

*Psychology for*  
**PHYSIOTHERAPISTS**



# *Psychology for* **PHYSIOTHERAPISTS**

**Thangamani Ramalingam A**

BPT MSc (Psychology)

Lecturer, The Sarvajanic College of Physiotherapy

Rampura, Surat

Gujarat, India

email:goldbell\_76@yahoo.co.in

**Dibyendunarayan Bid**

MPT PGDSPT

Senior Lecturer and Principal Incharge

The Sarvajanic College of Physiotherapy

Rampura, Surat

Gujarat, India

e-mail: dnbid@yahoo.com

*Foreword*

**MT Rangwala**



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**Registered Office**

B-3 EMCA House, 23/23B Ansari Road, Daryaganj, **New Delhi** - 110 002, India

Phones: +91-11-23272143, +91-11-23272703, +91-11-23282021, +91-11-23245672

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e-mail: kolkata@jaypeebrothers.com
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**Lucknow** 226 016, Phones: +91-522-3040553, +91-522-3040554  
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- ❑ 106 Amit Industrial Estate, 61 Dr SS Rao Road, Near MGM Hospital, Parel  
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Rel: +91-22-32926896, Fax: +91-22-24160828, e-mail: mumbai@jaypeebrothers.com
- ❑ "KAMALPUSHPA" 38, Reshimbag, Opp. Mohota Science College, Umred Road  
**Nagpur** 440 009 (MS), Phone: Rel: +91-712-3245220, Fax: +91-712-2704275  
e-mail: nagpur@jaypeebrothers.com

**USA Office**

**1745, Pheasant Run Drive, Maryland Heights (Missouri), MO 63043, USA,**

**Ph: 001-636-6279734 e-mail: jaypee@jaypeebrothers.com, anjulav@jaypeebrothers.com**

**Psychology for PHYSIOTHERAPISTS**

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*To*  
*Our students—Present and Past*



# *Foreword*

Here are a few examples of how psychology and physiotherapy are associated:

1. A 9-year-old boy enters a physiotherapy clinic for fracture of upper limb, holding hand of his mother, sees the physiotherapy work going on, immediately leaves mother's hand and runs away.
2. A young adult referred to physiotherapy for traumatic paraplegia; while talking to physiotherapist, he suddenly starts crying saying that he is now a useless person.
3. A middle-aged female attends physiotherapy clinic for osteoporosis and osteoarthritis of knee, walking with great difficulty, sighs and blames her sons and daughters-in-law for not helping her in her illness.
4. An 80 year-old man recovering for implanted prosthesis of femur head, is not walking despite all other factors being normal.

These are day-to-day affairs; such examples can be numerous. All ill patients entering physiotherapist's chamber need psychological care; a few for removing fear about its future complications, few for getting confidence, and a few for getting help in adjustment to new way of lifestyle, living and working.

Not only that, a few patients have to be prepared psychologically for constant physiotherapy, sometimes to prepare them for a treatment not only to improve but also to prevent deterioration. Unfortunately, most of the physiotherapists concentrate on mechanical means of physiotherapy and the psychological aspect is not touched at all.

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Students learn psychology as first year subject and forget. They should know that this is the base on which they have to stand. This neglected but very important subject is well elaborated by Dr Thangamani Ramalingam A and Dr Dibyendunaryan Bid in this book. I congratulate them for the same.

I feel, not only students, but also practicing physiotherapists should read this book and incorporate it in their daily practice.

**MT Rangwala MD**  
Honorary Director  
The Sarvajanic College of Physiotherapy  
Rampura, Surat-395 003  
Gujarat, India



# *Preface*

With our one decade of teaching experience, we have written this book to relieve the physiotherapy students from the anxiety to take down notes. This book is an attempt to make the subject of psychology easy and comprehensible to physiotherapy students. Psychology, as a scientific subject, has got more numbers of books that discuss and explain the concept in a stretched way, which make the reading time lengthier. Moreover, as the subject has got many branches and books, collecting the information and material needed for the students according to their syllabus is very difficult. Because of this problem, we have tried to favour students in this regard in our book.

There was not a single book on psychology written by physiotherapists for physiotherapy students. This book is a sincere attempt to fill that gap and help students and teachers alike. In our book, we have expressed the value of the psychology subject in physiotherapy field, by giving a separate chapter "*Psychology in Physiotherapy*". Thereafter, we have shown more concern for the topics like pain and stress where physiotherapists are mostly involved.

We have referred most of the books available on psychology and we have consciously made this book syllabus oriented to satisfy the syllabi of most of the universities offering BPT.

Although we have taken great care in writing this book, but it is possible that we might have committed some errors. Hence, comments and criticism from teachers and students would, therefore, be highly appreciated and would be rectified in subsequent editions.

Wish you a happy reading.

**Thangamani Ramalingam A**  
**Dibyendunarayan Bid**



# ***Acknowledgements***

It would be impossible for me to acknowledge all the people who have given contribution to the writing of this book. It is my pleasure and privilege to engrave the deep sense of gratitude to my teachers who induced a great desire for teaching in me, especially Ms Mary Chidambaram and Mr Srinivasan, who taught me the lessons of physiotherapy and life.

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My thanks to the management of Sarvajanic Medical Trust, who accommodated me as teacher and given me all the freedom to accomplish my goal.

I am also extremely grateful to my parents, wife and my daughter for their support in writing this book. Moreover, I am equally thankful to my colleagues and my Principal Incharge Dr Dibyendunarayan Bid for their clean criticism and contributions.

At last my sincere thanks to all the authors who have already worked in this area and helped me in many, many subtle ways.

**Thangamani Ramalingam A**



# *Psychology Syllabus*

Reference should be made whenever appropriate to the therapist's relationship with the patient and with his professional colleagues. Emphasis should be laid on the effects of disease on the patient's behaviour.

- 1. Biological Foundations of Behaviour:** Heredity and environment and logical basis for development, developmental psychology (Child).
- 2. Learned and Unlearned Behaviour:** Simple learning and conditioning, social learning.
- 3. Thinking and Intelligence:** Learning and problem solving, development of conceptual thinking in children; Communication, language and thinking; Measurement of intelligence, influences on intelligence, extent and consequences of individual differences.
- 4. Perception:** Sensory basis of perception, attention and perception, observing errors.
- 5. Memory:** Phases of memory, short-term storage, memory and perception, thinking, etc; Forgetting testimony and recall of events, memory and ageing.
- 6. Motivation and Emotions:** Approaches to motivations, emotional development, influence of early experience; Family and social influences on motivation and behaviour.
- 7. Personality:** Nature of personality, structure and dynamics; Dimensional, psychoanalytical and constitutional theories of personality, measurement of personality, culture and personality patterns.
- 8. Attitude:** Nature of attitudes and beliefs including prejudice, group influences on attitudes, attitude change, doctor-patient expectations and attitudes, prejudice formation and reduction.

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9. **Interpersonal Behaviour:** Experimental analysis of social interaction, study of the interviewing situations and behaviour in formal and informal groups, group norms and roles; Leadership in formal and informal groups, group morale; Behaviour therapy, behaviour modification techniques, token economy.
10. **Social Psychology:** Nature and scope of social psychology, social interaction, psychological groups and their classification, socialization of the individual, social control (social heredity) moves, customs, fashion, propaganda and its techniques.
11. **Tests:** Weschler's scales, Stanford-Binet Intelligence scale, Bender and Gestalt—Other projective tests, Anxiety scale.

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# *Introduction to Psychology*

## PSYCHOLOGY

The word psychology was derived from two Greek words, namely *Psyche* and *Logos*. *Psyche* means soul and *Logos* means study or science so the literal meaning of the term psychology is the study of soul.

According to American Professor Walter Bowers Pillsbury *Psychology is defined as the science of human behaviour.*

**NL Munn** says, "Psychology is a science and the properly trained psychologist is a scientist, or at least a practitioner who uses scientific methods and information resulting from scientific investigation."

### **Some Definitions**

Psychology is defined as

- "The study of soul"
- "The science of soul"
- "The science of mind"
- "The science of study of conscious experience"—(*Wilhelm Wunt, 1879*)
- "What the psychologists are interested in"—(*Woodworth and Marquis, 1947*)
- "The study of objective behaviour by subjective experience."—(*School of introspectionism*)
- "The science of human behaviour."
- "The science of the activities of the individual"—(*Woodworth and Marquis*)
- "The science of experience and behaviour."—(*Munn*).



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All the above definitions are vague and not more tangible to the subject and what it deals actually. The definitions seem to be more comprehensive. Today most psychologists include both behaviour and mind.

Psychology means “*scientific study of behaviour and mental processes and they are affected by the organism’s physical and mental states and external environment.*”

According to CT Morgan “*psychology is the science of human and animal behaviour, and it includes the application of this science to human problems.*”

### Psychology as a Science

*A science is a body of systematized knowledge that is gathered by carefully observing and measuring the events. As the psychology uses experiments and observations, which others can repeat, this also can be considered as a science.*

### Application of Psychology

*It is often used to solve the “Real-Life” problems.*

### What it Means—Study of Behaviour

Behaviour includes anything a person or animal does that can be observed in some way, unlike mind or thoughts or feelings. *Behaviour is the avenue through which internal mental events can be studied.*

### Goals of Psychology

The goals of psychology are as follows:

- To describe behaviour and mental processes
- To understand behaviour and mental processes
- To predict behaviour and mental processes
- To control or modify behaviour and mental processes.

## Scope of Psychology

Psychology has its own scope. Indeed the scope of psychology is as wide and varied as human activities are. But it can be seen from the number of branches of psychology, the work of psychologist and how the principles are applied for the benefit of man.

## BRANCHES OF PSYCHOLOGY

Following are the different branches of psychology:

- Clinical psychology
- Counseling psychology
- School and Educational psychology
- Experimental and physiological psychology
- Industrial and organizational psychology
- Social psychology
- Developmental psychology
- Community psychology

Some applied fields of psychology are as follows:

- Psychology applied to Crime
- Psychology applied to Military Affairs
- Psychology in Law
- Psychology in Administration
- Psychology in Mental Health.

## Clinical Psychology

Clinical psychologists are also doctors who diagnose psychological disorders and treat them by means of psychotherapy. *Many people are confused about the differences between clinical psychologist, psychiatrist and psychoanalyst.*

- Clinical psychologist - Ph.D or Psy. D (or Doctor of Psychology)
- Psychiatrist - MD (or Doctor of Medicine)

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- Psychoanalyst - MD degree (They use the techniques, which originated with Freud and his followers).

*The clinical psychologist are better trained in doing research and involved in systematically studying better ways of diagnosing, treating and preventing behavioural disorder. But they can't prescribe drugs like psychiatrist what seldom needed by the patients.*

So clinical psychology is very useful to relieve the symptoms of psychological disorders and to help people understand the reasons for their problems (Diagnosis and Treatment).

### Counseling Psychology

The work of counseling psychologist is quite similar to that of clinical psychologist, but *they work with people who have milder emotional and personal problems*. They may use psychotherapy and tests to measure aptitudes, interests and personality characteristics.

### School and Educational Psychology

*School psychologist deals with the learning difficulties of students and trying to remedy them*. The school psychologist collects information from students and his/her parents. Some other school psychologists are involved in *vocational and other forms of counseling*. They are the *school counsellors*.

*Educational psychology may include school psychology, deals with more general, less immediate problems*. The educational psychologists are concerned with *increasing the efficiency of learning in school by applying psychological knowledge*.

### Experimental and Physiological Psychology

*Experimental psychology tries to understand the fundamental causes of behaviour*. Experimental psychologists do basic

research, studying such fundamental processes as learning and memory, thinking, sensation and perception, motivation and emotion.

*Physiological psychology is considered to be a part of the broader field of neurobiology (the study of the nervous system and its function). These psychologists are concerned with relationships of the brain and other biological activity to behaviour.*

### **Industrial and Organizational Psychology**

It is a subfield of psychology in which *psychological principles are applied to practical problems of work and commerce*. The first application to the problems of industry and organization was the use of intelligence and aptitude tests in selecting employees. Nowadays they use psychology.

- To problems of management and employee training
- To supervision of personnel
- To improving communication within the organization
- To counsel employees
- To train management and employees, in human relations skills

They may do research on consumer attitude towards the company's product.

### **Social Psychology**

*The primary focus of social psychology is on understanding how other people affect individuals. It includes the study of ways in which we perceive other people and how those perceptions affect our behaviour towards them.* Social psychologists have developed and perfected techniques for measuring attitudes and opinions, e.g. survey of political opinions, consumer's attitudes.

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### Developmental Psychology

*It tries to understand complex behaviour by studying their beginnings and the orderly ways in which they change with time. Since changes in behaviour occur rapidly in the early years of life, child psychology, the study of children's behaviour comprises a large part of developmental psychology. But it studies the adolescence, adulthood and the old age changes also. The developmental psychologists are often concerned with children who have behaviour problems or psychological disorders.*

### Community Psychology

In general, it can be said that *community psychologist applies psychological principles, ideas and points of view to solve social problems and helps individuals adapt to their work and living groups* (social—problem community psychologists), e.g. Hostility among groups in the community, bad relations between the police and community members, distress due to lack of employment, etc.

### SCHOOLS OF PSYCHOLOGY

In the history of psychology differences of opinion were represented by schools of psychology - groups of like-minded psychologist, which formed around influential teachers who argued for one viewpoint or another.

- Early schools of psychology
- Modern (Current) perspectives.

### Early Schools of Psychology

The following are the different early schools of psychology:

- **Structuralism**

(Wilhelm Wundt/B. Titchener—1867-1927, Germany)

- **Gestalt psychology**

*(Max Wertheimer, Kurt Koffka and Wolfgang Kohler—1912, Germany)*

- **Functionalism**

*(John Dewey, James Angell, Harvey—Chicago)*

- **Behaviourism**

*(John B. Watson—1879-1958, Hopkins University)*

- **Psychoanalysis**

*(Sigmund Freud—1856-1938, Austria).*

### *Structuralism*

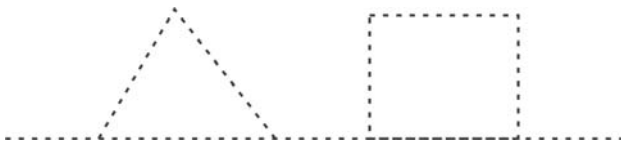
*The goal of the structuralism was to find the units or elements, which make up the element. They thought that first step must be a description of basis, or elementary, units of sensation, image and emotion which comprise it.*

Method used: INTROSPECTION

*In this method the subjects were trained to report as objectively as possible what they experienced in connection with a certain stimulus, e.g. A subject might be presented with a coloured light and asked to describe it as minutely as possible.*

### *Gestalt Psychology*

*The German word Gestalt means Form or Configuration and the gestalt psychologist maintained that mind should be thought of as resulting from the whole pattern of sensory activity and the relationship and organization within this pattern.*



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When we look at the dots, our mental experience is not just of the dots, but also of a square and a triangle placed on a straight line. In other terms, the mind is best understood in the ways elements are organized.

### *Functionalism*

It proposed that psychology should study ***what mind and behaviour do***. Specifically functionalist felt that mind and behaviour are adaptive—they enable an individual to adjust to a changing environment. They did experiments on functions like learning, memory, reasoning and motivation etc.

### *Behaviourism*

*Watson* rejected mind as a subject of psychology and *insisted that psychology be restricted to the study of behaviour*—the observable activities of people and animals. Three characteristics of behaviourism includes:

- Emphasis on conditioned responses as the elements or building blocks of behaviour. But these elements were conditioned responses rather than sensation, image or emotions as like structuralism.
- Emphasis on learned rather than unlearned behaviour. It denied the existence of inborn or innate, behavioural tendencies.
- Focus on animal behaviour—He felt that we could learn our own behaviour from the study of what animals do.

### *Psychoanalysis*

***Freud said that what we do and think results from urges or drives, which seek expression in behaviour and thought***, i.e. it is the expression of the unconscious drives which shows up in behaviour and thought. (Key idea—Unconscious motivation).

## Modern Perspectives

Today except for modern versions of behaviourism and psychoanalysis the old schools of psychology have disappeared. Various modern perspectives are as follows:

- **Behavioural perspective:** It focuses on the observed behaviour of people and animal and not on their mental processes.
- **Biological perspective:** It tries to relate behaviour and mental events (*especially activity of their nervous system and glandular systems*).
- **Cognitive perspective:** It says behaviour and mind are to be understood in terms of the ways in which information from the environment, received through the senses, is processed.
- **Social perspective:** *Social Perspectives* are interested in the interactions between and among people, which influence mind and behaviour.
- **Humanistic perspective:** It emphasizes a person's sense of self and each individual attempts to achieve competence and self-esteem.
- **Developmental perspective:** It focuses on the series of changes that occur in an orderly, predictable pattern as a result of maturation and experience.
- **Psychoanalytic perspective:** It focuses on the unconscious motives and defense mechanisms, which manifest themselves in mental life and behaviour.

