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METHODS OF PSYCHOLOGY

In the last lesson we noted that the interpretation of a psychological phenomenon by a psychologist may differ from that of a novice. A psychologist follows a systematic scientific procedure which has sound theoretical base in order to explain and interpret the phenomenon. Psychology has various methodological ways or approaches to understand and explain psychological phenomena. We will be studying about some of these approaches. In order to obtain responses from individuals a number of psychological tools or instruments are used. The responses taken on those tools constitute the basic data which are analyzed to study human experiences, mental processes and behaviours. In this lesson we will discuss these aspects in detail.



OBJECTIVES

After studying this lesson, you will be able to:

- explain the different approaches to the study of psychological processes;
- describe some important methods used in understanding human behaviour; and
- describe various instruments used in understanding behaviour and psychological processes.

2.1 APPROACHES TO THE STUDY OF PSYCHOLOGICAL PROCESSES

As discussed in the previous lesson psychologists use a variety of approaches to describe, predict and control behaviour and mental processes. The main approaches are briefly described below.

Biological Approach: This approach focuses on **biological structures** and phenomena such as brain, genes, hormones, endocrine system and neurotransmitters in order to understand the dynamics of behaviour. Its main focus is on the role of



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different parts of brain in regulating feelings, memories, emotions and other aspects of behaviour. Similarly the impact of **over-secretion or under-secretion** of different kinds of hormones in governing behaviour is studied. Behaviour genetics as one of the subdisciplines studies the genetic determinants of behaviour. Moreover, this approach looks for physiological basis of human behaviour.

Psychoanalytic Approach: The father of psychoanalytic approach Sigmund Freud focused on **unconscious libidinal energy** in describing the present state of the individual. He studied mind in terms of hierarchical arrangements of experiences in the form of different layers of consciousness (e.g. conscious, preconscious, and unconscious). Freud explored the nature and quality of unconscious through analysis of dreams, slips of the tongue, neuroses, psychoses, work of art, and rituals. He assumed that majority of human behaviours are triggered by **unconscious motivation**. Thus to understand the present human behaviour the analysis of unconscious mental contents is considered most important.

Humanistic Approach: Contrary to Freud, the father of humanistic approach Carl Rogers put greater emphasis on **conscious experiences** of the present situation, role of interpersonal experiences across the course of life, and people's capacity to grow toward psychological maturity. This approach basically assumes that a person is an **active and self-actualizing agent** and has a choice in deciding his behaviour. As a part of the self-actualizing process a person seeks to maintain a congruence between self and experience. However, because of past experiences with **conditional positive regard**, he may deny or distort the experiences that threaten one's self-system. Such a self-system can be changed in the therapeutic setting through genuineness, unconditional positive regard, and empathic understating of the client's problem by the therapist.

Behaviorist Approach: The unit of analysis for this approach is **explicit, objective and overt behaviour** and its relationship with environmental stimulation. The father of behaviorism J. B. Watson emphasized on objective analysis of behaviour. He advocated that behaviour is largely governed by the association between **stimulus and response** and the **behaviour can be shaped** in a desired direction by manipulating this association.

Cognitive Approach: The cognitive approach emerged as an alternative to the mechanistic paradigm of behaviourism. This approach mainly focuses on the study of **information processing** capacity of the individual in terms of perception, remembering, thinking, language, reasoning, problem solving and decision making which are called higher mental processes. It proposes that we look out for information in the world and our behaviour depends upon the way we process this information. This approach largely relies on **computational models** and assumes that behaviour and mental processes can best be understood by treating them in terms of information processing.



The above discussed approaches indicate that mental processes, experiences and behaviours can be understood from various vantage points. In fact human behaviour is complex and its varied aspects are to be appreciated in many ways.



INTEXT QUESTION 2.1

1. _____ focuses on the role of different parts of brain in regulating feelings, memories, emotions and other aspects of behaviour.
2. Focus of the _____ is on the information processing capacity of the individual.
3. _____ assumes that the person is active and self-actualizing agent and has a choice in deciding his behaviour.
4. According to the _____ majority of human behaviours are triggered by unconscious motivation.
5. The unit of analysis for the _____ is explicit, objective and overt behaviour and its relationship with environmental stimulation

2.2 METHODS TO UNDERSTAND PSYCHOLOGICAL PROCESSES

In order to understand human behaviour various scientific methods are used. The purpose of study or research is to develop principles and theories, test them and apply for solving different human problems. In this way we develop dependable understanding that helps us in guiding behaviour in various situations. Since human beings are complex living organisms their behaviours are shaped by many factors both intrinsic and extrinsic to him or her.

