**Definition, Scope and Methods**

Meaning and Definitions of Psychology:

Psychology is the scientific study of behaviour and mental processes. Behaviour includes all of our outward or overt actions and reactions, such as verbal and facial expressions and movements.

Mental processes refer to all the internal and covert activity of our mind such as thinking, feeling and remembering. It is a scientific study because to study behaviour and mental processes, the psychologists use the scientific methods for understanding more precisely and accurately.

The word Psychology has its origin from two Greek words ‘Psyche’ and ‘Logos’, ‘psyche’ means ‘soul’ and ‘logos’ means ‘study’. Thus literally, Psychology means ‘the study of soul’ or ‘science of soul’.

**1. The first definition of the Psychology was the study of the soul:**

**2. In terms of the study of the mind:**

Although the word mind was less mysterious and vague than soul, yet it also faced the same questions, namely what is mind? How can it be studied, etc. This definition was also rejected.

**3. In terms of the study of consciousness:**

The description and explanation of the states of consciousness is the task of Psychology which is usually done by the instrument introspection—process of looking within.

**This definition was also rejected on the grounds that:**

(i) It could not include the study of the consciousness of animals.

(ii) It would not include subconscious and unconscious activities of mind.

(iii) The introspection method for the study proved that it is most subjective and unscientific method.

**4. In terms of the study of behaviour:**

The most modern and widely accepted definition of psychology even today, is the study of behaviour, both humans and animals.

**5. William McDougall:**

In his book An Outline of Psychology, “Psychology is a science which aims to give us better understanding and control of the behaviour of the organism as a whole”.

**6. JB Watson:**

Psychology is “the science of behaviour” (taking into account the human as well as animal behaviour).

**7. NL Munn:**

**“Psychology is the science and the properly trained psychologist is a scientist, or at least a practitioner who uses scientific methods and information resulting from scientific investigations”.**

By using scientific methods psychologists are able to find answers to questions about the nature of human behaviour that are far more valid and legitimate than those resulting from mere intention and speculation. The experiments and observations which are made can be repeated and verified by others because of its objectivity, reliability, validity and predictability which are the characteristics of basic science.

### Scope of Psychology:

The field of psychology can be understood by various subfields of psychology making an attempt in meeting the goals of psychology.

#### 1. Physiological Psychology:

In the most fundamental sense, human beings are biological organisms. Physiological functions and the structure of our body work together to influence our behaviour. Biopsychology is the branch that specializes in the area. Bio-psychologists may examine the ways in which specific sites in the brain which are related to disorders such as Parkinson’s disease or they may try to determine how our sensations are related to our behaviour.

#### 2. Developmental Psychology:

Here the studies are with respect to how people grow and change throughout their life from prenatal stages, through childhood, adulthood and old age. Developmental psychologists work in a variety of settings like colleges, schools, healthcare centres, business centres, government and non-profit organizations, etc. They are also very much involved in studies of the disturbed children and advising parents about helping such children.

#### 3. Personality Psychology:

This branch helps to explain both consistency and change in a person’s behaviour over time, from birth till the end of life through the influence of parents, siblings, playmates, school, society and culture. It also studies the individual traits that differentiate the behaviour of one person from that of another person.

#### 4. Health Psychology:

This explores the relations between the psychological factors and physical ailments and disease. Health psychologists focus on health maintenance and promotion of behaviour related to good health such as exercise, health habits and discouraging unhealthy behaviours like smoking, drug abuse and alcoholism.

Health psychologists work in healthcare setting and also in colleges and universities where they conduct research. They analyse and attempt to improve the healthcare system and formulate health policies.

#### 5. Clinical Psychology:

It deals with the assessment and intervention of abnormal behaviour. As some observe and believe that psychological disorders arise from a person’s unresolved conflicts and unconscious motives, others maintain that some of these patterns are merely learned responses, which can be unlearned with training, still others are contend with the knowledge of thinking that there are biological basis to certain psychological disorders, especially the more serious ones. Clinical psychologists are employed in hospitals, clinics and private practice. They often work closely with other specialists in the field of mental health.