## METHODS OF PSYCHOLOGY

Following are the different methods of psychology:

- Experimental method
- Observation method
- Introspection method
- Inventory method



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Others methods which are also used in psychology are as follows:

- Case study method
- Correlation method
- Survey method

### **Experimental Method**

In this method, the experimenter:

- changes or varies the events which are hypothesised to have an effect
- keeps other conditions constant
- looks for an effect of the change or variation.

Experimental method is a research method where investigator systematically alters one or more variable in order to determine whether such changes will influence some aspects of behaviour.

#### *Types of Experimental Method*

There are two types of experimental method, which are as follows:

- Laboratory experiment
- Field experiment

*Laboratory experiment:* Laboratory experiment contains following components:

- Hypothesis
- Variables
- Control

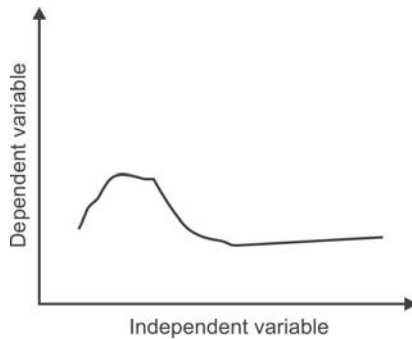
For example—Experiment seeking to discover the relationship between learning ability and age.

Hypothesis → the abovesaid example

Variables → Age and learning ability

- Hypothesis: Hypothesis is a statement of a particular situation.

- Variable: It is an event or condition, which can have different values.
  - Dependent variable: It is the behaviour of the person or animal in the experiment
  - Independent variable: It is a condition set by an experimenter.



**Figure 1.1:** In graphing the results of an experiment, the values of the independent variables on the horizontal axis and the values of the dependent variable on the vertical axis must be marked

- Control: *It is a very important characteristic of the experimental method. Only specified independent variable be allowed to change.* Factors other than the independent variable, which might affect the dependent variable, must be held constant.

In the above example of the subject, number of hours, books given, etc. to the subject is controlled by the experimenter.

*Some times the experimenter may focus only on the influence of a single condition, which can be, either present or absent. This method is called Control-group design method. In this method one group with the independent variable and the other group without the independent variable.*

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*Control group:*

Subject → No independent variable → Behaviour measured

*Experimental group:*

Subject → Independent variable → Behaviour measured

Finally comparison of the behaviour of the control and experimental groups. E.g.—Experiment conducted to find out the beneficial effect of computer in learning.

*Field experiment: These experiments are performed in natural settings, in the field to avoid artificiality and demand characteristics.* In this dependent variables are measured usually without the subject's knowledge about their participation.

- Limitation:
  - Bias due to the demand characteristics of the experimental situation (increased motivation)
  - Bias due to the unintentional influence of the experimenter
  - It cannot always be used, if the experiment might be dangerous to the subject
  - It uses an artificial experimental situation
- Advantages:
  - Replication (It can be repeated and checked by anybody) or check-up ability.

### **Observation Method**

It is a research method in which various aspects of behaviour are carefully observed in the settings where such behaviour naturally occurs. *It studies people's reactions to the naturally occurring events in natural settings.*

*Types of Observation Method*

There are two types of observation method, which are as follows:

- Indirect observation
- Direct observation

- *Indirect observation:* Motion pictures, verbal reports and most sophisticated video pictures and audio recordings can be validated and compared with actual behaviour through observation. *E.g.—Motion pictures of newborn babies reveal the details of movement patterns.*
- *Direct observation:* It can be of three types, which are follows:
  - Laboratory observation
  - Naturalistic observation
  - Participation observation
  - *Laboratory observation:* Behavioural scientist creates a standard setting, which stimulates behaviour of interest, and allows exact unbiased measurements to be made. *Because subjects are exposed to the same situation, it is relatively easy to compare their responses. Participants or subjects may know the presence but they rarely know precisely why they are being studied. E.g.—Mother's behaviour towards the first and later born children.*
  - *Naturalistic observation:* Viewing behaviour in a natural setting. *E.g.—the observer sitting on a park bench pretending to be absorbed in a book can observe Peoples reactions to a beggar requesting money.*
  - *Participant observation:* In this they join the activities that are being watched and consequently being mistaken by the subjects as member of their own group.

**Advantage:**

- Close contact with the subjects.

**Disadvantage:**

- Observers may unknowingly influence the subject's behaviour.

**Limitation:**

- Anecdotes may take place of observers.
- Interpretation may substitute description.

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- The data obtained are relatively informal, subjective, biased or prejudiced and can reduce scientific value.
- Data collected may be inadequate and incomplete.
- The observer has to wait for a long time.
- It is impossible to control all the variables, which determine the behaviour under study.

### Introspection Method

*It means looking within or to look into one's ownself, i.e. one's own thoughts, feelings and experiences at the time of living through the experiment in a given situation at the given time and to a given stimulus.*

But unfortunately one cannot look into one's ownself and live through his experiences simultaneously. E.g.—When an individual is laughing at a joke if an attempt is made by him to observe one's own experiences, laughter disappears.

So the subject has to look back to know the experiences he had. In that case this method can be called as *Retrospection*. But this method is very useful; several valuable principles regarding the working of the human mind have been discovered through this method.

#### *Limitations*

- Can't be used for children/animal
- Needs memory power
- All the experiences can't be recalled again.

### Inventory Method (Questionnaire)

It is the most popular method and is quite useful in collecting both quantitative and qualitative information.

According to Good *questionnaire refers to a device for securing answer to questions by using a form which the respondent fills himself or herself.*

E.g.

- All the personality inventories

- Inventories used in the fields of education are interest, aptitude, attitude and personality tests.

### *Classification*

- *PV Young classification:*
  - **Structured questionnaire:** It contains definite, concrete and preordained questions.
  - **Nonstructured questionnaire:** It contains definite subject matter areas, the coverage of which is decided by the interviewer. He is free to arrange the form and timing of enquiry.
- *Georg A. Lundberg classification:*
  - Questionnaire of Facts
  - Questionnaire of Opinion and Attitude
- *John Best classification:*
  - *Closed form Questionnaire:* A short response is needed like 'yes' or 'no'.
  - *Open form Questionnaire:* It provides for a free response in the respondent's own words.

### *Characteristics*

- The items (questions) should not be vaguely worded.
- The items should be arranged in categories to ensure accurate responses.
- It should provide complete and clear direction to the respondents.
- Annoying items must be avoided.
- It should not be too lengthy.

### *Advantages*

- It is easy to fill up.
- Less expensive and less time consuming.
- It is relatively objective.

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### *Limitations*

- The respondent may not reveal his true personality. So the data may be invalid.
- It is a subjective technique and the results obtained cannot be verified.
- It cannot be used for illiterates and children.
- Some persons may not like to answer on controversial issues.

### **Case Study Method (Scientific Biographies)**

Case study or case history is a scientific method of research in which detailed information about the individual collected or gathered either from the person, his relatives friends or associates or from any other available records to develop general principles about behaviour. Most case histories are prepared by reconstructing the biography of a person according to remembered events and records. So the use of retrospective method may result in distortions of events or oversights but it is often the only available method.

Sometimes a longitudinal study also used to collect data from individual in which an investigator observes the individual according to a plan.

Freud based his entire theory of personality on Case Study Method.

### **Survey Method**

It is one of the research methods in which large number of people answer questions about aspect of their views or their behaviour attitudes. An adequate survey requires a valid and reliable questionnaire, carefully selected population sample, trained interviewers and appropriate methods of data analysis and interpretation. For example, political opinion and consumer preferences.

### **Correlation Method**

It is a scientific method that decides the relationships between two variables. A distinction between experimental and correlational methods is in order. In experimental study, one variable is systematically manipulated to determine its effect on some other variables. Similar cause-effect relationships cannot always be inferred from correlational studies.



# *Psychology in Physiotherapy*

## **WHY PSYCHOLOGY IN PHYSIOTHERAPY**

In the past few years we have witnessed a change. As psychology in general has become more involved in rehabilitation medicine. There has been an increase in number of basic and applied investigations that utilize a behavioural or learning approach with this population. Once the actions and responses, verbal and motor, of an individual are considered as behaviour and nothing more, it becomes apparent that treatment procedures, which have been successful with other populations, can also be applied to the patients of physiotherapy field.

The emergence of social medicine principles proved that diseases have got some bases with the psychosocial factors, which can interfere and alter the process and prognosis of it. Hence, as physiotherapy professional we should be aware of those factors to achieve a good and satisfactory improvement of the patients. As an example, anxiety might aggravate stomach ulcers, stress might cause headache and so on.

## **Psychology in Physiotherapy**

The psychological principles have got a foothold in the following areas of physiotherapy.

- Assessment
- Diagnosis or decision-making
- Planning of treatment
- Implementation of therapy
- Alterations in the therapy
- Pain relief
- Duration of treatment

A well-handled principle may help the therapist to understand the confrontating situation and the way of functioning to the best.

The following branches of psychology show marked importance to the physiotherapist and the physiotherapy field.

- General psychology
- Social psychology
- Community psychology
- Health psychology
- Developmental psychology
- Counseling and guidance psychology
- Abnormal psychology
- Physiological psychology
- Experimental psychology

### Psychology and Illness

The presence of an illness or ailment disturbs not only the physical state but also the mental integrity of the patient. It may produce following things:

- Pain and discomfort
- Lack of interest and motivation
- Reduced self-esteem
- Insecurity and uncertainty
- Depression and anxiety
- Disturbed memory and orientation
- Lack of attention or perception
- Mood upset

Psychology as a scientific subject enables the therapist to describe, to understand, to predict and to control or modify the course and progress of the illness (can be considered as a deviated behaviour either physical, mental, or both).

In the drive way we physiotherapists have to come across many emotional and behavioural problems as hurdles, which

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have to be broken down by the usage of psychological principles and interventions. The *behavioural modification therapies* are of great value and very fruitful.

“A sound mind, in a sound body, in a sound society.”  
—WHO.

As a healer of physical illness we therapists should never forget to consider the impacts of the state of the mind on the body and physical symptoms.

### Psychology and Treatment

We therapists have to have a long visionary approach in the area of planning the treatment modalities, executing the therapies, getting the feedback from the patient, change of treatment and recording of details. The principles of psychology may be very helpful eliminating these problems and difficulties we face in course.

In general it is admitted that most of our therapies have got placebo effect, to some extent. This statement can be used to support the value of psychology and its application.

In practice, it is observed that the pain, a subjective phenomenon, which cannot be only treated by some objective modalities of treatment, in turn needs effective psychological counseling. This kind of counseling can stabilize the mental integrity of the patient, creates some chemical changes in the CNS and pain gate to modulate pain reception and appreciation.

The backing of the unstable mind in some somatic problems gave rise to an area called *Psychosomatic Syndromes*. This needs the psychological principles along with normal physical treatments to combat, e.g. ulcers, headache, asthma, rhinitis, etc.

### Psychology and Rapport

The interaction between the therapist and the patient should be very smooth and provocative, and then only the assessment

and therapy can be empirical. A well-developed rapport enhances the therapist in the following things.

- To attain a good and detailed medical history of the patient
- To achieve the confidence and cooperation of the patient for the assessment and treatment
- To dominate over the patient's wrong beliefs about the disorder
- To make the therapist authoritative.

### Conclusion

At the last we can come to one conclusion that the physiotherapists knowing the principles of psychology and applying it towards his or her profession can be a gain, not in vain. Psychology is a very useful science especially for the physiotherapy professionals as discussed below:

1. Psychology will help the physiotherapists and doctors to know the body and mind relationship of the patients.
2. Treatment of diseases, mental or physical, is a co-operative venture in which a united effort of various medical, para-medical and even non-medical personnel is required. Knowledge of psychology helps physiotherapist to maintain congenial relationships between different personnel at different levels.
3. The most important person who can help in the recovery is the patient himself. Unless he desires to be healed and cooperates in the process, treatment and physiotherapy care become very difficult indeed. Hence, it is of paramount importance that the physiotherapist must be able to gain full confidence of the patient. In this process, her knowledge of the psychology is very vital.
4. To meet the needs of her patient adequately, it is essential that the physiotherapist develop self-understanding. She must strive constantly to become emotionally, mentally, morally and psychologically mature. The study of

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psychology along with social training is very useful in this process.

5. Today physiotherapy is not simply an effort to cure illness. Preventive services and promotion of health are also equally important aspects of physiotherapy. To be an effective agent of health promotion, knowledge of the psychology is essential. Psychology, which is called the science of human behaviour, can play an important role in the understanding and improvement of patient's life.
6. A large number of physiotherapists are working outside the hospital nowadays. In programmes like public health, industrial health, school health and so on, the physiotherapist has to work in very close proximity with different types of people. The knowledge she has about human behaviour is extremely useful.
7. Technological progress has successfully eliminated many diseases, but it has brought new problems and challenges to the physiotherapists. The problems of the aged, patient suffering from AIDS or persons suffering from permanent disabilities due to industrial or various other types of accidents are all examples. Deep understanding of human behaviour or human psychology can be very useful in handling such situations.

# *Heredity and Environment*

## HEREDITY AND ENVIRONMENT

Heredity + Environment = Individual

### **Heredity**

*Heredity is the transmission of characteristics through genes from parents to offsprings. These are both mental and physical characteristics, which include intelligence, personality, etc.*

At the time of conception 23 chromosomes from father and 23 chromosomes from mother are transmitted to the offsprings.

- Male (22 autosomes + XY)
- Female (22 autosomes + XX)

If the offspring gets XX chromosome pair, that will be female and if it is XY then it will be male. These chromosomes carry genes, which in turn carry the hereditary characteristics. *The offspring gets the physical characteristics such as height, weight, skin texture, vision, hair and mental characteristics such as intelligence, temperament and so on.*

Within each chromosome are about 1000 genes. These genes contain two chemical substances, named **DNA and RNA**, which are said to be responsible for carrying out the genetic code message from parent to offspring.

### *Transference of Traits*

According to Gregor Mendel, *some genes are dominant and others recessive*. Like chromosomes, genes also occur in pairs. Each of the pair is donated by one of the parents.

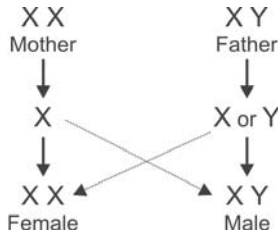
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### Forms of Gene Pair

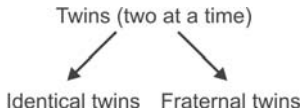
- A dominant gene from one parent and recessive gene from the other
- Dominant genes from the both parents
- Recessive genes from both parents.

### Determination of Sex



### Twins Mechanism

Life is the result of union of two cells—male and female. Normally when a single ovum is fertilized by sperm cell of the male, it results in the birth of a single offspring. However, in some cases, this normal function is disturbed and there are cases of multiple births (birth of two or more offsprings at a time).



- **Identical Twins:** During the process of fertilization of the ovum by the sperm the ovum is made to split into two parts but unite later. If this fails, that grows separately and leads to twins. This is called as identical twins because of the genetic material (same chromosomes and genes). They are found to possess almost the same somatic structure and characteristics and are definitely of the same sex.

- Fraternal twins: In an exceptional case, two ova may be produced simultaneously and be fertilized at the same time by two different sperms. So two individuals may be growing simultaneously in the womb of the mother. They are known as fraternal twins. They have different combination of chromosomes and genes, so they are sure to differ in many traits. They may have similar or opposite sex.

### Environment

According to Woodworth, *Environment covers all the outside factors that have acted on the individual since he began life.*

The hereditary plays its game only at the time of conception. Afterwards the environment affects the individual, his bodily structure and all of his personality make-up and behaviour.

#### *Types of Environment*

There are two types of environment, which are as follows:

- *External environment (After birth)*
- *Internal environment (Conception to till birth—9 months)*

*Internal environment:* The embryo receives nutrition through blood stream of his mother.

The physical and mental health of the mother including her habits, attitudes and interest, etc. all constitutes the inner surroundings that affect the growth and development of the individual.

*External environment:* The external environment has two components, which are as follows:

- *Physical environment—Earth, rivers, mountains, wealth, food, water, etc.*



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- Social or cultural environment—Parents, family members, friends, classmates, neighbours, teachers, communication, recreation, religious places, clubs, libraries.

