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## INDIVIDUAL DIFFERENCES

It is often said that no two individuals are exact duplicates; they differ from each other in some way or the other. Hence the job of the psychologist is to identify and understand this uniqueness in individuals. Such a similarity or difference between persons reveals individual differences. It happens in our day-to-day life when we see people around us. A question comes to mind; how and why people appear similar or different to each other? For example when we think about their physical appearance, we often ask ourselves why some people have dark or fair complexion, why some people are tall and some are short, why some are thin and why some are very fat. When we think about their psychological characteristics we often come across people who are very talkative or less talkative, some laugh too much whereas others take much time even to smile, some are very friendly whereas some prefer to be alone. The present lesson tries to answer all such queries which can bother us in our everyday life. In psychology, these are called **individual differences** referring to the extent and kind of variations or similarities among people on some of the important psychological aspects such as intelligence, personality, interest, and aptitude. This lesson will also help us understand how to assess such similarities or variations among individuals.



### OBJECTIVES

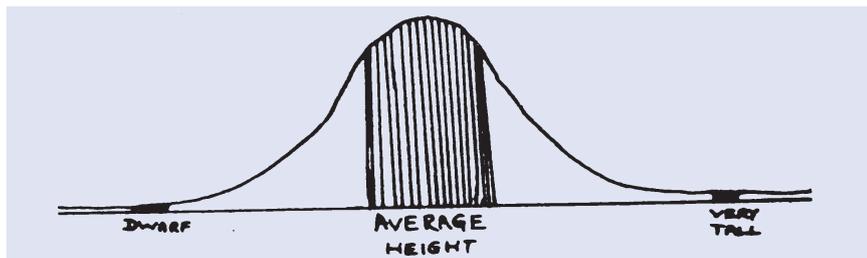
After studying this lesson, you will be able to:

- describe the nature of individual differences;
- understand how to assess individual differences;
- discuss the nature and definition of intelligence and tools to measure it;
- explain the nature and definition of aptitude and tools to measure it;
- explain interest and tools to measure interest; and
- discuss the nature of personality and describe the different techniques used in personality assessment.



### 3.1 NATURE OF INDIVIDUAL DIFFERENCES

It has been observed that if we collect information about people's characteristics from a large sample and examine the pattern of distribution (as shown in Fig.-3.1) we find that a large majority of the people fall in the middle range while a small proportion lies in extreme categories. For example, most of the people fall in the category of average height and very few are very tall or very short. This holds true for many more characteristics including intelligence and other psychological attributes.



**Fig. 3.1 Distribution of height of a large sample of persons**

The fact that people are different from each other is a very common observation. The differences in psychological characteristics are often consistent and form a stable pattern. By 'consistent', we mean that people tend to show regularity in their behaviour and their patterns of behaviour do not change very frequently. This consistency and stability in behaviour is unique to every person. People develop their unique traits/characteristics and patterns of behaviour due to their genetic make up and the environment in which they are brought up. Once we know these differences systematically we can utilize the capabilities of people efficiently for their healthy development. Knowing about the specific characteristics of a person is necessary in order to extend support and utilize his or her potential to optimal level.

Individual differences occur due to interaction of genetic and environmental factors. We inherit certain characteristics from our parents through genetic codes. The phenotype or the expressed forms of our characteristics depend on contributions of the socio-cultural environment. This is the reason why we are not exactly like our parents and our parents not exactly like our grandparents. We do share similarities with our parents in respect of many physical attributes like height, colour of eyes, shape of nose etc. We also inherit certain cognitive, emotional and other characteristics from our parents like intellectual competence, love for sport, creativity etc. However, our own characteristics develop largely by the support from the environment which we inhabit.

The environment is responsible as how we are reared, the kind of atmosphere at house, whether it is liberal or strict, the type of education that we get, what we learn from people, around us, books, cultural practices, peers, teachers and media. All these aspects refer to 'environment' which help in developing our potentials.



Environment, by providing models and other opportunities, helps us develop many traits and skills. Our inheritance alone cannot decide what we become but our environment also contributes. We know the example of Dr. Babasaheb Ambedkar, who was born in a very poor family but, with the right education and environment, became a great lawyer and also designed the Constitution of India. The latest and most well known example would be of our former President Dr. A.P.J. Abdul Kalam. You can also remember many such examples, who did not become great because of inheritance but because of the environment. Now you know that our genetic codes vary. At the same time, surrounding environment also differs from person to person. It sets limits or defines a range by offering different opportunities. That is why the pattern of development of each of us is different from others. It makes us think why we are similar in certain ways and different in others.