#### 6. Counselling Psychology:

This focuses primarily on educational, social and career adjustment problems. Counselling psychologists advise students on effective study habits and the kinds of job they might be best suited for, and provide help concerned with mild problems of social nature and strengthen healthy lifestyle, economical and emotional adjustments.

They make use of tests to measure aptitudes, interests and personality characteristics. They also do marriage and family counselling, provide strategies to improve family relations.

#### 7. Educational Psychology:

Educational psychologists are concerned with all the concepts of education. This includes the study of motivation, intelligence, personality, use of rewards and punishments, size of the class, expectations, the personality traits and the effectiveness of the teacher, the student-teacher relationship, the attitudes, etc. It is also concerned with designing tests to evaluate student performance. They also help in designing the curriculum to make learning more interesting and enjoyable to children.

Educational psychology is used in elementary and secondary schools, planning and supervising special education, training teachers, counselling students having problems, assessing students with learning difficulties such as poor writing and reading skills and lack of concentration.

#### 8. Social Psychology:

This studies the effect of society on the thoughts, feelings and actions of people. Our behaviour is not only the result of just our personality and predisposition. Social and environmental factors affect the way we think, say and do. Social psychologists conduct experiments to determine the effects of various groups, group pressures and influence on behaviour.

#### 9. Industrial and Organizational Psychology:

The private and public organizations apply psychology to management and employee training, supervision of personnel, improve communication within the organization, counselling employees and reduce industrial disputes.

Thus we can say that in organizational and industrial sectors not only the psychological effects of working attitude of the employees are considered but also the physical aspects are given importance to make workers feel healthy.

#### 10. Experimental Psychology:

It is the branch that studies the processes of sensing, perceiving, learning, thinking, etc. by using scientific methods. The outcome of the experimental psychology is cognitive psychology which focuses on studying higher mental processes including thinking, knowing, reasoning, judging and decision-making. Experimental psychologists often do research in lab by frequently using animals as their experimental subjects.

#### 11. Environmental Psychology:

It focuses on the relationships between people and their physical and social surroundings. For example, the density of population and its relationship with crime, the noise pollution and its harmful effects and the influence of overcrowding upon lifestyle, etc.

#### 12. Psychology of Women:

This concentrates on psychological factors of women’s behaviour and development. It focuses on a broad range of issues such as discrimination against women, the possibility of structural differences in the brain of men and women, the effect of hormones on behaviour, and the cause of violence against women, fear of success, outsmarting nature of women with respect to men in various accomplishments.

#### 13. Sports and Exercise Psychology:

It studies the role of motivation in sport, social aspects of sport and physiological issues like importance of training on muscle development, the coordination between eye and hand, the muscular coordination in track and field, swimming and gymnastics.

#### 14. Cognitive Psychology:

It has its roots in the cognitive outlook of the Gestalt principles. It studies thinking, memory, language, development, perception, imagery and other mental processes in order to peep into the higher human mental functions like insight, creativity and problem-solving. The names of psychologists like Edward Tolman and Jean Piaget are associated with the propagation of the ideas of this school of thought.

### Methods of Psychology:

Psychologists use many scientific methods for research purposes to understand various psychological issues more scientifically. These scientific methods reduce bias and errors in understanding various behavioural aspects.

The relevance of these scientific methods extends beyond testing and evaluating theories and hypotheses in psychology. Though there are many such methods used by psychologists, each has its own advantages and disadvantages.

**Some of the important methods are:**

a. Introspection method

b. Observation method

c. Experimental method

d. Case study method

e. Questionnaire method

f. Interview method

g. Survey method

#### A. Introspection Method:

Introspection or self-observation may be considered as a old method but it is something we are doing almost constantly in our everyday life. Introspection is a method of studying the consciousness in which the subjects report on their subjective experiences. It is a method that requires long and difficult training. It gives in-depth information about the individual.

In introspection, the subject is taught to achieve a state of “focused attention” in which he can closely observe his own conscious experiences. He will be able to report the smallest possible elements of awareness. Thus the goal of introspection is to learn about the basic building blocks of experience and the principles by which they combine to give us our everyday consciousness.