A psychological research carried out scientifically has the characteristics of **objectivity** which means that such researches are free from any kind of biases. It is **testable** time and again and can be open to all. One can verify its authenticity by following the same method in terms of getting the same result. It has scope for **self-correction**. In other words the researcher corrects his or her understanding if there is some error and goes for revision. The scientific studies have also the characteristic of **replication** which means that the results of the study are consistently verified by similar other studies across different settings.

Thus in psychology a number of methods are used to carry out scientific studies. These methods are discussed below.

Observation: While shopping in the market you must have noticed various activities of the people. When you observe their activities you also think about as to why they



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are doing those activities and probably you reach to a conclusion about the causes of such activities. Such a way of knowing about others is called **observation**. However, the meaning of observation goes a little further as compared to discussed above. Observation as a method of enquiry is often understood as a **systematic registering** of events without any deliberate attempt to interfere with variables operating in the event which is being studied.

Some Interesting Facts about Observational Method

Perhaps the most famous informal observations in the history of developmental psychology are the observations made by Jean Piaget on his three children when they were infants. These observations went on to become the empirical foundation for Piaget's developmental theory. You can also observe the developmental patterns of your younger sibling or nephew, to understand the changes in sensori-motor development and other aspects of development.

This method is used in natural as well as laboratory settings. When it is used to study the events happening in natural environment it is called **naturalistic observation** such as observing the behaviour of children on playground. In this case the observer (psychologist) has no control on the extraneous variables. He or she simply records the entire activities and then analyze them. On the contrary in the case of **laboratory observation** the event under study is controlled by the observer. For example, studying the effect of induced stress on task performance.

Observation is also divided into **participant and non-participant types** depending on the role of observer. In the case of **participant observation** the researcher mixes up with the event under study and conducts the study. Where as in the case of **non-participant observation** the researcher maintains an optimum distance and has little impact on the events under study.

One of the most important advantages of observation is that it studies the range of behaviours in the form in which they are happening. However, this method requires more time and effort. It often becomes victim of the biases of researcher.

Activity 1

Method of Observation

To develop an observation tool, you need to establish the indicators for the observation. Indicators are based on what you expect to find in the environment, or process. The second aspect is to consider each of the indicators and measure them for their presence or absence.

A. Now try to use the observational method to collect data:

Make a video recording of any family function, or use a recording that is easily available and study it for non-verbal communication cues. Identify the indicators, such as smiling, shaking hands, the act of Namaste, use of hands



and the like. Count with the help of tallies how many times these cues are used by the people in the video recording. You can prepare a table with various aspects of observable behaviours; this will help you to understand which non-verbal cue is used more in the Indian setting. Also try to find out about gender difference, do men shake hands more than women, do women touch the feet of elders more than men? You can generate many more questions of your choice.

Experimentation: In the case of experiment the experimenter studies the effect of one variable on the other by **deliberately manipulating and controlling one variable**. The variable which is controlled and manipulated by the experimenter is called **independent variable (IV)** and the variable on which the impact of independent variable is studied is known as **dependent variable (DV)**. In a simple experiment two groups are formed. One is experimental group in which participants receive the independent variable. The other is control group in which behaviour is observed without giving the independent variable. By manipulating independent variable the experimenter is in a position to state that change induced in one variable brings change in another variable. Apart from these variables the experimenter has to also simultaneously take care of other variables which are beyond his or her control. Such variables are called **relevant variables** and need to be controlled as they might confound the effect of independent variable.

In experimental studies three kinds of relevant variables are taken into account. These are *organismic variables*, *situational variables* and *sequential variables*. Organismic variables are related to personal characteristics of the participants such as age, sex, and personality features. Situational variables are concerned with the quality of physical environment during the conduct of experiment such as temperature, humidity and noise. Sequential variables are related to the very procedure of conducting the experiment when the participant is required to be tested across several conditions. Hence exposure of the participant to varied conditions may result either in attaining proficiency due to practice effects or in developing fatigue and monotony towards experiment.

Experimenters use following techniques to control the unwanted effect of relevant variables.

- (i) **Elimination:** In this technique extraneous variables are eliminated from the experimental setting.
- (ii) **Making Conditions Constant:** In this technique the extraneous variables which cannot be eliminated are kept constant in order to make their effect same during the entire experiment.
- (iii) **Matching:** Through this technique the relevant variables are equated or held constant across all the conditions of experiment.
- (iv) **Counter Balancing:** This technique is used to minimize the effect of order or sequence. This is usually done by dividing the participants in two groups. On



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first occasion half of the group (Group A) is given task 1 and the other half (Group B) is given task 2. On the second occasion Group A is given task 2 and Group B is given task 1.

(v) **Random assignment:** In the case of random assignment all the participants have equal chance to be exposed to experimental and control conditions. It removes the systematic differences between groups.