### **Role of Heredity and Environment on Personality, Intelligence and Behaviour (Heredity vs. Environment or Nature vs. Nurture Controversy)**

The role of nature has been extensively searched in the form of twins and family studies and experiments on selective breeding (Copulating of males with particular traits to females with the same traits in order to study the offspring). The results of all studies have failed to establish a clear-cut role of either heredity or environment in explaining the presence of particular behaviour or trait in an individual. What behaviours are learned and what are inherited is a controversial question. So development of a personality trait is always a result of interaction of the environmental forces on the genetically inherited characteristics.

**Curt Stern** gave rubber band analogy. He compared genetic endowment for any particular trait to the amount of stretch that is possible in a rubber band. Some band have a great deal of potential stretch built into them, other have relatively little.

The amount of stretch a particular band actually shows will depend upon both its basic stretchability and the amount of pressure exerted by the people in its environment. Similarly, the amount of any particular trait that a person has inborn potential for the trait and the degree to which the person's environment pulls for the development of that trait.

#### *Passivity vs Activity*

As we grow, we interact with our environment. John B. Watson describes that the child as raw material waiting to

be shaped by parents and others. And B.F. Skinner describes human behaviour and development as a process of responding to rewards and punishment in the environment (Passivity).

In the other Piaget argued that we actively manipulate the objects and events around us. We construct our own ways of understanding the world.

### *Heredity on Personality*

Psychologists are still trying to learn how much genes influence personality.

### *Studies on Temperament*

*Temperament includes mood, activity level, emotion and variability of each.* Studies with animals have shown that selective breeding can heighten or diminish characteristics like emotionality, over successive generation. Twin studies with human beings also seem to show a genetic influence.

*In one of the studies, mother of (monzygotic) identical twins and (dizygotic) fraternal twins were asked to fill out temperament questionnaires about their children.* Each mother rated child on four dimensions such as:

- Emotionality
- Activity
- Sociability
- Impulsivity

On all four dimensions correlation were higher for identical twins than fraternal twins. Since identical twins have 100 % identical genes while fraternal twins have only 50 %. So this study supports the notion of genetic influence.

### *Traits, Types and Chromosomes*

These are evidences to contribute that a large number of adult traits have genetic influence. Eysenck H.J. proposed that the traits related to introversion, extroversion type,

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dimensions are linked to reticular formation that is of the part of the brain that influences an individual's level of arousal. Tests of extroversion and introversion have shown fairly strong evidence of heritability.

### *Conclusion*

The genetic potentials can only be expressed by interacting with the environment or nurture. *So the human behaviour actually observed results from the interaction of nature and nurture.*

# *Sensation, Attention and Perception*

## SENSATION

Sense organs are the gateways by which we acquire knowledge of the world around us. The stimulation from the object stimulates or activates receptors of the concerned sense organs. These receptors release the neural impulses, which are transmitted to the concerned area of the brain where they are interpreted. These are called *Effectors*.

Receptors  $\xrightarrow{\text{Brain}}$  Effectors

This gives the knowledge of object stimulating. These sensations vary in number, intensity or quality. There are eight basic sensations involving eight different types of experiences.

- Eye—Vision (light, colour, shape, etc.)
- Ear—Audition (different sounds)
- Tongue—Taste (gustation) (sweet, sour, bitter, etc.)
- Nose—Olfaction (fragrant, pungent, etc.)
- Skin—Cutaneous sensation (heat, cold, pain, and pressure)
- Muscles—Kinesthetic sensation (sense of pull, push and strain)
- Organs—Organic sensation (hungry, thirst, nausea)
- Vestibular apparatus—Static or posture sensation (sense of equilibrium, dizziness, reclining, etc.)

## ATTENTION

Attention is the perception process that selects certain input for inclusion in our conscious experience or awareness at

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any given time. Focusing our mind on an object or idea at a particular time, to the exclusion of other objects or ideas. It is possible for us to attempt to only one object or experience at a time. But we can attend to two objects at a time when one is mechanical and other needs our attention.

Dumville: "Attention is the concentration of consciousness upon one object rather than upon another."

Morgan and Gilliland: "Attention is being keenly alive to some specific factor in our environment. It is a preparatory adjustment for response."

### Types of Attention

Following are the different types of attention:

- **Involuntary attention:** *It does not require any conscious effort to attend to an object, e.g.—Attention to loud sounds, bright lights and strong penetrating odors.*
- **Voluntary attention:** *Effort is must, e.g.—Uninteresting lectures, difficult assignments*
- **Habitual attention:** *There is a conscious effort or sensation so striking to attract our involuntary attention. We attend to them because of our attitude habits or interests, e.g.—Attention to patients.*

### Span of Attention

The maximum amount of material that can be attended to in one period of attention is called "Span of attention".

### Factors Determining Attention

Following are the factors, which determine attention:

- Objective factors
- Subjective factors

### *Objective Factors*

- *Intensity*: Our attention is attracted more by intense stimuli such as loud sounds, bright colours, intense odors and sharp pain. Here, the selection of stimuli depends upon nature of sense receptor and the amount of energy stimulated.
- *Size*: Large size of an object, or bigger patch of colour draws our attention more easily than small object or small patch of color.
- *Repetitions*: Though the stimulus is weak in intensity, it draws our attention if repeated several times, e.g.—(1) A repeated cry, (2) Repeated ringing of a call bell, (3) Persistent tapping.
- *Movement*: Anything that moves if that is small is able to attract our attention more than one, which is stationary, e.g.—Moving toys attract children.
- *Change*: A sudden change in intensity or in size or sudden cessation (disappearing) of the continuous stimulus catches our attention, e.g.—Loud noise, bright colour, continuous sound when they stop.
- *Systemic form*: A systemic form or rhythm attracts our attention more than the stimulus which is not systemic and non-rhythmic. For example,
  1. A melodious music
  2. A beautiful picture
  3. A symmetrical building
- *Novelty*: Anything that is unusual or new or strange will draw our attention, e.g.—A new fashion dress.
- *Location*: The object or the picture, which is directly in front of our eyes or picture at the centre, attracts our attention more than the one in the corner.
- *Nature of stimulus*: In an advertisement the picture attracts more than the words.

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### *Subjective Factors*

- *Interest*: If a person is interested in a particular object, it attracts attention much earlier than others. For example, a student who is interested in a particular book is attracted by it earlier than the other books.
- *Habits*: Habits help in sensation of stimulus. All of us are habituated to react to the sound of a coin. In a busy street also this sound catches our attention.
- *Motives*: A sleeping mother may not be disturbed even by a loud noise outside but a faint cry of her child may attract her attention.

A hungry person will be attracted more by an eatable.

- *Emotions*: If a person is angry with another person, in a group that person will catch his attention.

Under stressful conditions we fail to perceive our surroundings fully.

- *Attitudes and prejudices*: Whenever attitude is unfavourable towards a group or a person, even a small mistake committed by him will attract our attention. In the same way, prejudices also influences our attention.

### **PERCEPTION**

Observation involves two mental activities—sensation and perception. Perception is the interpretation of sensory stimuli, which reach the sense organs and brain. Interpretation gives meaning to sensation and we become aware of objects.

Charles G. Morries: “All the processes involved in creating meaningful patterns out of a jumble of sensory impressions fall under the general category of perception.”

R.E. Silverman: “Perception is an individual’s awareness aspect of behaviour, for it is the way each person processes the raw data he or she receives from the environment, into meaningful patterns.”

Perception is the process by which we discriminate among stimuli and interpret their meanings and appreciate their significance. E.g.—When we hear a sound, we are able to identify it as being produced by an aeroplane or an automobile.

Perception gives meaning to sensation.

Perception → Sensation + Interpretation

Human beings have perceptions corresponding to each sense organs visual perception, auditory perception, etc.

### Principles of Perception

The sense impressions must be organized into meaningful units. Otherwise, these sense impressions have no meaning. So the organization and grouping take place according to certain principles they are:

#### *Proximity or Nearness*

Objects or figures, which are close to each other, will form a unit or pattern.



We perceive pairs of dots (4 pairs)



We see three sets of two lines each  
and not six separate lines

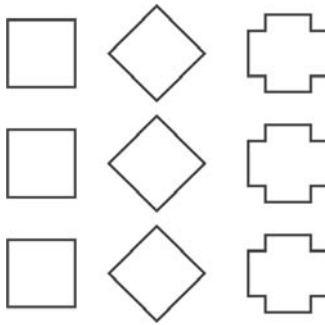
#### *Similarity*

Objects or figures which are similar in shape or forms, though mixed up with other things we will have the tendency of perceiving them together in form of a unit or pattern.



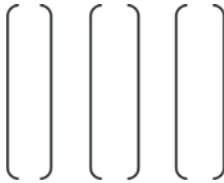
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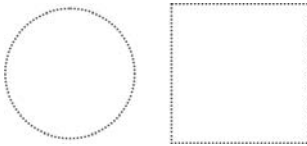
### *Symmetry and Closure*

Items that form symmetrical units are grouped together.



We see 3 sets of brackets, we don't see 6 uncorrected lines

Items are perceived as complete units even though they may be interrupted by gaps.

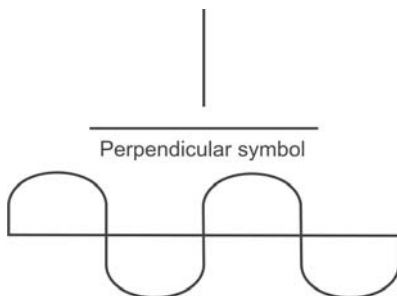


### *Inclusiveness*

Sometimes due to past experience or training objects which are similar or not, close together or not, if they are in place, they will have the tendency to form a unit and do not appear separate.

*Continuity*

Continuous lines or dots irrespective of shape or size or colour will form a unit. In the figure, the dots will form a vertical plane will form a vertical line and horizontal plane will form a horizontal line. Together they form horizontal-vertical.



We see a curved line and a straight line and we do not see a line with small circles above and below it

*Familiarity or Past Experience*

From a mass of dots or lines, a familiar pattern or figure stands out more easily than other figure. This depends on past experience.

*Figure Ground Relationship*

The perception is made against a background. The formation of the figure mostly depends upon the more advantageous shape or colour of some part of field of awareness. So in every perception, there is figure and ground relationship. The figure, which emerges from a background, may become a background for some other figure, e.g.—(1) Smile on the face, (2) Paintings, (3) Mother figure for a child.

Perception is also depending on other factors such as:

- Values and interests
- Sense organs
- Brain functions

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- Past experience
- Attitude (mood)
- Motives
- Beliefs
- Emotions

These factors may influence the perceptual ability of an individual.

### Errors or Abnormalities in Perception

#### *Illusion*

It is wrong or false perception because of wrong interpretation of stimuli. For example,

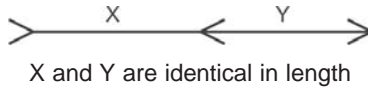
1. A rope in the dark is perceived as a snake.
2. A moving dry leaf in the dark is perceived as a moving insect.
3. Illusion of motion picture on the screen.
4. Judging the taste of lemon juice as that of orange juice is gustatory illusion.

Illusion is a normal and universal phenomenon unlike hallucination.

*Horizontal-Vertical illusion:* The vertical line drawn from mid point to the horizontal line. Though the two lines are equal in length, the vertical line looks longer than the horizontal line. This is because of the movement of the eyes along the vertical line.



*Muller-Lyre illusion:* The line X looks longer than line Y. This is because of the line Y has arrowhead which is enclosed whereas X is with featherhead which looks more open.



This is called as Muller-Lyre illusion, which emphasizes open figure looks longer or larger than the enclosed area.

*Illusion of movement (Phi-phenomenon):* What we see in cinema is not the real movement. But a series of still pictures projected on the screen at a particular speed, i.e. 20-25 pictures per second. This perception of apparent movement is due to primitive organization of perception. Phi-phenomenon apparatus in the laboratory can demonstrate this illusion of movement. The apparatus has 2 lights. The distance between them can be adjusted as required. In front of light there is a milky glass screen. The rate of on and off lengths can be regulated. They can be made to go on and off alternatively at a particular speed. We perceive it as one light moving.

### *Hallucination*

This is an extreme form of inaccurate, abnormal false perception of stimulus, which does not exist in the environment. For example,

1. Perceiving a snake in the absence of a rope
  2. Seeing ghost in the dark
  3. Seeing god
- Only those who are mentally sick or emotionally maladjusted feel hallucination.
  - It takes place because of inner fear, anxiety or conflict.
  - It uses images instead of stimulus.
  - Hallucination can be visual, auditory, gustatory, olfactory and cutaneous.

# *Motivation*

## **MOTIVATION**

“Motive” a Latin word meaning—to *move*. That is it can be considered as the mover of behaviour. Several hundred words are there like “wants”, “desire”, “need”, “drive”, “goal”, “aim”, “ambition”, give equal meaning to motivation with slight difference.

*Motivation is the internal state of an organism causing it to strive toward a goal, which is often aroused by external stimuli.*

According to Fisher, *A motive is an inclination or impulsion to action plus some degree of orientation or direction.*

### **Drive and Need**

*Often used by psychologists, are components of motives. Drive is a physiological urge such as hunger, thirst and sex. Need is applied to more complex motives like achievements, love, social approval, status and the like.*

Motivation is made up of motives and drives. Motives are expressions of a person’s needs; hence they are personal and internal.

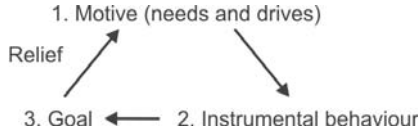
### **Incentive and Reinforcement**

Incentive and reinforcement are the external things in motivation.

### **Motivational Cycle**

Motivational cycle has got three distinct aspects, which are as follows:

- *Some motivating state that impels the person toward some goal*



- The behaviour displayed in striving the goal
- *Achievement of the goal*  
The goals may be positive or negative and learned or innate.  
Positive goal: Hunger, thirst  
Negative goal: (Avoid or escape) Avoidance of pain  
Learned positive goal: Money motivation  
Learned negative goal: Fear - stimulates or motivates the adult to avoid a behaviour (Painful shock).

### Types of Motives

There are three kinds of motives, which are as follows:

- **Primary or biological or basic or unlearned motives:**
  - Hunger
  - Thirst
  - Avoidance of pain
  - Need for sleep and air
  - Elimination of waste
  - Regulation of temperature
  - Sex
- **Stimulus motives:**
  - Activity
  - Curiosity
  - Exploration
  - Manipulation
  - Physical contact

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- **Secondary or social or learned motives:**

- Achievement
- Affiliation
- Aggression
- Power
- Curiosity

### *Primary Motives*

Some primary motives have their origin in known physiological changes in the body like hunger and thirst, which can be called as physiological drives. There are primary motives without physiological changes also like affection.

### *Primary motives with physiological basis:*

- **Hunger:** It can be a powerful motivator. *It comes with a strong desire to eat; sometimes it may be associated with hunger pangs (contraction of the stomach) or light headedness.*
- **Regulation Mechanism:** Several parts of the brain are involved in the regulation of hunger and eating. Most important is *hypothalamus*. There are two centres of hypothalamus:
  - Lateral hypothalamus: Feeding centre or start
  - Ventro-medial hypothalamus: Satiety centre or stop.These centres are affected by conditions in the blood circulated to them. If the feeding center is activated, causes a person or animal to be hungry and to eat. The satiety center brings eating to a halt when enough food has been consumed. *Destruction or stimulation of these centers will affect eating behaviour.*
- **Short-term control of food intake:**
  - Blood glucose level
  - Full or empty stomach
  - Temperature

Reduced blood glucose level, empty stomach and cold environment stimulates feeding centre and makes the subject feel hungry.

- **Long-term control of food intake:** Body weight may have an action on the VMH to influence food intake, e.g. rats with damage to the VMH overeat and become obese. But once the rat reaches a certain level of obesity it no longer overeats and reduces intake. Once again it reaches the normal weight, it starts overeating.
- **Other variables:** Taste and smell may be powerful reinforcement, but they are not essential for the food intake.
- **Thirst:** *Water is constantly being lost through the lungs, the sweat glands of the skin and the kidney. But the body needs to maintain a certain amount of water in the blood and tissues and this need is reflected in the thirst drive. This drive is felt as dryness of the mouth and throat. After when we start drinking and reaches an amount of fluid intake we stop without any signal. This may be due to the receptors in the mouth and throat, which control the fluid intake.*

If there is less water content in the body, to achieve homeostasis it stimulates the release of *antidiuretic hormone (ADH) from pituitary glands*. This acts on the kidneys so that *water is reabsorbed into the blood stream and only very concentrated urine is formed, e.g. concentrated early morning urine.*

- **Regulation of water intake:**

Center: Hypothalamus

Water deficit produces two changes in the blood and fluids surrounding the body cells.