**Limitations:**

1. It is not possible to observe one’s own behaviour and at the same time experience it. If such an attempt is made, the experience disappears. Thus the subject has to depend upon memory which itself may be subject to distortions, omissions and commissions.

2. The results obtained from introspection are subjective and so lack scientific validity. They cannot be verified and have to be accepted at face value.

3. The method cannot be used to study children, animals, insane people, feeble­minded and those who are not good at verbal expression.

4. Because experiences are unique, they cannot be repeated and so introspection cannot be repeated.

5. Many experiences are either partly or wholly unconscious and cannot be observed consciously and analyzed.

6. All experiences cannot be verbalized.

#### B. Observation Method:

This is the most commonly used method especially in relation to behavioural science, though observation as such is common in everyday occurrences, scientific observations are formulated in research places. It is systematically planned, recorded and is subjected to check and control its validity and reliability.

In this method we not only ask the subject to report his experiences but also gather information by direct observation of overt behaviour. When observations are carried out under standardized conditions they should be observed with a careful understanding of the units, that is the style of recording observed information and the selection of dependent or related data of observation concerned, then it is called structured observation. But when observation takes place without these consideration it is called unstructured observation.

Structured observation is useful in descriptive studies, while unstructured observation is useful in exploratory studies. Another way of classifying observation is that of participant and non-participant types of observation. In participant observation the observer makes himself a member of the group which is being observed.

In non-participant observation the observer detaches himself from the group that is being observed. Sometimes, it so happens that the observer may observe in such a way that his presence is unknown to the people he is observing. This is called disguised observation.

The method of participant observation has a number of advantages, the researcher can record natural behaviour of the group and he can gather information which cannot be easily obtained; if he stays outside the group, and also he can verify the truth of statements made by the subjects in the context of schedule or questionnaires.

**The other way of classifying observation is that of controlled and uncontrolled observations:**

**a. Uncontrolled observation:**

It is that which takes place in natural setting. Here no attempt is made to use precautional instruments or methods. Here the major aim of this type of observation is to get a spontaneous picture of life of the persons.

**b. Controlled observation:**

In this, behaviour is observed according to definite pre­arranged plans involving experimental procedure. Here mechanical or precision instruments are used to aid accuracy and standardization. This provides formulized data upon which generalizations can be built with considerable accuracy. Generally, controlled observation takes place in various experiments which are carried out in labs under controlled conditions.

**Limitations:**

1. It is expensive with respect to time and money.

2. The information’s provided by this method is very less or limited.

3. Sometimes, unforeseen factors may interfere with observation.

**Merits:**

1. If observation is done accurately, subjective bias is eliminated.

2. The information obtained under this method relates to current happenings. Either past behaviours or future intensions, do not complicate it.

3. This method is independent of the subject willingness to respond and so does not require active participation of the subject. Because of this, the method is especially suitable to subjects which are not capable of giving verbal reports of their thoughts and feelings.

Naturalistic observation method which is the systematic study of behaviour in natural settings, can be used to study the behaviour of animals which are in wild or in captivity. Psychologists use naturalistic observation whenever people happen to be at home, on playgrounds, in classrooms and offices.

In observation method of studies, it is important to count or measure the behaviour. Careful record-keeping ensures accuracy and allows different observers to crosscheck their observations. Crosschecking is necessary to make sure that observations are reliable or consistent from person to person.

#### C. Experimental Method:

The experimental method is most often used in laboratory. This is the method of observation of the behaviour or the ability of the individual under controlled condition or fixed circumstances. It is the performing of an experiment that is a tightly controlled and highly structured observation of variables.

The experimental method allows researchers to infer causes. An experiment aims to investigate a relationship between two or more factors by deliberately producing a change in one factor and observing its effect on other factors. The person who conducts the experiment is called the experimenter and the one who is being observed is called the subject.

An experiment begins with a problem. Problem is the relationship which experimenter wishes to study between two or more variables. Then a hypothesis is formed; it is a suggested answer to the problem under investigation, based on the knowledge that existing in the field of study. To test the hypothesis, relationship between variables is examined. Variables are the factors that can change.