In addition to experiments carried out in controlled setting (laboratory experiment) experiments are also conducted in natural life conditions. They are called *field experiments* and quasi experiments. Like laboratory experiment independent variable is manipulated and participants are assigned to different groups. In quasi experiments independent variable is manipulated in natural setting using naturally occurring groups to form experimental and control groups.

Case Study: You must have seen a doctor asking personal details in addition to the information about the medical problem of the patient or a media person asking so many questions about various aspects of life while taking interview of a popular person. The purpose behind asking these questions is to know more about the person in terms of his experiences, relationships and interaction with others so as to prepare profile of the person. In psychology this method is called case study.

In the field of psychological enquiry case study method has its own importance and relevance. In this method the main unit of analysis is the individual and his experiences across different contexts in life. It focuses on the individual's interactional patterns with significant others as well as his personal experiences across different real life situations. In order to prepare a case history of data are taken from many sources for example his or her family history, educational life, medical history and social life. This method is very popular in clinical psychology and life span developmental psychology.

In order to prepare the case history usually interview, observation and psychological tests are used to obtain information about the individual. The data collected through these techniques are analyzed in detail. A comprehensive profile of the individual is developed which reflects the description of events in his or her life. Case study helps to locate unique experiences of life as well as the various emotional and adjustment problems of the individual.

Though case study gives a detailed and in-depth description of individual's life we cannot make a very conclusive judgment about the individual without further establishing the reliability and validity of such information from various sources such as family members, friends and administration of some standardized psychological measures. Caution should be taken in planning data-collection from the individual and interpretation of the responses given by the individual.

Survey: You might be aware that television news channels or newspapers ask you to send your view through SMS on current issues of national or international importance. While doing this they try to seek the opinion of people on those issues



to communicate their view to the Government as well as to the society. For example they conduct opinion poll during the election as to which political party enjoys support of the majority of the people. Conducting such a study is called survey research. It is one of the popular research methods not only in psychology but also in other disciplines such as sociology, political science, economics and management.

In psychology survey method is generally used to study the pattern of opinions, attitudes, beliefs and values of the people. This method is also used to test the hypothesis about the relationship of variables especially when some incident takes place. For example media tried to analyze the responses of the people across the country after the attack by terrorists on Mumbai. In order to collect the data from people a variety of sources are used such as directly contacting the participants with a set of questions and taking their interview, sending the questionnaire through email or through post and asking them to send SMS by their mobile phones. Thus in survey, research is generally conducted through questionnaire or interview. It can be conducted on a single individual as well as on a group.



INTEXT QUESTIONS 2.2

1. Observation is divided into _____ and _____ observation depending on the role of observer.
2. In an experiment the experimenter studies the effect of one variable on the other by deliberately _____ and _____ one variable.
3. In the case study method the main unit of analysis is the _____ and his experiences across different contexts in life.
4. The variable which is controlled and manipulated by the experimenter is called _____ variable and the variable on which its impact is studied is known as _____ variable.
5. _____ method is generally used to study the pattern of opinions, attitudes, beliefs and values of the people.

2.3 PSYCHOLOGICAL TOOLS

While conducting psychological research a variety of tools are used to collect data and relevant information from the participants. These tools are in the form of paper, instruments or computer software. The administration of these tools helps the psychologist to obtain verbal, written, behavioural or physiological responses. In this section we will discuss some of the psychological tools which are frequently used in conducting research.



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Psychological Tests: You must have heard about psychological tests which measure intelligence, aptitude and interest. Development of test is a major area of activity in psychological research. The tests are designed and developed to assess various psychological attributes. They are developed on the basis of a theoretical framework. For example a test of intelligence is developed following a theory of intelligence. These tests are administered to the individual alone or in a group setting. The obtained score of the individual on the test reveals his or her position in relation to others who also respond to the same test. Thus a psychological test provides an **objective assessment** of different qualities and limitations of the individual. A **standardized psychological test** has properties of reliability and validity. **Reliability** of a test refers to its consistency in terms yielding dependable scores. **Validity** of a test reveals the extent to which the test measures what it claims to measure.

Depending on the nature and administration a test can be either **verbal or non-verbal (performance)**. In a verbal test the responses are taken in oral form. In non-verbal or performance test the responses are taken in the form of performance or certain behaviour. Psychological tests are also categorized as *objective* and *projective*. An **objective test** contains direct items about the psychological construct. The individual has limited freedom to respond to the items of the objective test. A **projective test** uses ambiguous, vague and unstructured stimuli such as pictures, inkblots, drawings, incomplete sentences etc. In this type of test the individual is free to give his/her responses.

Thus a number of tests are used to assess psychological attributes of the individual. The score on the test reveals the extent to which the individual possesses those attributes. Such scores help the psychologist to decide about the future course of action.