**INTEXT QUESTIONS 3.1**

1. Explain the term 'individual differences'.

**3.2 ASSESSING INDIVIDUAL DIFFERENCES**

Psychological assessment refers to the use of specific procedures for evaluating personal qualities, behaviours and abilities of individuals. These procedures describe people by specifying how they are different from or similar to other individuals. Such assessments are frequently done by most of us when we make judgments such as 'nice', 'good', 'bad', 'attractive', 'ugly', 'genius' and 'idiot' etc. Such judgments can be erroneous many times. Scientific psychology tries to systematize these procedures so that assessment can be made with minimum error and maximum accuracy. Psychologists have developed 'tests' to assess these characteristics. A psychological test is a structured technique used to generate a carefully selected sample of behaviour.

In order to be useful for the purpose of drawing inferences about the person being tested, it is necessary that the test should be reliable, valid and standardized. A test is reliable if it measures a given characteristic consistently. For instance, if you assess something the scores on separate occasions should be more or less similar. Thus a person, if found to be of average intelligence on one occasion should also appear of average intelligence if tested after two weeks. If a test tells two different values while assessing the object on two occasions then it will be called unreliable. A test of intelligence can be called reliable only when a person scores high or low consistently on both the occasions. A good test is found to have high reliability.

The validity of a test refers to the degree to which it assesses what it intends to assess. A valid test of personality gives a measure of a person's personality and predicts behaviour in situations where that aspect of personality is pertinent.



Finally, in order to be useful, an assessment tool should be standardized. Standardization involves establishing the procedure of administration of a test to all persons in the same way under the same conditions. It also involves establishing group norms so that an individual's score can be compared with those of others in a defined group. It is very important because a test score is only a relative score. It does not provide an absolute value as found in physical measurement. Standardization ensures uniformity and objectivity in administration and makes the results interpretable.

Psychologists have developed tests to measure different human characteristics. In schools, we use achievement tests which measure what people have learnt. Psychologists frequently use tests of ability and personality. The tests of ability tell what an individual can do when he or she is at his/her best. Ability tests measure capacity as potential rather than achievement. Tests of intelligence and aptitude come under this category. Aptitude refers to the ability to learn a particular kind of skill required in a specific situation. Personality tests measure the characteristic ways of thinking, feeling or behaving.



### INTEXT QUESTIONS 3.2

1. Define psychological assessment. Explain the need for psychological assessment.

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2. Discuss in brief the main properties of a psychological test.

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## 3.3 NATURE OF INTELLIGENCE AND ITS ASSESSMENT

You often come across the term intelligence in everyday life. We generally use this term whenever we find somebody doing something very good which goes beyond our expectation. Intelligence is one of the psychological terms used quite frequently in various settings (e.g. school). Who can be called 'Intelligent'? The one who gets highest marks in exams? That person who earns many educational degrees? Is the doctor more intelligent, or the engineer or the lawyer or the artist? One may answer these questions in different ways depending on the meaning of intelligence. Intelligence is much more than getting degrees. Intelligence refers to "multifaceted abilities of people". It gets expressed in many ways. It comes in many forms. Some people are good in studies, some are good in repairing machines, some are good in acting and some are great in sports. People are very good in one subject and average in some other. The most important thing is that 'intelligence' is 'functional'. It is 'used' to do something and to achieve something.



In psychology, the term intelligence has been defined in many ways. One of the earliest definitions of intelligence was given by Binet and Simon in 1905 who defined it as the “*ability to judge well, to understand well, and to reason well*”. One of the most popular definitions of intelligence was given by Wechsler who defined it as “*the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with the environment*”.

Gardner defined intelligence as “*the ability or skill to solve problems or to fashion products which are valued within one or more cultural settings*”. He used the term ‘Multiple Intelligences’ and advocated that there are eight types of intelligences such as *Linguistic, Logical-mathematical, Spatial, Musical, Bodily-kinaesthetic, Interpersonal, Intrapersonal, and Naturalistic*.