- **Decreases their volume**
- **Increases the concentration of certain chemicals like sodium**

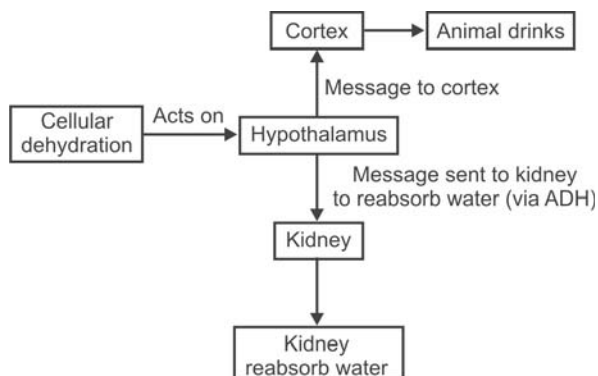


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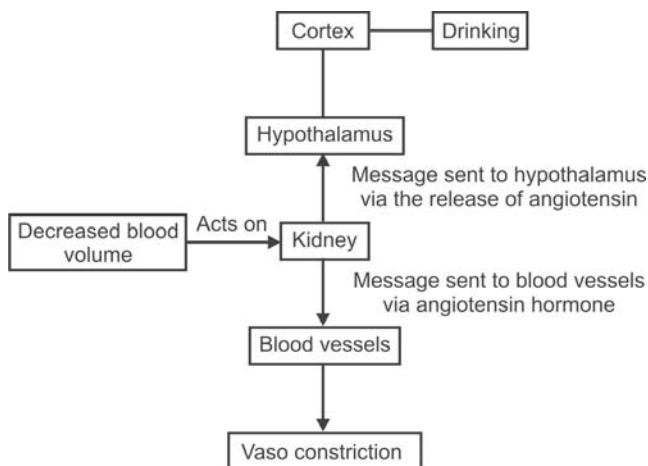
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When the body fluids become concentrated, water passes out of the cell by osmosis, leaving them dehydrated. As per current theories there are two brain mechanisms for control of water intake, which are as follows:

- **Osmoreceptors Mechanism**



- **Volumetric receptors Mechanism**



- Sex: Sex is not a vital motive to the survival of the organism, as are the food and water, but it is essential to the survival of the species. Eating and drinking serve to reduce tissue deficits. But the sexual behaviour uses energy rather than restores it. *Freud proposed that sexual energy or libido builds up within the organism and must find some outlet.* But there is no physiological evidence to suggest a build up of some substance, which is reduced by sexual activity.

Sexual behaviour depends upon a combination of following factors:

- Internal factors (Hormones and brain mechanisms)
- External factors (Learned and unlearned environmental stimuli)
- **Physiological basis of sexual behaviour:** Sexual behaviour of animals depends on *hormones in the blood.*

Androgens—Male

Oestrogens—Female

But this is not applicable for human beings, because it is also a learned behaviour, e.g. the drive continues in many women, after the menopause, when their ovaries have stopped secreting oestrogens. Similarly, men continue to be sexually active even if they are castrated and thereby lose the source of male hormones. Moreover, there is no evidence that treatment with sex hormones play a major role and restores sexual drive when it is weak.

- **Neural Mechanism:** It is very complex. *The hypothalamus, cerebral cortex and some basic spinal reflexes have a control role of sexual behaviour.*
- **Maternal Behaviour:** In many species, care of offspring is a more powerful determiner of behaviour than hunger, thirst or sex.

Prolactin is the hormone responsible for milk production as well as maternal behaviour. If this is injected

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to a virgin female or even into male rats, they begin to build nests and take care of the young as a mother rat does. In submammals, such as birds, it is responsible for food gathering and feeding of the young.

Among primates, maternal behaviour is largely under the influence of experience and learning. The role of hormone is to have the maternal motive operating at the moment of birth rather than after a period experience with young.

*Existence of maternal instinct among females may be the cause for maternal behaviour.*

- **Avoidance of pain:** The need to avoid tissue damage is essential to the survival of any organism. It changes the behaviour of the person. Pain will lead to any behaviour that reduces discomfort. For example, removing hand from a hot stove, swallowing aspirin for headache.

There are specific receptors for the perception of pain and even pathway also. Damage to these receptors may lead to failure of this motive.

### *Stimulus Motives*

According to *drive reduction theory*, an organism that has its biological needs satisfied should be in *quiescent state*. But the evidence indicates that both people and animals are motivated to seek stimulation, to engage in active exploration of and interaction with their environment even when such activity satisfies no bodily need.

- *Exploration activity:* The exploratory behaviour is an indication of a motive to experience variety. This kind of behaviour may or may not have physiological basis.

For example:

1. When animal is hungry or thirsty its activity goes up. (with physiological basis).

2. A rat in a T-shaped maze, which is neither hungry nor thirsty and has not been rewarded with food or water is so restless and adopts activity (without physiological basis).

- *Manipulation*: It means investigation of objects. More sophisticated animals like monkeys and people will manipulate all sorts of things. For example, the monkey takes the latches apart, even though there is no reward except getting satisfaction of manipulating them. We can see the same kind of behaviour in growing child.
- *Competence*: All organisms have a motive for competence, that is, a motive to exercise their capacities to the fullest. When they succeed in doing this they find satisfaction. It is related to achievement, e.g. “strong urge to stand” during the early infancy period.
- *Curiosity and sensory stimulation*: There is a motive with sensory stimulation as its goal, e.g. looking at things, newspapers, books, TV, mountains, etc.

Moreover we try to change the sensory stimulation also as we tire after a while of the same situation, and look for a different set of stimuli. *This is known as curiosity.*

*Similarly*, if something new enters our environment, we give attention to it. This is known as a “Response to novelty”.

Both curiosity and response to novelty are terms applying to a basis motive for sensory stimulation and stimuli change.

### *Social Motives (Psychological Needs)*

*They are learned in social groups. It is also a psychological need since it satisfies the ego.* However, some motives are unlearned like affectional motive (need to love) and the affiliative motive (need to be with others).

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- *Affection and affiliation:* Affection refers to love others while affiliation refers to be with others. The affection motive is related to fear and the affiliation motive is supported by curiosity and manipulative motives. E.g.
  1. Love begins with one's mother.
  2. Young children who gather together in one area of a large playground like to be with others.
- *Self-esteem:* It is the need to think well of oneself. It is a need to regard oneself in relation to others and thus connected with social approval. But it can also mean a need to respect oneself regardless of what others think. Hence, the self-esteem can be satisfied in variety of ways like:
  - By obtaining social approval
  - By finding self-respect
  - By attaining prestige, power or achieving success in some line of endeavor
- *Achievement:* It is also a powerful motive very much related to intelligence and performance. A person who has a high need for achievement has the following characteristic:
  - Moderate risk takers
  - Need for immediate feedback
  - Satisfaction with the accomplishment
  - Doing most things himself rather than getting done by others
- *Security: It is fear oriented.* They want to protect themselves from the demand of life and actively tries to avoid situation, which prevent them from satisfying it.
- *Power:* It is the need to manipulate others or drive for superiority over others. E.g. Politician.

### Theories of Motivation

Motivation can be studied by understanding the following theories of motivation:

- Maslow's hierarchy of needs
- Psychoanalytic theory
- Social learning theory

### *Maslow's Hierarchy of Needs*

Abraham Maslow, a humanistic psychologist proposed an interesting way of classifying human motives. He assumed a hierarchy of motives ascending from the basic complex psychological motives that become important only after the more basic needs have been satisfied. The needs that are low in the hierarchy must be at least partially satisfied before those that are higher can become important sources of motivation.



Maslow's hierarchy of needs

### *Psychoanalytic Theory*

Freud believed that all behaviour stemmed from two opposing groups of instincts.

- Life instincts (Eros) that enhance life and growth
- Death instincts (Thanatos) that push toward destruction

The energy of the life instincts is libido, which involves mainly sex and related activities.

The death instinct can be directed inward in the form of suicide or self-destructive behaviour or outward in the form of aggression toward others.

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These two basic motives (sex and aggression) can't be expressed all the times and become unconscious motives. This is one of corner stones of psychoanalytic theory.

### *Social Learning Theory*

It focusses not on instinctual drives but on patterns of behaviour the individual learns in coping with the environment. The emphasis on the reciprocal interaction between behaviour and environment. The type of behaviour we exhibit partly determines the reward or punishment we receive and these in turn influence our behaviour. It stresses on following:

- Vicarious learning, i.e. learning by observation, e.g. emotions can also be learned.
- Role of models
- Self-regulatory processes, people set their own standards of behaviour.

## *Emotion*

### EMOTION

It is derived from the Latin word “emovere” means to be stirred up. It is a stirred up state of mind. Emotion is a strong feeling. It is a disturbed glandular and muscular activity. It increases energy mobilization.

Crow and Crow convey that an emotion “is an affective experience that accompanies generalized inner adjustment and mental and physiological stirred-up states in the individual and that shows itself in his overt behaviour.”

According to Charles G. Morris defines emotion as “a complex affective experience that involves diffuse physiological changes and can be expressed overtly in characteristic behaviour patterns.”

In our day-to-day life activity we experience many feelings like pleasure, joy, disappointment, grief, etc. The feelings or emotions may be in two types:

- Pleasant emotions—Joy, happiness, affection, etc.
- Unpleasant emotions—Fear, anger, jealousy, anxiety, disgust, etc.

Emotion is a subjective response that is usually accompanied by a physiological change and is associated with a change in behaviour.

### Differences

<i>Motivation</i>	<i>Emotion</i>
<ul style="list-style-type: none"> <li>• It is aroused by internal stimuli and is directed towards certain objects in the environment. E.g. food, water.</li> </ul>	<ul style="list-style-type: none"> <li>• It is aroused by external stimuli and expression is directed towards the stimuli, which arouses it.</li> </ul>



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<i>Feelings</i>	<i>Emotions</i>
<ul style="list-style-type: none"><li>• Feelings persists longer time than emotions.</li><li>• These are simple and sensory.</li></ul>	<ul style="list-style-type: none"><li>• Emotions are outward expressions of feelings.</li><li>• Very complex. Emotions are aroused not only by existing circumstances but also by a recollection of these circumstances.</li></ul>

### Characteristics of Emotions

- Emotion is a strong feeling
- Add colour and spice to life
- Aroused state in the organism
- Associated with physiological changes
- During emotion other activities like perception, learning, consciousness and memory are affected
- Along with bodily changes, there are “*psychological changes*” also takes place.
- Emotions are universal, prevalent in every living organism
- Emotions are personal, differ from individual to individual.
- An emotion can give rise to number of other similar emotions.
- Emotions have the quality of displacement.
- Emotions occur along with feelings.

### *Psychological Changes of Emotions*

The psychological changes of emotions includes following:

- Confusion
- Blocking of memory
- Clouding of consciousness

### *Physiological Changes of Emotions*

Physiological changes of emotions can be of two types, which are as follows:

- Internal changes
- External changes

*Internal changes:* Intense emotions have physiological effects on the body. This is due to the autonomic nervous system. It has two subdivisions, namely:

- Sympathetic division
- Parasympathetic division

The sympathetic nervous system prepares the body for emergency action during aroused states. It causes discharge of hormones adrenaline and noradrenaline. Adrenaline gets circulated to different parts of the body through blood and produces the following changes:

- Increased blood pressure and heart rate
- Changes in the rate of respiration
  - Excitation—increased rate
  - Depression—decreased rate
- Dilation of pupils
- Sweating
- Decreased secretion of saliva
- Increase in blood sugar
- Production of more energy
- Decreased mobility of the gastro-intestinal tract
- Erect hair on the skin (goose pimples)
- Changes in the frequency of the brain waves
- Muscular tension and tremors

Chronic sympathetic activity may cause psychosomatic disorders. An emotion tension state, which is prolonged in life, may cause physical problems to the person.

The role of parasympathetic is to control all the above activities or bodily changes.

*External changes:*

- Change in the voice
- Change in facial expression

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- Changes in the different parts of the body, e.g. stiffness of the body posture and gestures
- Non-verbal expressions,  
e.g.
  1. Spitting at other persons means contempt or disgust in any culture
  2. Throwing shoes at another person is a sign of extreme disgust.

### *Role of Reticular Activating System (RAS)*

It is the system controlling sleep and awakening also to some extent concerned in emotion. RAS has got interconnecting neurons between the spinal cord and cortex via the brain-stem. It not only receives impulses from the brain but also sends information to cortex. It is made active during emotion.

### *Role of Hypothalamus*

Experiments proved that stimulation of the certain areas of hypothalamus might elicit some kind of emotions. such as Fear. So hypothalamus is also having some role in emotion.

## **Parts of Emotion**

Following are the different parts of emotions, which give rise to emotion:

- Subjective feeling
- Emotional expression
- Physiological arousal
- Emotion interpretation

## **Heredity and Emotion**

*Emotional responses must also have a hereditary basis.* Experiments have shown that emotion has *genetic influence* on animals. For example, dogs, cats and white rats are relatively tame.

Wild animals have seldom been domesticated. Certainly the major factor is their emotional behaviours seem to be inherited. The experiment made on the wild grey rats and white rats by crossing them showed the genetic influence.

Extending these findings to human beings has not proved easy. Emotional reactions are harder to identify precisely and harder to measure their intellectual performance. Though the proof is not, so striking as in the case of intelligence, it is nevertheless cleared enough to show a hereditary component in the emotional behaviour of people.

### **Nature and Control of Fear, Anxiety and Anger**

#### *Fear*

*The situation that produces fear changes with age.* In infancy the main causes of fear may be loss of support, experiencing something like a loud noise, stuff animals or false faces.

As children grow older, threats of various kinds become causes of fear. Being left alone or being alone in the dark or watching horror movies can include fear. During adolescent social threat can become the cause of fear.

Fear is a learned emotion, this can be controlled by getting used to these stimuli slowly (behaviour modification).

#### *Anxiety*

*A vague fear experienced without knowing the reason or happenings or matter.* One cause of anxiety is *unconscious memory of a fear stimulus*. It may be childhood experience, which is stored in the unconscious mind (Repression).

Another cause of anxiety is *stimulus generalization*, when we learn a response to a particular situation we refer it to all similar situation. Anxiety leads to conflicts. *These have to be controlled through proper counselling and psychotherapy depending on severity.*

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### *Anger*

*Any interference with goal directed activity provokes anger. It starts with infants. Any restriction to their activity will produce anger such as having things taken away, having their face washed, being left alone, losing the attention of adults.*

In older children and adolescents the cause can be social frustration and disappointment, sarcasm, bossiness, etc.

*One important aspect of anger is that we don't want to see in others. Society attempts to teach us not to be angry. We try to suppress our anger because we don't want people to be angry with others.*

Anger functions temporarily as a motive that needs to be vented. When it is not done we suffer with **frustration**.

### **Theories of Emotions**

These are ideas or principles used to guide us in thinking about emotion. They try to:

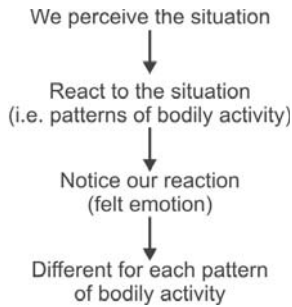
- Relate the bodily changes and the emotion they feel
- Classify and describe the experience.

### *James-Lange Theory*

According to this theory, *emotion is the perception of bodily changes.*

- Presented by American psychologist Carl Lange in 19th century.
- It states that we feel sorry because we cry, angry because we strike, afraid because we tremble.

*Sequence:*



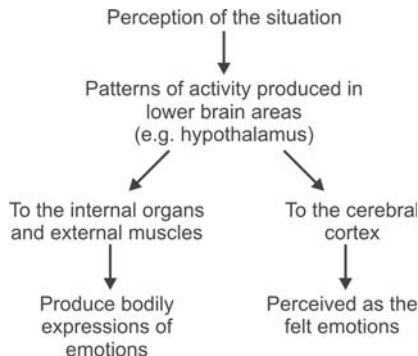
According to this theory, emotion follows after the bodily changes (internal and external).

*Cannon-Bard Theory*

**According to Cannon-Bard theory**, emotions and bodily responses are independent events.

- By Walter Cannon and Philip Bard in 1920's.
- Both bodily changes and felt emotion are triggered simultaneously.
- Bodily changes are not the basis for emotion.
- It strengthens the *role of hypothalamus* in emotion.