There will be two variables. An independent variable is a variable that the experimenter selects. He can control this variable according to the requirements of the experiment. The dependent variable is the factor that varies with the change in the independent variable that is subject’s behaviour.

Experimenters will not wait for the behaviour to occur in nature rather the behaviour will be created in situation by presenting a stimuli to the organism. The behaviour that occurs will be co-related with the stimulus.

From this, it is possible to predict the nature and types of response or responses that may occur to a given stimulus. The changes observed in the dependent variable may be influenced by a number of factors. To establish a clear-cut relationship between a stimulus and response, all other possible influences must be eliminated.

**Conditions of Experimental Study:**

a. The control group

b. The experimental group.

If experiment has to be successful, the subjects (patients/clients) must be selected carefully. This is called sampling. A random sample is one where every member of the population has an equal chance of being selected. When this is not the case, the sample is said to be biased sample (manipulated). A random sample of entire population is not always necessary or even desirable.

For instance, an experimenter may begin by conducting experiment on a particular population and then repeat the experiment on broader or more representative samples. Once the experiment has been conducted, the results have to be summarized and a conclusion drawn.

a. Control group provides a base line against which the performance of experimental group can be composed.

b. The group that receives the experimental treatment is called the experimental group (The group that receives no treatment is called the control group).

**Limitations:**

1. The situation in which the behaviour is studied is always an artificial one.

2. Complete control of the extraneous variables is not possible.

3. All types of behaviour cannot be experimented.

4. Experimental method requires a laboratory and is expensive.

5. We cannot accumulate information from abnormal people using this method.

**Merits:**

1. The results are clear and straight forward.

2. The results are usually expressed in terms of numbers which makes it convenient for comparison of performance and analysis.

3. The experiment can be replicated by other researches and verified.

4. Highly dependable cause-effect relationships can be established.

#### D. Case Study (History) Method:

It is a detailed description of a particular individual. It may be based on careful observation or formal psychological testing. It may include information about the person’s childhood dreams, fantasies, experiences, relationships and hopes that throw light into the person’s behaviour.

Case studies depend on client’s memories of the past and such memories are highly reliable to understand the problems. As case studies focus on individuals, so we cannot generalize about human behaviour.

#### E. Questionnaire Method:

Questionnaire is an instrument of data collection. It is a method of data collection through which both qualitative as well as quantitative data can be collected by formulating a set of interrelated questions.

A questionnaire consists of a number of questions printed or typed in a definite order, one set of forms to which the respondents are supposed to answer unaided, by writing the answers in the space provided for the purpose. Where this questionnaire is mailed to the respondents instead of directly administering it is called a mailed questionnaire.

This method of data collection is especially popular when large scale enquiries have to be made. The questionnaire is sent to the person concerned with a request to answer the questions. It consists of a number of questions printed in a definite order which the respondents have to answer. It is considered as the heart of survey operation. In order to construct a good comprehensive questionnaire, some points have to be kept in mind.

**They are:**

1. The general form

2. The question sequence

3. Question formulation and wording.

**1. The general form:**

This refers to whether the questionnaire is ‘unstructured’ or ‘structured’. Questionnaire which include definite, concrete and predetermined questions and highly structured questionnaire is one in which all questions and answers are specified and comments by the respondents are held to the minimum.

In an unstructured questionnaire the researcher is presented with a general guide on the type of information to be obtained, but the exact question formulation is not set. Thus the structured questionnaires are simple to administer and relatively inexpensive to analyze.

**2. The question sequence:**

In order to make a questionnaire effective the question sequence must be clear and should have smooth flow. The relation of one question to another should be readily apparent to the respondent.

The first few questions are particularly important, because they are likely to influence the attitude of the respondent. Questions which are causing very much strain on the memory, personal questions and questions related to personal wealth, etc. should be avoided.