Though the first attempt to measure intelligence was made by Sir Francis Galton a more systematic approach was developed by Alfred Binet, a French Psychologist. In 1905, Binet gave the concept of Mental Age (MA) which refers to an individual’s level of mental development relative to the environment in which he/she lives. The term Intelligence Quotient (IQ) was first devised by William Stern, a German psychologist, in 1912. IQ is defined as mental age divided by chronological age, and multiplied by 100:  $(IQ = MA/CA \times 100)$ . For example if the mental of a child is 12 and his/her Chronological age is 8 then the IQ of the child would be 150. The intelligence test developed by Binet was revised subsequently and in 1916 the test was given the name of Stanford - Binet test of intelligence. One of the most popular and widely used tests of intelligence is Wechsler Scales of Intelligence. These scales have been designed for individuals of different age groups such as Wechsler Adult Intelligence Scale (WAIS) for adults and Wechsler Intelligence Scale for Children (WISC) for children between the age of 6 and 16 years.

Intelligence tests are of two kinds Individual test and Group test. An individual test of intelligence can be administered to a single individual at a given time whereas a group test is administered to more than one individual at a time. On the basis of nature of items, intelligence tests are Verbal, Non-verbal, and Performance Tests. A verbal test requires understanding of written words. Hence it can be administered to literate individuals only. In non-verbal test, pictures or illustrations are used as item of the test. Performance tests are made up of certain concrete tasks. Both non-verbal and performance tests can be administered to literate and illiterate individuals.



**INTEXT QUESTIONS 3.3**

1. What do you understand by the term intelligence?

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2. What is IQ?

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### 3.4 APTITUDES AND INTERESTS, AND THEIR ASSESSMENT

You may have come across people who are very proficient in one task but not that much in another task. Some of your friends may be very good in mathematics but very poor in social science. Such people possess special abilities or characteristics in a particular field but relatively low in other field. In psychology, this is called aptitude. An aptitude is a combination of characteristics that indicates an individual's capacity to acquire some specific knowledge or skill, after training. These qualities can be harnessed by appropriate training. In other words, if a person does not have the special abilities required to become a musician, such as discrimination between pitch, tone, rhythm, and other aspects of musical sensitivity, he/she would not be a good musician, even after sufficient training.

There are salient differences between intelligence, aptitude, and achievement. Intelligence relates to the ability of a person to do certain thing at a given time. Aptitude refers to the potential ability of an individual to perform a task, which generally consists of a combination of abilities. Achievement involves performance at any given point of time in a particular subject (e.g. mathematics) with which you have been made familiar.

Aptitude tests are used for predicting success in a vocation such as clerical aptitude, mechanical aptitude, musical aptitude, typing aptitude, etc. Each of these tests usually contains a number of sub-tests. Several multiple aptitude test batteries have been developed to assess aptitude, such as Differential Aptitude Test (DAT), the General Aptitude Test Battery (GATB), and the Armed Services Vocational Aptitude Battery (ASVAB).

Psychologists have constructed a number of tests to measure interest for children and adults. There are vocational interest tests which help identify the interest of a person in particular vocational areas. There are also general interest inventories. Vocational interest tests are paper-pencil tests that assess a person's interest and match them with success in various occupations.



#### INTEXT QUESTIONS 3.4

1. Define aptitude.  
\_\_\_\_\_
2. What do you understand by aptitude batteries?  
\_\_\_\_\_

### 3.5 NATURE OF PERSONALITY

We all use the term 'personality' in day-to-day life. In psychology personality is thought as a person's unique and relatively stable behaviour pattern which remains consistent across situations and over a period of time.



The term personality has been defined in diverse ways. Allport in 1937 gave a very popular definition of personality which is still referred to by scholars. According to him “*personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment*”.

Psychologists have approached personality from different perspectives. Each of these perspectives explains some aspects of personality. Now let us study in brief about some of these perspectives:

- I) **The trait perspective** tries to describe personality in terms of various traits. Some times the traits are grouped into clusters. These clusters are called “types”. For instance introversion and extraversion are two types of personality traits.
- II) **The psychodynamic perspective** calls attention to the unconscious needs and conflicts as well as the influence of earlier stages of development on our lives. Sigmund Freud, a noted psychologist, provided the core concepts for this perspective.
- III) **The socio-cultural perspective** highlights the importance of the social and cultural environment. In view of this theory, our personality and behaviour patterns are acquired through interaction with others and adoption of social and cultural norms.
- IV) **The humanistic perspective** emphasizes the enormous potential for freedom and growth present in each one of us. It is a view which is optimistic and emphasizes-on positive aspects of life and potentialities.