*Sequence:*



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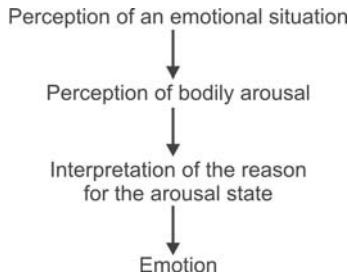
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### *Schachter-Singer Theory*

Emotion is the result of interpretation of bodily arousal or changes.

- In 1962, argued that the bodily changes are same for the most of the emotions we feel (ambiguous).
- Perceiving the changes is difficult.
- Any number of emotions can be felt from a stirred-up bodily condition.

### *Sequence*



### *Cognitive-Appraisal Theory*

- By *Richard Lazarus* (1970, 1984).
- It emphasizes on *appraisal*.
- It is the evaluations (cognition) of information coming from the environmental situation and from within the body. In addition memories of past encounters with similar situations.
- According to this theory, different emotional reactions to the same stimulus may occur because of difference in the subjects appraisal. For example If one of our friend wins a prize we may respond with joy or jealous.

### *Motivational Theories*

Concerned with the relationship of emotion to motivation.

**Leeper(1970):** He says that emotions should be considered as motives, which keep behaviour going and aimed at long-term goals.

**Tomkins(1970,1981):** He says that emotions provide energy for motives. They amplify the drives to give them their strong motivational power.

*Activation Theory*

- By Lindsley
- According to Lindsley, emotions provoking stimuli activate the RAS in the brainstem, which in turn sends impulses both upward toward the cortex and downward toward the musculature.

*Plutchik's Theory*

It proposes that there are certain primary emotions derived from evolutionary processes and that these primary emotions can be arranged in an orderly way to bring out relationships, similarities and differences among them.



# *Learning*

## **LEARNING**

Learning is a key process in human behaviour. It is the basic to understand behaviour. It plays a vital role in the language, customs, attitudes and beliefs, our goals, personality characteristics and even our perception.

Learning can be defined as a permanent change in behaviour that occurs on a result of practice or experience.

Woodworth: “Any activity can be called learning so far as it develops the individual and makes him alter behaviour and experiences different from what that would otherwise have been.”

Henry P. Smith: “Learning is the acquisition of new behaviour or the strengthening or weakening of old behaviour as the result of experience.”

It has three important features, which are as follows:

- Learning brings change in behaviour
- Changes take place through practice or experience and not due to maturation
- The change in behaviour should be relatively permanent lasting for years, months or weeks.

Numbers of experiments were conducted on animals to know how they learn.

## **Theories of Learning**

Following are the different theories of learning:

- *Trial and error*
- *Theory of conditioned reflex*
  1. Classical conditioning
  2. Operant conditioning

- *Cognitive learning*
  1. Insight learning
  2. Sign learning
- *Social learning*

### *Trial and Error Method*

**Edward Lee Thorndike** (1874-1949), the American psychologist conducted a series of experiment (1911) on trail and error method of learning by animal (monkeys, dogs, hens, cats and rats were used).

### *Experiment*

1. A hungry cat was kept inside a puzzle box and a piece of food outside the cage. A string from the door went over a pulley to a wire loop hanging in the box. Whenever the cat clawed at the loop the door would open and the cat could escape from the box and eat. When the cat placed inside the cage, it was restless. Eventually, in its random movement around the cage, the cat happened to pull the loop, the door opened.

Thorndike then put the cat in the cage for several trials. As the trial increased, the cat took less time to open the door. It showed that the cat learned to open the door. This can be shown on a graph to show how the time reduced as the trial increased.

2. A hungry rat was set free at the entrance of a wooden maze, which contained many pathways from the entrance to the centre. But all the ways except one were blocked somewhere in the middle. A piece of bread was placed in the centre. Seeing the bread the rat was rushing to get it. It went on wrong pathways, after number of trials it got the correct way and the bread. The experiment was repeated several times till the rat was able to identify the right path at the very first glance.

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From the above experiment Thorndike has mentioned the following salient feature of animal learning:

- From trial to trial, the useless movement gradually reduced
- The random movements become more specific
- Finally the animal learns the method

This is known as *trial and error learning*. Thorndike had suggested three law of learning from this study:

- Law of Effect
- Law of Frequency
- Law of Recency

*Law of effect:* Any response followed by a reward (food) will be strengthened. Any response, which is unsuccessful, will be weakened.

*Law of frequency:* There is a direct relationship between repetition and the strength of stimulus-response bond. Law of frequency or exercise is based on the law of use or disuse.

- Law of use: *Repeated task shows a tendency for the strengthening of the S-R bond.*
- Law of disuse: *Unrepeated shows a tendency for the weakening of the S-R bond.*

*Law of recency:* Any activity, which is learnt, recently has an advantage of being repeated once again because of fresh experience.

### *Theory of Conditioned Reflex*

*Classical conditioning:* Classical conditioning is also known as Respondent conditioning, Pavlovian conditioning or Associative learning.

The study began in the early years of 20th century when **Ivan Pavlov**, a Russian physiologist who had already won the Nobel Prize (1904) for research on digestion, turned his

attention to learning. He noticed that a dog began to salivate at the mere sight of the food dish. Pavlov decided to see whether a dog could be taught to associate food with other things such as light or a tone.

- *Experiment:* Pavlov first attached a capsule to dog's gland to measure salivary flow. A bell was rung, every time the dog was given the meat powder. This was repeated several times. Later Pavlov observed that the dog salivated at the mere sound of the bell without the meat powder being followed. Thus, the dog had been conditioned to respond to a new stimulus, which was previously an unconditioned response.

Here the food or meat powder was unconditioned stimulus and the bell was conditioned stimulus and the salivation was unconditioned response.

The condition stimulus while evokes a response was conditioned response.

- Before conditioning:  
CS (Bell sound)—No response or irrelevant response  
US (Food)—UR (Salivation)
- During conditioning:  
CS (Bell)—No response  
CS (Bell) and US (Food)—UR (Salivation)
- After conditioning:  
CS (Bell)—CR (Salivation)

*Laws of Classical Conditioning:*

- **Extinction:** When a CS is presented alone without the UCS for a number of trials, the strength of the CR gradually decreases and this process is called Extinction, i.e. repetition of the response without reinforcement will lead to extinction. This is not permanent.

[The following of the conditioned stimulus by the unconditioned stimulus is known as reinforcement.]

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- **Spontaneous recovery:** Given a rest period after a series of presentations of the CS alone, the organisation will once again emit the CR, when the CS is presented. This is known as Spontaneous recovery or reconditioning.
- **Generalisation:** It is that phenomenon by which other stimuli, which are in some ways similar to the conditioned stimuli, are able to evoke the same conditioned response. E.g. A child who is attacked by a dog can develop a fear for furred animals.
- **Discrimination:** It is the exact complementary aspect of generalization. It is the reaction to differences where generalization is reaction to similarities. Conditioned discrimination is brought through selective reinforcement and extinction, e.g. dog experiment with S1 and S2 lights or tones.

*Uses:*

- Used to develop good habits
- Breaking bad habits and elimination
- To train animals
- Used in psychotherapy
- Used to develop attitude

*Operant Conditioning (Instrumental Conditioning):*

The term operant conditioning was coined by B.F. Skinner to indicate that when a response operates on the environment, it may have consequences that can affect the likelihood that response will occur again.

It operates on the law of effect proposed by Thorndike. If the behaviour is rewarded, it persists, if it is punished it stops.

*The respondent behaviour is directly under the control of a stimulus or in classical conditioning, whereas operant behaviour is not evoked, but emitted. It is spontaneous and not a response to a specific stimulus. It is voluntary.*

- *Experiment:* Skinner placed a rat inside a glass box containing a lever and food tray. The animal was free to explore the box. Whenever the lever in the box was pressed, automatically a pellet of food was dropped on the tray. A mechanical device recorded the number of times the rat pressed the lever.

Pressing the lever—The operant response

The food—Stimulus consequence

The rate of presses increased notably with the rewarding of the rat with food each time he pressed the lever by reinforcement the rat learned the instrumental or operant response. The reinforcement can be positive or negative/reward or punishment.

In the instrumental conditioning the learner has some control over his circumstances. This is very useful in:

- Shaping and modification of behaviour
- Used in psychotherapy
- Used in learning

<i>Classical conditioning</i>	<i>Operant conditioning</i>
<ul style="list-style-type: none"> <li>• Response is elicited.</li> <li>• Time interval between CS and UCS is rigidly fixed.</li> <li>• Based on law of contiguity (things occurring closer in time and space get associated.)</li> <li>• Stimulus oriented.</li> <li>• Involuntary response.</li> <li>• Involves ANS.</li> <li>• Organism is passive.</li> <li>• Pairing of UCS and CS.</li> <li>• Reinforcement comes early.</li> </ul>	<ul style="list-style-type: none"> <li>• Response is emitted.</li> <li>• Depends on the organism's own behaviour.</li> <li>• Based on law of effect.</li> <li>• Response oriented.</li> <li>• Voluntary response.</li> <li>• Involves CNS.</li> <li>• Organism is active.</li> <li>• No pairing of stimulus.</li> <li>• Reinforcement comes after the response.</li> </ul>

### *Cognitive Learning*

According to cognitive theories, learning cannot be explained in terms of S-R association alone. They propose that a learner

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forms a cognitive structure in memory, which organizes memory information into relationships and meanings without any known reinforcement, new associations are formed and new relationships are perceived along events, simply as a result of having experienced these events. In this stimulus-stimulus associations are learned.

*Experiment: Wolfgang Kohler* conducted an experiment on chimpanzee and his name was Sultan. He kept the chimpanzee inside a cage and kept a banana outside the cage at a little distance. He placed two sticks inside the cage, one longer and one shorter. The chimpanzee could get the banana by using the longer stick. Accordingly, the chimpanzee used the longer stick and got the banana, which was a sign of insight.

In another experiment Kohler used 2 sticks, which can be fitted together to make it long. The banana was kept outside the cage. The hungry sultan who was inside the cage tried to get the bananas by extending out his hands, then with the sticks. Then he got tired and started to play with the sticks. Meanwhile one end of the stick got incidentally fastened into the ring of the stick and both were joined. Now sultan used this joined stick to pull the banana and succeeded.

*Characteristics of Learning by Insight (Aha Experience):*

- It is sudden
- It is due to understanding
- It alters perception
- New patterns of organisation
- Higher species have more insight
- Insight develops usually after some trial and error.

*Social Learning (Through Observation)*

Albert Bandura and Richard Walters focussed on the highly efficient form of learning known as observation learning or Imitation.

Imitation is defined as a response that is like the stimulus triggering the response a person or animal watches or hears another do or say something then responds in the same way.



# *Thinking*

## **THINKING**

Thinking is a higher mental process, which involves verbal symbols, internal, visual and auditory images, ideas, concepts and mathematical symbols. It takes into account past experiences, future possibilities and external realities as well. Thinking usually takes place when the individual is exposed to an unfamiliar situation in which habitual responses are inadequate for adjustment, such a situation is known as problem situation.

Ross: “Thinking is mental activity in its cognitive aspect or mental activity with regard to psychological objects.”

Gilmer: “Thinking is a problem-solving process in which we use ideas or symbols in place of overt activity.”

- Thinking is a cognitive activity
- It is goal oriented
- It is a problem-solving behaviour
- It is a process of mental exploration
- Uses symbols (a symbol is an event or item in the world)
- Images, concepts, symbols and languages are used as tools of thinking (concept is an idea or image about a object or event).

## **Types of Thinking**

Following are the different types of thinking:

- Perceptual or concrete thinking
- Conceptual or abstract thinking
- Reflective or logical thinking (Reasoning)
- Creative thinking

### *Concrete Thinking*

Concrete thinking is based on perception. It is the process of interpretation of sensation according to one's experience. This kind of thinking is the simplest form of thinking. For example, children perceiving objects and events.

### *Abstract Thinking*

It does not require the perception of actual objects or events. It is superior to perceptual thinking as it economizes efforts in understanding and helps in discovery and invention. Language also plays a major role in conceptual thinking.

### *Logical Thinking*

It is also a higher type of thinking which usually aims at problem solving. There is an insightful approach, which accounts all the relevant facts before finding a solution of the problem in hand.

### *Creative Thinking*

It is aimed at creating something new. For example, thinking of scientists, inventors, writers and artists, etc.

Creative thinking is defined as personal, imaginative thinking which produces a new, novel and useful solution. Here, the individual generates an original, unusual and productive solution to a problem.

### *Nature of Creative Thinking*

Creative thinking uses divergent thought and not convergent thought. In divergent thinking the individual attempts to generate a novel solution to a problem. It is not guided by rules or convention, as is the case with convergent thinking. The processes involved in creative thinking are studied through the reports of great thinkers and inventors. Interviews, questionnaires and introspective reports are used for this purpose.

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- **Convergent thinking:** It is concerned with a particular end result. The thinker gathers information relevant to the problem and then proceeds by using the problem solving rules to work out the right solution. The result of convergent thinking is usually a solution that has been previously arrived at by someone else.
- **Divergent thinking:** In this variety of thoughts are involved. When thinking creatively, people tend to think in a divergent manner, thus having many varied thoughts about a problem. It includes autistic thinking and some convergent thinking.

(Some thinking is highly private and may use symbols with very personal meanings is called autistic thinking).

Convergent thinking used to gather information and thoughts. Then the creative thinker may drift into autistic thinking or free association to get a novel solution.

### *Steps in Creative Thinking:*

Steps in creative thinking are given by Graham Wallas, which are as follows:

- Preparation
- Incubation
- Illumination
- Evaluation
- Revision
- *Preparation:* The thinker formulates the problem and collects the facts and materials considered necessary for new solution. Very frequently the creative thinker, like Watson, finds that the problem cannot be solved after days, weeks or months of concentrated effort. Failing to solve the problem, the thinker either deliberately or involuntarily turns away from it, initiating stage2, incubation.
- *Incubation:* During this period, some of the ideas that were interfering with the solution tend to fade. In addition, the creative thinkers may have the experiences that (although

the thinker does not realise it at that time) provide clues to the solution. The unconscious thought processes involved in creative thinking are also at work during this period.

- *Illumination*: If the thinker is lucky, stage 3, occurs with its “aha!” insight experiences, an idea for the solution suddenly wells up into consciousness.
- *Evaluation*: The apparent solution is tested to see if it is satisfying the problem.
- *Revision*: Frequently, the insight turns out to be unsatisfactory and thinker is back at the beginning of the creative process. In other cases, if it is satisfactory but needs some modification, the revision stage is reached.

#### *Characteristics of Creative Thinkers (Traits):*

Many creative people are talented in some special way, in music or mathematics for instance. In other words, they have certain specific abilities that they can use in their search for new ideas. And while many creative thoughts come as sudden insights such “flashes” are more likely after hard thinking about a problem.

So **diligence** and **strong motivation** to work at solving problems are important characteristics of creative thinkers.

People who think creatively seem to have some personality features in common. Evidence obtained from objective and subjective personality tests indicates that original or creative people tend to have the following traits:

- They prefer complexity and some degree of apparent imbalance in phenomena.
- They are more complex psychodynamically and have greater personal scope.
- They are more independent in their judgments.
- They are more self-assertive and dominant.
- They reject suppression as a mechanism for the control of impulse.

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- Origen (a personality dimension) person high on this dimension resists conventional approaches that have been determined by others.

### *Other traits:*

- Sensitivity to people, events and problems
- Broad knowledge and interest
- Verbal fluency
- High energy level
- Impatience with routine task
- Like to take risk
- Persistence in tasks
- Independent, willing to be different
- Good imagination.

## Concepts

Concepts are the abstract forms of past experiences. They are general thoughts. The development of concepts in the human being is gradual. It is a word or idea with generalised meaning. It is used for abstract thinking.

### *Development of Concept*

Originally the concepts in the mind of the child take the form of the impressions of objects and creatures, which he receives, but later on these egocentric concepts are replaced by mechanistic concepts. They help the individual to behave in society.

### *Concept Formation*

Many mental activities take place in the formation of concepts. Following steps are important in creating a concept:

- Comprehensive perception
- Analysis
- Comparison

- Synthesis
- Naming

*Comprehensive perception:* Observing more than one human being or objects or events.

*Analysis:* Analysis of qualities of the particular thing, which is perceived.

*Comparison:* Comparison of qualities for similarity or dissimilarity.

*Synthesis:* Synthesis of similar qualities for concept formation. Discrimination is needed for the separation of similar and dissimilar qualities after which the generalisation of the similar one's is affected.

*Naming:* After synthesis each concept gets a name. For example, humanity.