**3. Question formulation and wording:**

Each question must be clear because any kind of misunderstanding can harm the survey. Questions must be impartial and constructed to the study, the true state of affairs. They should be simple, easily understood and concrete. They should convey only one thought at a time. They should conform as much as possible to the respondent’s way of thinking.

**Limitations:**

1. The method can only be used when respondents are literate and cooperative.

2. The questionnaire is not flexible because there is no possibility of changing the questions to suit the situation.

3. There is possibility of ambiguous responses or omission of responses to some questions.

4. Interpretation of omissions is difficult.

5. It is difficult to know whether the sample is really representative.

**Merits:**

1. When the sample is large, the questionnaire method is economical.

2. It is free from the bias of the interviewer.

3. Respondents have adequate time to give well though-out answers.

4. Large samples can be used and so the results can be made dependable and reliable.

#### F. Interview Method:

This involves collection of data by having a direct verbal communication between two people. Personal interviews are popular but telephone interviews can also be conducted as well. This method is also called face to face method.

In personal interviews an interviewer asks questions generally in a face to face contact with the person being interviewed. In direct personal interview, the investigator collects information directly from the sources concerned. This has to be used when intensive investigation is required.

But in some cases, an indirect examination is conducted where the interviewer cross-examines other persons who are supposed to have knowledge about the problem under investigation. This is used where ever it is not possible to directly contact the required person to be interviewed.

**Types of Interview:**

a. Structured interview involves the use of predetermined questions and standardized techniques of recording. The interviewer follows a rigid procedure asking questions in a framed prescribed order.

b. Unstructured interview is flexible in its approach to questioning. Here it does not follow the system of predetermined questions and standardized techniques of recording the data. Here the interviewer is allowed much greater freedom to ask supplementary questions or to omit some questions if required and he may change the sequence of questions.

He also has a freedom while recording responses, whether to include some aspects and exclude others. This may lead to lack of comparability and also difficult in analyzing the responses.

**Other types of interviews are:**

i. Focused interview

ii. Clinical interview

iii. Non-directive interview.

**i. Focused interview:**

In focused interviews the attention is paid on a given experience, and its effects on the respondent. This is generally used in developing the hypotheses and constitutes a major type of unstructured interview.

**ii. Clinical interview:**

In clinical interviews concern is given to the feelings or motivations of individuals life experiences. Here the interviewer simply encourages the respondent to talk about the given topic with a minimum of direct questioning.

**iii. Non-directive interview:**

The researcher acts as a catalyst to a comprehensive expression of the subject’s feelings, belief and of the frame, of reference within which such feelings which are expressed by the subjects personal significance.

**Limitations:**

1. It is a very expensive method.

2. Interviewer bias as well as respondents bias may operate while gathering information.

3. Certain types of respondents may not be available for interviews.

4. This method is relatively time consuming.

5. Because the interviewer is present on the spot, the respondent may become overstimulated and give imaginary information just to make the interview more interesting.

6. Selecting, training and supervising the field staff is very complex.

**Advantages:**

1. More information about the subject can be obtained in greater depth. The interviewer can obtain a perfect idea about the subject through other means of assessing. As the person is directly accessible he can use other means of communication to assess the individual.

2. First hand information can be collected about the subject’s background, economic and educational considerations.

3. The overall personal aspect of an individual can also be assessed.

#### G. Survey Method:

This method involves in asking large numbers of individuals to complete the given questionnaires or through interviews by interviewing people directly about their experiences, attitudes or opinions.

That is for example, survey on healthcare reform, or economic reform, voting preferences prior to elections, consumer reactions to various products, health practices, public opinion and complaints with safety regulations and so on. Surveys are often repeated over long period of time in order to trace the shifts in public opinion. Surveys can provide highly accurate prediction when conducted carefully.

#### H. Testing Method:

This method makes use of carefully devised and standardized tests for measuring attitudes, interest, achievement, intelligence and personality traits. Intelligence tests measure the intellectual capacity of an individual and achievement tests through light on achievement of student in various subjects they are studying.

So by adopting all these methods, psychology collects information about behaviour, which helps us to study the behaviour systematically. There are the different methods used in psychology to study the behaviour.