### INTEXT QUESTIONS 3.5

1. Define personality. Describe any two perspectives on personality?

## 3.6 TECHNIQUES OF PERSONALITY ASSESSMENT

In the field of personality assessment the major focus is on the study of the nature and intensity of various characteristics, which are generally reflected through the behaviour of the individual in a given situation. Personality assessment measures are classified into three categories.

- A. Objective or Self report measures of personality.
- B. Projective or Indirect measures of personality.
- C. Situational measures of personality.



### A. Objective or Self-Report Measures of Personality

In measures of this kind, the person is asked to report about himself/herself on a set of statements organized in the form of a questionnaire or inventory. The nature of the statement can be either closed ended or open ended. In the case of closed ended statements, rating scales or optional answers are given whereas in the case of open-ended statements, the person is free to describe himself or herself. A number of tests have been developed to assess different trait domains of personality. Some of the self-report measures of personality, which are widely used to assess personality, are being discussed below.

- (i) **Neuroticism, Extraversion, Openness- Personality Inventory-Revised (NEO-PI-R):** This test is currently one of the most popular personality assessment tools being used across the world. This test has been developed by Costa and McCrae (1992) and is based on Five-Factor Model of Personality. The test has been developed based on longitudinal studies over 15 years. It provides scores on five major dimensions of personality. These five dimensions and facets are as follows: Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness.
- (ii) **Sixteen Personality Factor Questionnaire (16 PF):** This test was originally developed by Raymond B. Cattell, Karen Cattell and Heather E. P. Cattell in 1949. Since then, the test has undergone four revisions in 1956, 1962, 1967-69, and 1988-93. Currently the fifth edition developed by Conn & Rieke (1994) is in practice. This test is popularly known as 16 PF and is used for age group of 16 and above. It yields scores on 16 primary traits such as social boldness, dominance, vigilance, emotional stability and rule consciousness. It also measures five global factors, which are Extraversion, Anxiety, Tough-Mindedness, Independence and Self-control.
- (iii) **In India a number of self-** report measures of personality have been developed. Some of these modified versions are Bell Adjustment Inventory by Mohsim and Hussain, Maslow Security-Insecurity Inventory by Singh and Jamuar, Maudsley Personality Inventory of Eysenck in Hindi by Singh and Jodhpur Multiphasic Personality Inventory by Joshi and Malik, amongst others.

### B. Projective or Indirect Measures of Personality

Projective or indirect measures of personality are widely used personality assessment tools. Unlike the self-report measures where the individual is provided with structured test stimuli, in projective tests the individual has to respond to unstructured or ambiguous stimuli. The basic assumption behind using unstructured test stimuli in projective tests is that the individual projects his/her latent or unconscious feelings, needs, emotions, motives etc. on to the ambiguous stimulus. The responses of the individual in the form of projection reflect the nature of his/her personality.



Notes

Some popular Projective Technique are Rorschach Ink Blot Test, Thematic Apperception Test and Rotter Incomplete Sentences Blank.

**C. Situational or Observation Measures of Personality.**

Another technique to assess personality is to observe the behaviour of the individual in purposefully designed situation. Such tests are more effective in the assessment of leadership, dominance, responsibility, extraversion-introversion etc. One of the first situational tests was developed by Hartshorne, May, and their associates (1928, 1929, 1930) for the Character Education Enquiry (CEE). This test measures traits like altruism, honesty and self-control. However, situational measures of personality came into light during World War II when the United State Office of Strategic Services (OSS) used situational tests for selection of military personnel for critical overseas assignments. One of the variants of this test is Situational Stress Test in which the individual has to react to various stressful, frustrating, or emotionally disruptive situations where his helpers are obstructive and uncooperative.



