it will give us our g-factor.
- Mental age** : It is a measure of a person’s intellectual development relative to people of his/her age group.
- IQ** : It stands for Intelligence Quotient. It measures an individual’s cognitive ability in relation to other people of the same age group.

- Wechsler Scales** : It is a group of tests developed primarily by David Wechsler. It measures intelligence.
- Culture Fair Intelligence Test** : Those tests that measure non-verbal intelligence with the aim of minimizing cultural effect or biases.
- Verbal Intelligence** : It is the ability to comprehend and solve language-based problems such as verbal analogies.
- Nonverbal Tests of Intelligence** : It taps the ability to analyze visual information and solve problems without necessarily using words. The tasks may involve the ability to recognize visual sequences, understand and recognize the relationships between visual concepts and situations, as well as perform visual analogies.

5.10 ANSWERS TO SELF ASSESSMENT QUESTIONS

Self Assessment Question I

- 1) Individual differences
- 2) Intelligence
- 3) seven types of intelligence
- 4) Triarchic
- 5) Charles Spearman's

Self Assessment Question II

- 1) False
- 2) True
- 3) False
- 4) True
- 5) True

5.11 REFERENCES AND SUGGESTED READINGS

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