Questionnaire: A questionnaire consists of a set of questions to which the individual is required to respond. The items (questions) of the questionnaire can be either in **closed-ended** form or in **open-ended** form. In the case of *closed-ended* item the individual is provided with limited alternative and he or she has to choose only one alternative which reflects his or her view on the item. In *open-ended* items the individual is free to give his or her response the way he or she likes. The instruction as to how to respond to the items of the questionnaire is written on the first page. Data from a large number of individuals can be taken at a time as the questionnaire can be easily administered to a group of people. The items of questionnaire are written in simple and explicit language so that anyone can understand it. All the items tap various aspects of the construct which is measured. The items are often arranged in the sequence from general to specific.

Interview: It is a techniques of data collection in which a **face-to-face interaction occurs** between two persons with a set objectives. The person who conducts interview is called interviewer and the person who give responses is called interviewee. The interviews are also conducted through telephone, internet and video conferencing. The main purpose of interview is to understand various personal characteristics such as attitudes, values, interests and preferences.

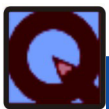


Two types of interviews are often used to obtain information. These are **structured interview** and **unstructured interview**. In the case of *structured interview* the questions are already framed with the possible response options. The interviewee is required to respond to the set of framed questions by choosing one option. For example the attribute of friendliness can be measured by giving the option ranging from ‘highly friendly’, ‘often friendly’ to ‘least friendly’. *Unstructured interview* is a little flexible. It comprises of a variety of open-ended questions and the interviewee gives his or her responses as freely as possible. During the course of interview the interviewer also frames and reframes the questions and facilitates the entire process of interview. Conducting interview to recruit suitable candidates for a particular job is a good example of unstructured interview.

In order to conduct an interview the interviewer should possess certain skills which help him/her to elicit maximum responses from the interviewee. A skilled interviewer easily establishes rapport with the interviewee by relieving his/her anxiety and making him comfortable during the course of interview. He has command over his language which helps him to put even difficult questions in simple and lucid way in order to probe at a deeper level. He has control over his feelings and emotions which does not give any cue to the interviewee during the interview.

In the field of psychology interview is used for recruitment and selection, counseling, marketing and advertising, attitude survey etc.

In this chapter you have learnt about the various approaches that help understand the nature and causes of human behaviour, and about the different methods that help us to gain more knowledge about mental processes.



INTEXT QUESTIONS 2.3

1. A _____ provides an objective assessment of different qualities and limitations of the individual.
2. _____ of a test refers to its consistency in terms yielding the scores from the representative sample for which it has been designed.
3. _____ of a test reveals the extent to which the test measures what it claims to measure.
4. A _____ uses ambiguous, vague and unstructured stimuli such as pictures, inkblots, drawings, incomplete sentences.
5. The items (questions) of the questionnaire can be either in _____ form or in _____ form.



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6. Interview as one of the techniques of data collection is often referred as a _____ between two persons with a set objective.
7. In the case of _____ the questions are already framed with the possible options/
8. _____ comprises of a variety of open-ended questions and the interviewee gives his or her responses as freely as possible.



WHAT YOU HAVE LEARNT

- There are different approaches to explain, describe, predict and control behaviour and mental processes. The main approaches are Biological, Psychoanalytic, Behaviouristic, Humanistic and Cognitive. Scientific method has the characteristics of being objective, testable, self-correcting and replicable.
- Different methods are used to understand human behaviour. Observational method helps to describe a phenomenon in a laboratory or natural setting. It can be participant or non-participant.
- Experimental method studies the effect of one variable on another variable by manipulating one and controlling other variables.
- Case study focuses on one person. The person is studied in great detail to understand the underlying issues.
- A questionnaire consists of a set of questions, which the respondent answers. It can be an open or closed ended.
- Interview is a face-to-face interaction regarding a given topic. Interview can be structured or unstructured.



TERMINAL QUESTIONS

1. Describe three main approaches used by psychologists to understand mental processes. Why do we need so many approaches to understand human behaviour?
2. Describe the characteristics of scientific method. Explain the use of observation for data collection.
3. Discuss the experimental method as a scientific method. Identify the techniques used to control relevant variables.
4. Discuss how psychological tools are used to understand human behaviour and psychological processes.



ANSWERS TO INEXT QUESTIONS

2.1

1. Biological approach
2. Cognitive approach
3. Humanistic approach
4. Psychoanalytic approach
5. Behaviouristic approach

2.2

1. Participant, non-participant
2. Manipulating, controlling
3. Individual
4. Independent, dependent
5. Survey

2.3

1. Psychological test
2. Reliability
3. Validity
4. Projective test
5. Close-ended, open-ended
6. Face –to-face interaction
7. Structured interview
8. Unstructured interview

Hints for Terminal Questions

1. Refer to section 2.1
2. Refer to section 2.2
3. Refer to section 2.2
4. Refer to section 2.3