# *Intelligence*

## **INTELLIGENCE**

Intelligence is an individual personality characteristic. David Wechsler suggests that intelligence of a person is his ability to adjust to the world. Wechsler has defined intelligence as the aggregate or global capacity of the individual to think rationally, to act purposefully and to deal effectively with the environment. It includes the power of adaptation of an individual to his milieu and ability to learn and do abstract thinking.

### **Some Definitions**

- Intelligence is the ability to give responses that are true—Thorndike.
- Intelligence is the ability to carry on abstract thinking—Terman.
- Intelligence is a biological adaptation consisting of process of assimilation and accommodation—Piaget.
- Intelligence is a goal directed behaviour—Binet.
- Intelligence is creativity—Guilford.

### **Types of Intelligence**

Following are the different types of intelligence:

- *Mechanical intelligence*: It is the skill to manipulate tools and gadgets and in managing the working of machines, e.g. mechanical engineers.
- *Abstract intelligence*: It is the ability to handle words, numbers, formulae and scientific principles, e.g. lawyers, doctors and literary men.

- *Social intelligence*: It means understanding of people and the ability to act wisely in human relationships, e.g.—salesman, diplomats and politicians.

### Intelligence/Aptitude

Intelligence test is the assessment of the capacity or the potentiality that a person has, whereas the aptitude tests measure capacity that predicts what one can accomplish with training. An aptitude is a combination of characteristics indicative of an individual's capacity to acquire some specific knowledge or skill.

According to Bingham: 'Aptitude is condition or set of characteristics regarded as symptomatic of an individual's ability to acquire with training some usually specified knowledge, skill or set of responses such as to become a musician or engineer etc'.

According to Van Duse: 'Aptitude is a measure of the probable rate of learning which results in interest and satisfaction and is relatively specific and narrow'.

### Theories of Intelligence

The theories proposed what the structure of intelligence is or what the different components or elements of intelligence are.

- **Unitary Theory or Monarchic Theory**: It holds that intelligence consists of one factor, simply a fund of intellectual competence which is universal for all the activities of the individual.
- **Multifactor Theory or Anarchic Theory**: (by Thorndike) It considers the intelligence as a combination of numerous elements or factors. There are many specific abilities, which are responsible for different tasks.



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- Spearman's two factor Theory or Eclectic Theory: Every different intellectual activity involves a general factor "G" which is shared with all intellectual activities and a specific factor "s" when it shares with one.
- Group factor theory: (by Thurstone) According to this, intelligence is comprised of nine "primary mental abilities".

### Primary Mental Abilities

<i>Ability</i>	<i>Description</i>
Verbal comprehension	The ability to understand the meaning of words; vocabulary tests represent this factor.
Word fluency	The ability to think of words rapidly, as in solving anagrams or thinking of words that rhyme.
Number	The ability to work with numbers and perform computations.
Space	The ability to visualize space-form relationships, as in recognizing the same figure presented in different orientations.
Memory	The ability to recall verbal stimuli such as word pairs or sentences.
Perceptual speed	The ability to grasp visual details quickly and to see similarities and differences between pictured objects.
Reasoning	The ability to find a general rule on the basis of presented instances, as in determining how a number series is constructed after being presented with only a portion of that series.

### Intelligence Tests

The intelligence tests can be classified into two types, which are as follows:

- On the basis of size
- On the basis of medium used

<i>On the basis of size</i>	<i>On the basis of medium used</i>
Individual tests	Paper—pencil tests
Group tests	Verbal tests
	Non-verbal tests
	Performance tests
	culture fair tests
	or
	culture free tests

## Intelligence Vs Achievement

An intelligent test can measure “what an individual can do” while achievement tests can measure “what has already been done by an individual”. But one’s achievement is direct reflection on one’s intelligence.

According to Smith, ‘Achievement is the task oriented behaviour that allows the individuals performance to be evaluated according to some internally or externally imposed criterion that involves the individual to compete with others or otherwise involves some standard of excellence’.

## Assessment of Intelligence

Alfred Binet(1875-1911) was the first French psychologist to derive an intelligence test.

He was studying psychological problems in school children. He felt that a graded series of psychological test could be devised to indicate the level of each child’s intelligence.

In collaboration with Simon, Binet experimented those children whose progress was average in school. They developed their first intelligence scale in 1905 which involved attention, memory, discrimination and some other simple psychological processes, could be performed by average individuals. Their scale consisted of 30 items arranged in order of difficulty or complexity. Some items referred were recognition of food, repeating digit immediately after hearing, defining familiar object, etc. By applying this scale, Binet-

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Simon attempt to discover child mental development. This test was revised in 1908 and then revised in 1911. In India; Binet-Kamath intelligence scale is widely used. Lewis Terman of Stanford University produced the English versions of the test in 1916 known as Stanford-Binet intelligence scale. The score of the test will give the mental age (MA).

### *Concept of IQ*

Binet introduced the idea of mental age. Stean suggested another term known as Intelligence Quotient (IQ).

*IQ is said to be a ratio between mental age and chronological age.*

$$IQ = (\text{Mental age} / \text{Chronological age}) \times 100$$

*Mental age:* It is defined as “an expression of the extent of development achieved by the individual started in terms of the performance that can be expressed at any given time age”.

If a 3-year-old child passed the items meant for 3-year-old child, his intelligence level is average.

If he passes items meant for 5-year old, his mental age is 5 or superior in intelligence. If he could not pass 3-year-old items, his mental Age is below average.

*Chronological age:* It refers to age in years, months and hours. It is calculated from the time and date of birth of individual.

### *Terman Classification of IQ*

<i>IQ</i>	<i>Classification</i>
140–169	Genius
120 –139	Very Superior or Gifted
110–119	Superior
90–109	Average
80–89	Slow Learners
70–79	Border Line
50–69	Morons
25–49	Imbeciles
Below 24	Idiots

*Growth of Intelligence*

- Vertical growth (upto 22 years)
- Horizontal growth (after 22 years)

**Wechsler Scale of Intelligence**

Wechsler began his test construction at Newyork. He prepared the *Wechsler Bellevue Scale* first in 1939 to provide clinical evaluation. This is because one of the chief tools of clinical psychologist after the World War II. Today Wechsler series consists of

- WAIS (Wechsler Adult Intelligence Scale)—1955
  - WISC (Wechsler Intelligence Scale for Children)—1949
- WAIS is for ages between 16 or above. WISC is for ages between 5 to 15.

*The Wechsler scale has 11 subitems grouped in a verbal and performance scale.*

*The verbal scale includes tests of information, comprehension, digits span, similarities, arithmetic and vocabulary.*

*The performance scale includes picture arrangements, picture completion, block design, object assembling and digit symbol test.*

This test enables the investigator to infer patterns of abilities from which localised brain damage can be identified.

**Tests comprising the Wechsler Adult Intelligence Scale**

<i>Test</i>	<i>Description</i>
<b>Verbal Scale</b>	
Information	Questions tag general range of information; for example, “How many weeks in a year?”
Comprehension	Tests practical information and ability to evaluate past experience; for example, “How would you find your way out if lost in a forest?”

*Contd...*

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Contd...

<i>Test</i>	<i>Description</i>
Arithmetic	Verbal problems testing arithmetic reasoning.
Similarities	Asks in what way certain objects or concepts (for example 7-5-6-3-8) are repeated in a forward or backward direction. Tests attention and role memory.
Vocabulary	Tests word knowledge
<b>Performance Scale</b>	
Digit symbol	A timed coding task in which numbers must be associated with marks of various shapes; tests speed of learning and writing.
Picture completion	The missing part of an incompletely drawn picture must be discovered and named; tests visual alertness and visual memory.
Block design	Pictured designs must be copied with blocks; tests ability to perceive and analyze patterns.
Picture arrangement	A series of comic strip type pictures must be arranged in the right sequence to tell a story; tests understanding of social situations.
Object assembly	Puzzle pieces must be assembled to form a complete object such as a human profile or elephant; tests ability to deal with part-whole relationships.

### Raven's Progressive Matrices Tests (RPMT)

This is the single most popular technique for measuring mental ability. This was constructed by L.S. Panrose and Raven in England and published as Raven's Progressive matrices test in 1938.

This test may be administered individually or in a group. The directions are very simple. This test can be used for hiring employee or selecting students for special courses. The test has five sets, i.e. A, B, C, D, E and each set has 12 patterns. Total 60 patterns.

The answers are referred to the key and scores are referred to the NORMS. Accordingly the percentile point is fixed and also the level of intelligence is fixed.

### **Bhatia's (Alexander) Performance Test**

It has five subtests namely:

- Koh's block design test
- Pass along test
- Pattern drawing test
- Immediate memory for sound
- Picture construction test

These are non-verbal tests. The individual has to make motor responses. Performance tests are more useful when used with persons who are not able to speak, hear and illiterates.

# *Memory*

## **MEMORY**

Memory refers to the encoding, storage and retrieval of the information. Earlier it was looked in terms of associations, connections or S-R connections by conditioning study psychologists. The current trend in the study of memory emphasizes cognitive or mental processes.

- **Cognition:** It is the process through which information coming from senses is “transformed, reduced, elaborated, retrieved and used”.
- **Information:** It is the sensory input from the environment.

## **Simple Memory Theory**

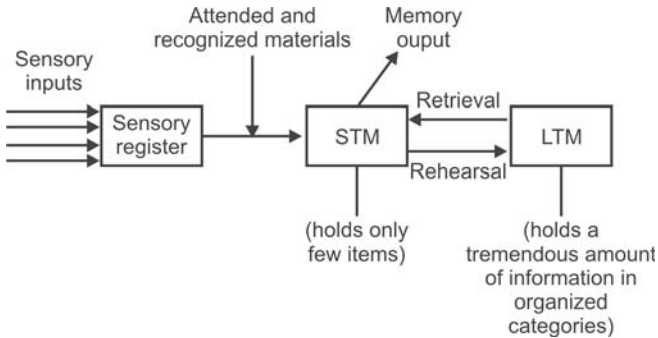
In this memory is said to consist of three cognitive processes.

- **Encoding:** It is the process of receiving sensory inputs and transferring it into a code.
- **Storage:** It is the process of actually putting the coded information into memory.
- **Retrieval:** It is the process of gaining access to the encoded, stored information when it is to be used.

## **Information-Processing Theory (Atkinson and Shiffrin)**

It emphasizes the processing of information in stages or steps.

- Sensory register
- Short-term memory [STM]
- Long-term memory [LTM]



### Sensory Register

- Information held for a brief time in the sensory channels themselves (few records)
- Relatively large storage capacity (16 items or more)
- Loses information through decay of the memory trace
- Attended to and recognized may be passed along to STM.

### Short-term Memory (STM)

- Holds information received from the sensory register for upto about 30 seconds, the length of the retention depends on the number of other factors
- Holds relatively small amount of information, about 7 items or chunks
- Type of information stored: Sounds, images, words, and sentences.
- Informations lost from STM by being displaced by new inputs.
- Before it is lost some of the items can be retrieved and used by rapid scanning process.
- Rapid scanning process is an exhaustive process.
- Some of the items neither lost nor retrieved, passed through along to LTM by rehearsal.



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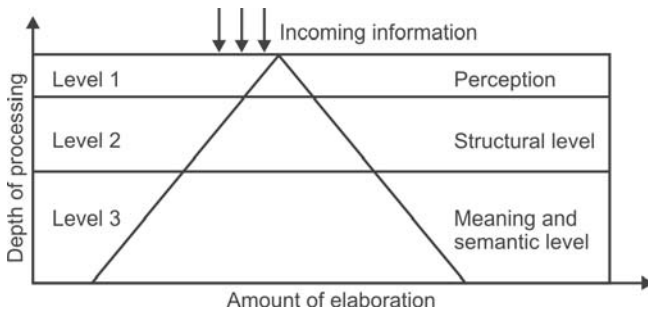
- Rehearsal:
  - *Maintenance rehearsal*: Just going over and over to remember items (repetition) to LTM.
  - *Elaborative rehearsal*: By giving meaning and organization to LTM.

### Long-term Memory (LTM)

- It may last for days, months, years, or even life time.
- No limit for storage capacity
- It consists of words, sentences, ideas, concepts and life experiences.
- Two LTM stores:
  - **Semantic memory**: Contains meaning of words and concepts and rules for using them in language and thinking, e.g. reinforcement is critical in operant conditioning.
  - **Episodic memory**: Memory of specific things that have happened to a person, e.g. when I was 21 years old, I completed BPT.
- Informations may be lost or not retrieved because of difficulties in the search process or interference by other memories.

### Levels of Processing Theory

(Emphasizes depth of processing and amount of elaboration)



## Memory and Perception

Human long-term memory is not an untidy jumble of unrelated information. We keep our memory store in order. We organise, categorise and classify information in a number of ways. LTM is a bit like a library with a good cross-indexing system.

### *Evidence for Organisation Process in LTM*

TOT—Tip of the tongue phenomenon.

When we try to retrieve something, for example, name or word, but we can't quite remember it; TOT results. When the subject in TOT state, they tend to retrieve words from LTM that

- Sounded like target word or name.
- Started with the same letter as the target word.
- Contained the same number of syllables as the target word.
- Meaning similar to the target word.

This indicates the organisation of the information. Two kinds of Long Term Memory Organisation are there, which are as follows:

- Semantic memory
- Episodic memory

### *Role of Organization in Encoding and Storing*

“Encoding and storing” is facilitated by organization, which is inherent in the material itself. Sometimes subjective organization is imposed on information we use, images and modifying the information (known as constructive processes) for the encoding and storing.

For example:

1. Hierarchy of minerals, vitamins classification
2. Visual images
  - Iconic images (likeness image)
  - Concrete (desk) images
  - Abstract (mercy) images

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The greatest effect of imagery on recall was found when the stimulus terms evoked concrete imagery, e.g.

Concrete word—bottle

Abstract word—truth

(This is proved by paired associate technique).

3. Modifications are called constructive processes, E.g. newspaper reading, book or story reading.

After reading we infer the information and store.

### Forgetting

It refers to the apparent loss of information already encoded and stored in LTM. The following are the factors influencing the forgetting process.

#### *Retroactive and Proactive Interference*

Learning new things interfere with our memory, learned earlier.

Memory interferences resulting from activities that came after or subsequent to the events you are trying to remember is called '*retroactive interference*'.

On the other hand, *proactive interference is due to events that came before the to-be-remembered information.*

#### *Retroactive interference:*

Experimental group	Learn A	Learn B	Recall A
Control group	Learn A	Rest	Recall A

#### *Proactive interference:*

Experimental group	Learn A	Learn B	Recall B
Control group	Rest	Learn B	Recall B

#### *Difficulties with the Retrieval Process:*

- Without appropriate retrieval cues, one forgets.
- Sometimes we remember things after a long time. This is because of new retrieval cues.

- Failed reconstructive processes.
- Emotional factors lead retrieval failure.

*Motivated Forgetting:*

“Forgetting in all cases is proved to be founded on a motive of displeasure”.

Key concept is—‘Repression’.

The unpleasant memories are repressed by the individual than the pleasant one (i.e., anxiety—provoking information forgotten).

**Recall of Events (Retrieval)**

Factors:

- *Retrieval cues*
- *Reconstructive process*

*Retrieval Cues or Tags*

- Retrieval cues aids recall from LTM store
- Cues direct the memory search to appropriate part of the LTM library.
- During the time of subjective organization, of what we are learning, one should form his own retrieval cue before or at the time of encoding.

E.g.: VIBGYOR—For Light Spectrum

- ‘State dependent memory / learning’ can also be looked at as lending support to the importance of the retrieval cues. When human beings or animals put back into the original emotional or drugged state, in which they did the encoding process, the memory can be retrieved. E.g. Alcoholic’s memory.

*Reconstructive Process*

- These are modifications of the already stored inputs.

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- It can distort what is remembered.
- Reconstruction is sometime called ‘confabulation’ in case of people with mental disorders who have stored a very little and who then try to fill in the memory gaps during retrieval.

### Memory and Aging

Normal aging has its problems too. They suffer with forgetfulness. The memory problem is anterograde in nature, i.e. trouble in remembering events that happened recently. Keeping reminder cues can solve this kind of milder problems.

E.g.: By writing down the things. By organising things in order or following a routine in life. Diseases also may affect their memory lead to *amnesia* (loss of memory). It may be psychological or biological. E.g.: Alzheimer’s disease, Senile dementia, etc.

### Effective ways of Learning (Methods to improve Memory)

Memory depends on the efficient method of learning. Some of these methods of learning are:

- Spaced vs unspaced method
- Whole vs part method
- Incidental vs intentional learning
- Knowledge of result
- Overlearning/Repetitions
- Mnemonic method
  - Memory pegs
  - The method of Loci
  - Numbers and letters method
  - Stories you tell yourself
  - Remembering faces and names
  - Chunking

### *Spaced vs Unspaced*

An individual may try to master the material at one continuous sitting or he may distribute the practice over a period of time with interval of rest. Learning the material at one continuous sitting is known as Unspaced or Massed learning.