**INTEXT QUESTIONS 3.6**

1. What is a self-report measure of personality?  
\_\_\_\_\_
2. Discuss the use of projective technique in measuring personality.  
\_\_\_\_\_
3. What do you understand by situational or observational measure of personality?  
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**WHAT YOU HAVE LEARNT**

- The study of individual differences focuses on the extent and kind of variations or similarities among people on some of the important psychological aspects such as intelligence, personality, interest, and aptitude.
- Individual differences occur due to interaction of genetic and environmental factors. The differences in psychological characteristics are often consistent and form a stable pattern. This consistency and stability in behaviour is unique to every person.
- Psychological assessment refers to the use of specific procedures for evaluating personal qualities, behaviours and abilities of individuals. These procedures describe people by specifying how they are different from or similar to other individuals.
- A test should be reliable, valid and standardized. A test is reliable if it measures a given characteristic consistently. The validity of a test refers to the degree to

which it assesses what it intends to assess. Standardization involves establishing the procedure of administration of a test to all persons in the same way under the same conditions.

- Intelligence refers to “multifaceted abilities of people”. In psychology the term intelligence has been defined in many ways. Binet and Simon in 1905 defined it as the “ability to judge well, to understand well, and to reason well”.
- One of the most popular definitions of intelligence was given by Wechsler in 1939. He defined intelligence as “the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with the environment”.
- Gardner used the term ‘Multiple Intelligences and advocated that there are eight types of intelligences such as Linguistic, Logical-mathematical, Spatial, Musical, Bodily-kinaesthetic, Interpersonal, Intrapersonal, and Naturalistic.
- The first systematic effort to assess intelligence was made in 1905 by Alfred Binet, a French psychologist, who gave the concept of Mental Age (MA).
- The term Intelligence Quotient (IQ) was at first devised by William Stern, a German Psychologist, in 1912. IQ is defined as mental age divided by chronological age, and multiplied by 100.  $IQ = MA/CA \times 100$ .
- There are several Intelligence Scales developed by Wechsler such as Wechsler Adult Intelligence Scale (WAIS) for adults.
- There are salient differences between intelligence, aptitude, and achievement. Intelligence refers to the ability of a person to do a certain thing at a given time. Aptitude refers to the potential ability of the individual to learn to perform a task. Achievement involves performance at any given point of time in a particular subject (e.g. mathematics) with which you have been made familiar.
- Aptitude tests are used for prediction of success in various kinds of vocations such as clerical aptitude, mechanical aptitude, musical aptitude, typing aptitude, etc. Several multiple aptitude test batteries have been developed to assess aptitude. The most widely used is Differential Aptitude Test (DAT).
- Personality refers to a person’s unique and relatively stable behaviour patterns which remain consistent across situations and over a period of time. Allport defined personality as the “dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment”.
- Psychologists have approached personality from different perspectives. These viewpoints can be grouped in to four major types: Psychodynamic perspective, Socio-cultural perspective, Humanistic perspective, and Trait perspective.
- Personality measures are classified into three categories: Self report measures, Projective measures, and Situational measures.



**TERMINAL QUESTIONS**

1. What do you understand by the term “individual differences”?
2. Define Intelligence. Name any two Intelligence Tests.
3. Explain the differences between Intelligence, Aptitude and Achievement.
4. Identify the major perspectives towards the understanding of personality.

**ANSWERS TO INTEXT QUESTIONS****3.1**

1. Extent and kind of variations or similarities among people on psychological characteristics. They occur due to interaction of genetic and environmental factors.

**3.2**

1. Use of specific procedures employed in evaluating personal qualities, behaviours and abilities of individuals.
2. Reliability, validity, standardization.

**3.3**

1. Aggregate or global capacity of the individual to act purposefully, to think rationally and deal effectively with the environment.
2. Intelligence quotient is mental age divided by chronological age multiplied by 100  
$$IQ = \frac{MA}{CA} \times 100$$

**3.4**

1. Combination of characteristics that indicates an individual’s capacity to acquire some specific skill or knowledge after training.
2. Are developed to assess aptitude eg. Differential Aptitude Test (DAT) and General Aptitude Test Battery (GATB)

**3.5**

1. Person’s unique and relatively stable behaviour pattern which remains consistent across situations and over a period of time. Trait perspective, biological perspective, psychodynamic perspective, socio-cultural perspective, humanistic perspective (any two).

### 3.6

1. Person is asked to report about himself / herself on a set of statements.
2. Individual has to respond to unstructured or ambiguous stimuli. The responses in the form of projection reflect the nature of his/her personality.
3. Behaviour of individual is observed in purposefully designed situations.

#### Hints for Terminal Questions

1. Refer to section 3.1
2. Refer to sections 3.2 & 3.3
3. Refer to section 3.4
4. Refer to section 3.5