Learning the material spread over a period of time or learning with interval is known as Spaced or distributed. Practice methods or studies have been made to prove which method is more economical. Some are in favour of massed and some are for distributed. However, large numbers of studies are in favour of spaced method, provided there is sufficient time for interpretation.

### *Whole vs Part*

Learning the whole material at one stretch is whole method. Dividing the material into small units is part method. The efficiency of the method depends on the length of the material to be learnt, the age and intelligence of learner.

RS Woodworth has done a study on this subject. The individual was asked to learn two passages of 240 lines each from the same poem. The subject was asked to learn the passage by whole method and the other by part method allowing 35 minutes each day. The following results obtained by the study:

<i>Method of study</i>	<i>No. of days required</i>	<i>Total time required</i>
30 lines per day	12 days	481 minutes
Three reading of the whole passage per day	10 days	348 minutes

The result shows that the whole method is superior to part method.

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### *Incidental vs Intentional Learning*

Learning by incident will not help individual to remember. The intentional learning motives the individual to learn.

### *Knowledge of Result*

Studies show that frequent and regular review of the amount of progress being made towards the goal, acts as a strong motive to promote continuing effort on the part of the learner.

### *Overlearning/Repetitions*

Overlearning/repetitions at regular intervals help to retain the material over a longer period of time.

### *Mnemonic Methods*

Mnemonic come from the Greek word for memory and refers to specific memory in human technique. This method involves a systematic and organised set of images or words.

### *Memory Pegs:*

The cues (signals) are called Pegs.

E.g.—The word “homes” can be used as pegs. The letters can be used for naming the great lakes such as Hurone, Ontario, Michigan, Erie and Superior.

The order of the colour in the spectrum can be remembered by associating each colour with VIBGYOR or ROY—G—BIV.

*Loci method:* The word loci means “places”. The memory pegs of this system are parts of your images of a scene. The scene can be a street, a building with rooms, and layout of a college campus.

Start imaging a building with a number of rooms in it and several items of furniture in each room. The trick is to make associations with as many rooms and items of furniture as needed and then to take a mental tour of the rooms in order.

*Rhyming system:* In number system you form an image with each number. Think of words that rhyme with the numbers.

- One is bun
- Two is shoe
- Three is tree
- Four is door and so on

When you have a list to remember, you can associate the items on the list with your images of the numbers. Letter systems are similar that one can establish mnemonic pegs by forming strong, distinctive images of words that start with the sound of the letters of the alphabet.

*Stories you tell yourself:* If you have a list of unrelated items to remember, a useful mnemonic device is to relate the items in a made-up story.

*Remembering names and faces:*

- Be sure we hear the name clearly when introduced.
- Repeat the name when acknowledging the introduction.
- If the name is unusual politely ask our new acquaintance to spell it.
- Make a mental image of that person and relate it to some pegs.

*Chunking:* A systematic way of encoding information, e.g.—A telephone number consists of seven items (5506047) can be arranged in 2 or 3 chunks (break the items into set).

<u>55</u>	<u>06</u>	<u>047</u>	
1	2	3	chunks



# *Personality*

## **PERSONALITY**

The word personality is derived from Greek word 'persona', the mask used by actors in Greek drama.

Personality is the total quality of an individual's behaviour as it is shown on his habits of thinking, in his attitude, interests, his manner of acting and his personal philosophy of life. Personality is more than the sum total of an individual's traits and characteristics.

According to Mischel "Personality is the distinctive pattern of behaviour that characterised each individual's adoption to the situation of his or her life."

According to Allport "Personality is the dynamic organisation within the individual of those psychological system that determine his unique adjustments to his environment."

Psychologists have given more definitions of personality. Each definition involves some aspects such as psychophysical characteristics of an individual.

## **Personality Development (Components of Personality)**

Development refers to a progressive series of changes that occur in orderly predictable pattern as a result of maturation and experience. The human being is never static from conception to death; change is constantly taking place in his physical and psychological capacities. A study of personality is important because it provides means of predicting human behaviour.

### *Physical Development*

It involves all those changes occurring in a person's body like changes in height, weight, in the brain, heart and other structures and processes and in skeletal, muscular and neurological features that affect motor skills.

### *Cognitive Development*

It involves all those changes that occur in the mental activity including sensation, perception, memory, thought, reasoning and language.

### *Psychological Development*

It includes all those changes that concern a person's personality, emotion and relationship with others.

## **Process of Development**

### *Growth*

The increase in size that occurs with changing age called growth.

### *Maturation*

Maturation is the unfolding of genetically prescribed patterns of behaviour or biological potentials. Such changes are relatively independent of the environment, e.g. the infant's motor development like grasping, sitting, crawling, etc.

Both growth and maturation involve biological changes while growth refers to the increase in the individual's cells and tissues. Maturation concerns the development of organs and limbs to become functional.

### *Learning*

It is more or less a permanent modification in behaviour that results from the individual's experience in the environment.

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It differs from maturation, which occurs without any specific experience or practice.

### Classification of Personality

#### *Type Approach*

Hippocrates, the father of Medicine, the Greek physician grouped people in four types:

- Sanguine—Cheerful
- Phlegmatic—Calm
- Choleric—Irritable
- Melancholic—Depressed

*Sheldon's types:* William Sheldon, divided people into three types according to body built:

- Endomorph—Soft, fat and round, sociable and relaxed
- Mesomorph—Heavy and muscular, physically active and noisy
- Ectomorph—Tall, thin and flat chested, self-conscious, shy and reserved

#### *Kretachmer's types:*

- Pyknic type—Fat body, large head, chest and abdomen, sociable, jolly, easy-going and good-natured
- Athletic type—Strong body, firm muscles, wide chest and shoulders, energetic, optimistic, challenging, sportive
- Asthenic type—Lean and tall body, reserved, shy, sensitive, pessimistic
- Dysplastic type—Undeveloped and disproportionate body personality also undeveloped and imbalanced.

On the basis of sociability Dr. Karl G. Jung classified people into two main groups namely extroverts and introverts.

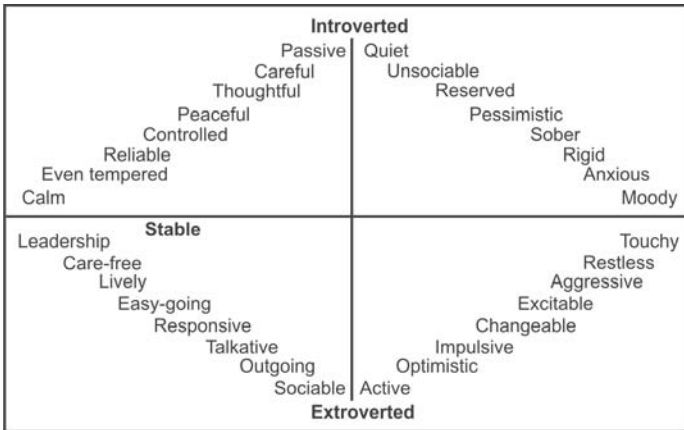
*Extroverts:* Extroverts are people who take more interests in others and like to move with people and are skilled. They

are friendly and sociable and not easily upset by difficulties. They are dominated by emotions, whereby take decisions quickly and act on them without delay. They are realistic and face the problems of life objectively.

*Introverts:* They are interested in themselves, their own feelings, emotions and reactions. They are busy in their own thoughts and are self-centered. They are reserved and like to work alone. They are reserved and sensitive, unable to adjust easily to social situations. They are inclined to worry and easily get embarrassed. Poets, philosophers, scientists and artists belong to this group.

Majority of people are ambiverts, having the qualities of extroverts and introverts in different proportions.

**Eysenk's Dimensions related to Personality Traits**



*Traits or Factors*

Trait is an aspect of personality, i.e. a reasonable characteristic of a person. For example, patience, honesty, perseverance, thoroughness, initiative etc.

Groups of personality traits are known as personality factors or dimensions of personality. These factors are as follows:

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- Psychological factors: It includes motives, interests, attitudes, will and character, intellectual capacities as intelligence, reasoning, attention, perception and imagination.
- The Environmental or Social factors
- The Physiological factors: It includes the physique of the individual—his size, strength, looks and constitution.

### Role of Heredity

One of the oldest issues in psychology is nature vs nurture. Most of the theory emphasises the acquisition of personality after birth. Studies on twins have shown that personality is more affected by environment than any other area of human functioning. Some investigators have shown the genes influence on personality development. Studies on temperament, which includes mood, activity level and emotion, have also shown the influence of gene on personality. Selective breeding can heighten or diminish the characteristics like emotionality over successive generations. Twin studies of human also have shown a genetic influence on personality.

Studies also have shown that we do not inherit genes for dominance, sociability and so forth. Eysenk proposed that traits related to introversion-extroversion type dimensions are linked to inherited characteristics of reticular formation, the part of the brain that influences an individual's level of arousal. He believes that introvert inherit more of the characteristics to be aroused than do extrovert. As a result introvert tends to avoid extreme excitement and seek out calm, quiet condition, shy, away from the activation caused by social interaction. Thus heredity and nervous system influence the personality development.

### Developmental Theories

There are number of approaches for studying the human development. There are several theories explaining

personality differences in which some focus upon the internal growth of the personality. Others are based on the effect one's external environment and still others emphasise personal experience and growth of self-image.

- Psycho-analytic theory (Freud)
- Psycho-social theory (Erickson's)
- Cognitive theory (Piaget)
- Learning or behaviour theory (BF Skinner)
- Humanistic theory (Carl Roger's and Abraham Maslow).

### *Psycho-analytic Theory*

Sigmund Freud (1856-1939) developed the best-known theory of personality focussed upon internal growth or psychodynamics.

*Structure of personality:* Freud constructed a model of personality with three interlocking parts.

- Id
- Ego
- Super ego

*Id (Pleasure Principle):* The 'Id' most primitive part can be thought as a storehouse of biological based urges. The urge to eat, drink, eliminate and to be sexually stimulated, etc. The sexual energy that underlies these urges is called "libido". The id operates according to self. The id would satisfy the fundamental urges immediately and reflectively as they arise without regard to rules, the realities of life and morals of any kind. All biological needs are essential for survival except sex.

*Ego (Reality Principle):* The id is usually managed by ego. It consists of elaborate ways of behaving and thinking which constitute the creative function of the person. The ego delays satisfying the id, and channelises the behaviour into more socially acceptable outlet. It keeps working for a living, getting

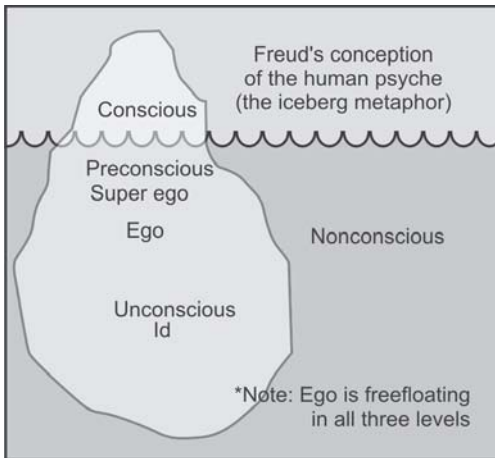
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along with people and generally adjusting to the realities of life.

*Super ego (Moral Principle):* The super ego corresponds closely to what we call conscience (what we find inside). It consists of mainly prohibition learned from parents and other authorities. It condemns certain activities of ego, which are to satisfy the id.

According to Freud, the entire id is unconscious. The ego and super-ego include material at all three levels of consciousness.



### *Psychosexual Stages of Development:*

Freud emphasised on biological development and on sexual development. In his theory of child development, Freud described a succession of stages revolving under body zones. He called mouth, arms and genital zones (Excitable zones).

According to Freud, all human beings pass through a series of five stages:

- Oral stage (From birth to one year)
- Anal stage (1-3 years)
- Phallic stage (3-6 years)

- Latency period (6-12 years)
- The genital period (during adolescence).
- *Oral stage*: The infants obtain sexual pleasure, first by sucking and later by biting. Feeding and contact with mother will help to make the mouth the focus of pleasure during first year.
- *Anal stage*: The anal stage occurs when parents are training the child in toileting. Psychoanalytic theory holds that the first part of the anal stage involves pleasure from expulsion of faeces.
- *Phallic stage*: The pleasure is obtained by fondling the genitals.

The child develops sexual feelings towards parent of opposite sex Freud called these thought and feelings as Oedipus complex and Electra complex in boys and girls respectively.

The boys try to identify themselves with father and try to become father. In this process, the boys take on their father's behaviour pattern, irrespective of whether it is right or wrong. Thus the boys develop super-ego. In the same way the girls through identification with mother develop super-ego.

- *Latency period*: Sexual interests are repressed and lie dormant till puberty. Period of gang formation and fierce gang loyalties. Boys cling together and shun girls. Girls despise boys.
- *Genital period*: Young people begin experiencing romantic infatuation and emotional upheavals.

Problems encountered at any one stage either of deprivation or over indulgence may produce fixation at that stage. A person fixated at oral stage, may lead to excessive oral behaviour. E.g.: eating, smoking, and drinking. A person fixated at anal stage may be abnormally concerned with cleanliness and orderliness. (Obsessive—compulsive neuroses)



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For Freud the first six years are critical for personality development. What happens to individual in the later life is fashioned during the child's first six years.

*Personality dynamics (Topographical description of psyche or mind or levels of consciousness):*

Mind is a function of body; it does not exist apart from the body. It is the sum total of the various mental processes or activities. Mental processes can be conscious, unconscious, or preconscious.

- *Conscious:* As per Freud, the conscious part of the mind consists of those mental activities of which we are aware, such as thoughts, feelings, and sensations. It functions only when the individual is awake. It directs the individual as he behaves in a rationale way.
- *Unconscious:* It is by far the largest part of the mind. It includes our repressed desires, our fears and phobias, for which we do not know the reason and many others. Material stored in the unconscious has a powerful influence on our thoughts or feelings (Unconscious motivation).
- *Preconscious or subconscious:* It is the part of the mind in which ideas and reactions are stored and partially forgotten. It also prevents certain unacceptable, disturbing unconscious memories from reaching the conscious mind. Materials from the subconscious can be brought to the conscious, if the individual concentrates on recall.

### *Dollard-Miller Early Learning Theory*

They tested the basic idea that the individual and social behaviour can be explained by means of basic learning principles. They tried to translate Freud's psychoanalytic concepts into the language of learning theory and to test his concept in the laboratory with rats as their subjects. They further emphasised that when a person efforts to reach a goal is thwarted, it induces an aggressive drive, which in

**Table 11.1:** Piaget's stages of intellectual development

<i>Stages</i>	<i>Approximate Ages</i>	<i>Characterisation</i>
Sensorimotor	Birth—2 years	Infant differentiates himself from objects; gradually becomes aware of the relationship between his actions and their effects on the environment so that he can intentionally and make interesting events last longer (if he shakes a rattle it will make a noise); learns that objects continue to exist even though no longer visible (object permanence).
Preoperational	2-7 years	Uses language and can represent objects by images and words; is still egocentric, the world revolves around him and he has difficulty taking the viewpoint of others; classifies objects by single salient features: if A is like B in one respect, must be like B in one respects; toward the end of this stage begins to use numbers and develop conservation concepts.
Concrete Operational	7-12 years	Becomes capable of logical thought; achieves conservation concepts in this order: number (age 6), mass (age 7), weight (age 9); can classify objects, order them in series along a dimension (such as size), and understand relational terms (A is longer than B).
Formal Operational	12 years and up	Can think in abstract terms, follow logical propositions, and reason by hypothesis; isolates the elements of a problem and systematically explores all possible solutions; becomes concerned with the hypothetical, the future, and ideological problems.

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turn motivates the behaviour of an individual. The expression of aggression reduces the drive.

Freud believed that neurotic; disturbed behaviour involves conflicts between id demands and ego or super ego restraints.

Dollard and Miller drew an analogy between this conflict and conflict between approach avoidance tendencies. They borrowed things from classical and operant conditioning models.

### Personality Assessment

The following methods are used for evaluation and measurement of personality traits.

- Observational methods (Interview)
- Personality inventories (Paper- Pencil Tests)
- Projective techniques

#### *Interviews*

Interview is one of the oldest ways of evaluating personality traits. It is face-to-face contact.

#### *Types: (Two different settings)*

- The employment interviews in which the interviewer attempts to determine suitability of the person for employment.
- **Counseling interview:** It is used to solve the problem of a person.

#### *Other Types:*

- **Guided or structured interview:** In this the interviewer will have a set of question. It goes according to the question and elicits answers (systemic).
- **Unguided or unstructured:** The interviewer will ask questions depending upon the purpose of the interview.
- **Stress interview:** The interviewer induces stress and sees how the interviewee responds.

- **Counseling interview:** In this, the clinician tries to get a wide range of the personal feelings and attitudes by getting him or her to talk about personal experiences. The interviewer record not only what clients talk about but the way they talk about them from observation, the clinician attempts to construct the picture of person's major motives, the sources of conflict and area of poor adjustment.

### *Inventories*

The most popular techniques are paper-pencil test in the form of questionnaire or inventory. It can be given to a large group of people. The psychologists have constructed a number of inventories.

- MMPI
- EPI
- BAI
- CPI and so on

Questionnaire consists of questions or simple statements marked 'yes' or 'no', 'true' or 'false'. These questionnaires were first during World War I to help emotionally unstable army-men.

To Quote Few Examples of Statements:

- I consider myself a very nervous person.
- I frequently feel moody and depressed.

The questionnaires can assess whether the individual is an extrovert or introvert and neurotic or normal, etc.

*Minnesota multiphasic personality inventory (MMPI):* The original MMPI has 566 statements or items, for people to answer themselves. The items can be answered as true or false or cannot say. It includes statements such as

“I enjoy books and magazines.”

“Do you frequently feel sad?”

“In public places I sometime see people whispering about me.”

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Sometimes MMPI is used in diagnosing certain psychological problems. It is also used to assess the personality trait of people who are not disturbed. It is the most widely used test both for clinical and research purposes.

This test has been revised by NIMHANS and Mysore University. Prof. B. Krishnan revised the Mysore University questionnaire. This revised questionnaire has 100 questions only.

*Cattell's personality inventory (CPI—16 PF):* It is called 16-personality factors questionnaire (16 PF). Cattell and his associates used 4500 adjectives applicable to human behaviour. Later they used 170 adjectives such as cool-warm, trusty-suspicious, affected-emotionally stable, shy-bold, practical-imagination, etc.

*California psychological inventory (CPI):* This scale measures some evidence of genetic contribution to a large number of traits. It shows high correlation on monozygote twins than dizygote twins. For example achievement, intellectual efficiency, etc.

### *Projective Techniques*

The basic idea of these tests is that the way people respond to vague (on ambiguous) situation. It is often a projection of their own feelings and motives. They are intended to provide expression to unconscious impulses and other aspect of personality in which the test taken himself or herself not aware. The following tests are used:

- Rorschach Ink Blot Test
- Thematic apperception test (TAT)
- Children apperception test (CAT)
- Sentence completion test
- Word association test

*Rorschach Inkblot test:* Hermann Rorschach, a Swiss psychologist developed this test which is a practical tool applied to study the unconscious factors of behaviour and personality. It is based on the principle that every performance of a person is an expression of his total personality. In this, the subject is responding to ink blots.

The test consists of 10 cards. Some of the blots are coloured and some are in black and white. The subject is instructed to look at the inkblots one at a time and report every thing seen on the inkblot card.

5 → black and white

2 → red and black

3 → multi-coloured

The first phase adopts free association and the second phase is inquiry. The responses are interpreted and analyzed as per significance of response.

The subject responses may be scored in terms of three categories.

- **Location:** Does the response involve the entire inkblot or some small part?
- **Determinants:** Is the subject responding to the shape, colour or texture of the blot?
- **Content:** What does the response represents? E.g. Animals, plants.

*Thematic apperception test (TAT):* American psychologist Murray developed TAT during year 1930. It involves pictures of actual scenes rather than inkblots. It consists of 30 pictures from which the psychologist usually chooses a set for each person, which seems likely to elicit particularly relevant material. In TAT, a person is asked to make up a story about what is happening, what went before, what is going to happen and what the people are thinking and feeling. Most of the people identify themselves with one of the characters in the pictures and reveal their perception. The system of scoring

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and interpretation takes into account of hero of the story, conflicts of the hero, theme, content, style of the story, subjects attitude towards authority and sex, emotional expressions and conclusion of the story, etc.

*Children's apperception test (CAT):* Bellock and Bellock designed it. CAT is used on children who have behaviour and adjustment problems.

*Sentence completion test:* In this there are sentences, which are incomplete, and the individuals have to complete the sentence. For example,

- My mother.....
- When I am at a party.....
- My friends.....

On the basis of response given by the subject, the personality is analysed.

*Word association test:* In this test, there are number of selected words from which the examiner will present a series of words, one at a time to the subject and ask him to respond as quickly as possible with the first word that comes to his mind and the tone of feelings of his response may reveal things about his mind. Controlled and Uncontrolled Word Association Tests are available.

## *Frustration*

### **FRUSTRATION**

Frustration refers to the blocking of behaviour directed toward a goal. Desires or motives, which are not fulfilled due to certain barrier or obstacles, leads to frustration. Following factors can produce it:

- With holding the reinforcement
- Thwarting (Mechanically preventing)
- Conflict

For example

Motive: Students to go for a movie

Withheld Reinforcement: Not getting the ticket for the movie.

Thwarting: Not getting the permission from the teachers or warden.

Conflict: Either movie or party.

Sources may be:

- Environmental factors
- Personal factors
- Conflicts between and among motives

### **Environmental Frustration**

Environmental obstacles can frustrate the satisfaction of motives. It may be physical or people.

- Physical—Locked door or lack of money
- People—Teachers, Parents

### **Personal Frustration**

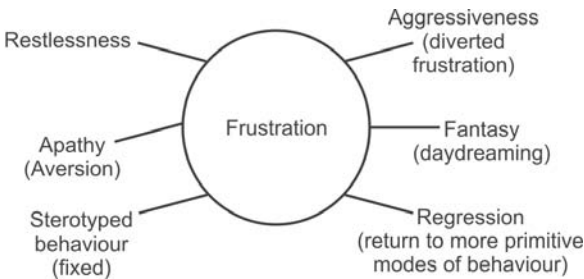
People are often frustrated because they aspire to goals, have a level of aspiration beyond their capacity to perform (personal inadequacy).



### Conflict-Produced Frustration

It is a major source of frustration, in which the expression of one motive interferes with the expression of the other motives. Consequences of Frustration:

### Restlessness Aggressiveness



### Conflict

It is a mental state of unpleasantness and tension.

#### *Types of Conflict*

Following are the different types of conflict:

- Approach-Approach conflict
- Avoidance-Avoidance conflict
- Approach-Avoidance conflict
- Multiple Approach-Avoidance conflict

#### *Approach-Approach Conflict:*

It is a conflict between two positive goals, which are equally attractive at the same time. (Donkeys starve to death.)

Goal +ve ← S → +ve Goal

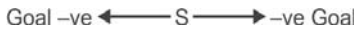
E.g.

1. When a person is hungry and sleepy at the same time.
2. When a person tries to attend board meeting and outing scheduled with his wife or friends.

These kinds of conflicts are resolved either by satisfying the first one goal and then the other. It is easy to resolve and generate little emotional behaviour.

*Avoidance-Avoidance Conflict:*

It is a conflict between the two negative goals. (Caught between the devil and the deep blue sea.)



E.g.

1. A student must spend the next 2 days studying for examination or face the possibility of failure.
2. Do the job, which a person dislikes or lose the income.

*Behavioural Consequences:*

- Vacillation of behaviour and thought meaning that people are inconsistent in what they do and mean.
- They try to leave the conflict situation. For example, Running away from home of a student. This way of leaving the conflict is called regression.
- *They may adopt daydreaming or regression.*

*Approach-Avoidance Conflict*

In this type of conflict, a person is both attracted and repelled by the same goal. It is the most difficult conflict to resolve, because when the person approaches the goal, the negative valence becomes stronger.



E.g.—Willing to smoke and avoid diseases.

*Behavioural Consequences:*

- *Vacillation or inconsistency is common.*

*Multiple Approach-Avoidance Conflict*

It means that several goals with positive and negative valences are involved.



- A. “As things develop, I will, through listening to guidance from my unconscious, adapt to changing circumstances and grow with them.”
- B. “I may not get what I want when I want it; I trust that things will work out in their own good time, for my ultimate benefit, as long as I remain calm and peaceful.”
- C. “I may not get what I want at all, and yet, in remaining calm and attentive, I may discover something else that I need even more than what I thought I wanted.”

So it is simple: take responsibility for your life, adapt peacefully to life changes, and you will find true peace—and joy—in all that you do.

## *Defence Mechanisms*

### **INTRODUCTION**

#### **Fear**

It is the feeling aroused by accurate perception of genuine external danger. The intensity of the fear is directly proportional to the degree of that danger. For example, one feels fear when one is left alone on a dark city street late at night. (Realistic).

#### **Anxiety**

It is an unexplained discomfort. It is subjective. It is produced by any situation that threatens the individual's identity or self-esteem or causes him to feel helpless, isolated and insecure. It is caused by personal fears rather than by actual danger.

#### **Defence Mechanism**

Freud used this term to refer to the unconscious process that defends a person against anxiety. When the primitive Id drives are in serious conflicts with the controls imposed by ego and the super ego, the individual suffers from tension and anxiety. The human being is usually able to relieve the conflict by utilising certain forms or adaptation, which are called defence mechanism, adjustment mechanism or mental dynamisms.

Mental mechanisms (self-deceptive) are a means of compromising with forbidden desires, feelings of guilt or an admission that one is inadequate in facing problems. They salvage the individual's self-respect, avoid an open admission of failure and save psychic energy.

When they are used moderately in normal life, they are harmless and help us to face conflicts and frustrations easily and protect our ego. However, excessive and persistent use of these mechanisms is harmful and helps the individual to make adaptations to distressing experiences. It can be divided into successful and unsuccessful mechanisms.

- *Successful Mechanisms*

- **Repression:** Unconsciously forgetting unpleasant experiences.
- **Rationalization:** Making excuses giving reason different from the real one for what we are doing.
- **Intellectualization:** Distancing oneself from emotional situations by abstract talking or thinking.
- **Compensation:** Working hard to make up for a weakness or deficiency.
- **Substitution:** Satisfying the motive by some other way.
- **Sublimation:** Directing unacceptable desires into socially acceptable behaviour.
- **Identification:** Finding satisfaction through what another person does.

- *Unsuccessful Mechanisms*

- **Suppression:** Intentional pushing away from awareness of certain unwelcome ideas, memories and feelings.
- **Reaction formation:** Strongly expressing the reverse of what one feels.
- **Displacement:** Discharging pent-up feelings on persons less dangerous than those who initially aroused the emotion.
- **Denial:** Refusing to believe that something unpleasant exists.
- **Isolation:** keeping oneself away from the situation.
- **Projection:** Pretending that others have your own failings.
- **Regression:** Acting immaturely.

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- **Conversion:** An emotional conflict is expressed by a physical illness or a physical symptom without any organic cause.
- **Fixation:** sticking to some behaviour desperately.
- **Fantasy:** Withdrawal to a make belief world when faced with real problems.
- **Withdrawal:** avoiding all close interpersonal relationships.

### *Repression*

It is the basic to all other forms of defence mechanisms. In terms of psychic energy, it is an expensive defence mechanisms and a sort of “burying alive” mechanisms.

Repression is a process of unconscious forget fullness of our unpleasant and conflict producing emotions and desires. If these experiences were to remain in the conscious, they would cause a person to feel ashamed, guilty and unworthy.

According to RD Laing: “We forget and then forget that we forgot.” The unconscious memories or urges continue to seek expression and may emerge in the form of accidents, slips or neurotic symptoms. For example, the child who had taken beatings from his mother may feel too guilty and try to repress his anger. But that may be shown by the accidental breaking of his mother’s favourite things or in his bed-wetting or refusal of food.

### *Reaction Formation*

It is sometimes possible to conceal a motive from ourselves by giving strong expression to its opposite.

“The best defence is a good offense”, e.g. if the people are too modest, too solicitous, too affectionate, or too strident in their crusades against an “evil” such as alcoholism, homosexuality or child abuse, it is possible that they are unconsciously harbouring the opposite feelings.

The mother of an unwanted child may feel guilty and so becomes over indulgent and over protective of the child to assume herself that she is a good mother.

### *Projection*

Blaming others or projection is a way of coping with one's unwanted motives by shifting them on to some one else. It relieves tension and anxiety.

For example—The student who believes that everybody cheats in examinations may also cheat in the same way.

People who are dishonest often attribute dishonesty to others. An adulterer blames his wife that she is an adulteress.

Carried to the extreme, projection is the mark of a behaviour disorder known as “Paranoia”. People with this disorder may project their own acceptable hostile feelings about others into a whole system of thinking in which they feel that others are out to get them (Negative attitudes).

### *Rationalization*

It substitutes an acceptable conscious motive for an unacceptable unconscious one. To put another way, we “make excuses” giving a reason different from the real one for what we are doing. It is a defence mechanism in which an individual justifies his failures and socially unacceptable behaviour by giving socially approved reasons. Rationalization is not lying.

For example:

1. Students who fail in the exam may complain that hostel atmosphere is not favourable for study.
2. A tense father who beats his child may rationalise that it is for the child's good.
3. An employee who fails to get promotion may blame the employer's partiality.



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It is like a blanket to cover the human weakness. It operates in two forms.

- Sour grapes
- Sweet lemons

*Sour grapes (From Aesop's fable of fox and grapes)*

A young man who fails to get a beautiful wife may remark that a beautiful wife is a liability.

*Sweet lemon*

The individual justifies his lower achievements by pointing out their merits. A poor man may say, "He does not want to earn money" because "money is the root cause of many evils".

*Intellectualisation*

Related to rationalisation, another mechanism, which involves reasoning. It is the distancing from an emotion or threatening situation by talking or thinking about it in intellectual terms. A nurse, doctor or paramedical worker cannot afford to become emotionally attached to each patient. So they use the technique of detaching themselves from emotions through calm abstract statements about the situation. E.g.—If there is a patient who is acutely ill, calmly the doctor may tell the family members rather than saying I am sorry, etc.

*Displacement*

In this, the motive remains unaltered but the person substitutes a different goal object for the original one. Often the motive is aggression, with another object.

For example—A person who is angry with his or her boss, but cannot show it for fear of being fired may come home, bawl out the children and "kick the dog".

When a new baby is the center of attraction, an older child may become jealous: prevented from harming the baby, the child demolishes a doll.

### *Regression*

In the face of a threat, one may retreat to an earlier pattern of adaptation, possibly a childish or primitive one (i.e. behave in a less matured way).

For example—Faced with the upsetting arrival of a new baby or going to school for the first time, a 5 years old may have toilet accidents, revert to “baby talk”, demanding cuddling or suck her thumb.

When life gets hectic or stressful, children and adults may regress to an earlier (oral) stage of development (Biting nail) (Sucking the thumb). Extreme forms and degrees of regression result in psychosis.

### *Sublimation*

For Freud, it was the highest level of ego defense. It consists of a redirection of sexual impulses to socially valued activities and goals. E.g.—A writer may divert some of his or her libido from sexual activity to the creation of a poem or novel, thus indirectly satisfying the same drives.

Freud believed that much of our cultural heritage, literature, music, and art are the product of sublimation. He also believes that an individual whose sexual impulses were being at least partly gratified and whose ego was healthy and mature would only achieve it.

For example

A young man who has lost his lover may turn to write poetry about love.

A person with greed can become a successful businessman.

### *Identification*

By this adjustment, the person feels the personal satisfaction in the success and achievements of other peoples and groups.

For example:

1. Hero worship is an obvious form of identification.
2. An illiterate father often takes his son's higher education as his own achievements.
3. Burst into tears when the hero/heroine is shown mercilessly attacked by villains, while watching a film.
4. Much of learning process in childhood is through identification.

It plays a major part in the process of a child's personality and in the process of acculturation. If the object of identification is good, their effect on us will be constructive. One can't grow and mature completely by this without having our own identity.

### *Compensation*

It means something given to replace a loss or to make up for a defect. [Like nature's compensation—A blind person develops extraordinary keen hearing.]

When people are frustrated in their desires in one direction, they compensate for it by attaining success in other directions. For example: A student who fails in his studies may compensate by becoming the college champion in athletics.

### *Denial*

Denial of reality is when we refuse to accept or believe the existence of something that is very unpleasant to us. We use denial most often when faced with death, serious illness or something painful and threatening. For example:

1. A patient refusing the impending death.
2. Many old people refuse their decline in mental and physical powers as they advance in age.

The excessive denial may lead to serious difficulties in health and lifestyle.

### *Fantasy or Daydreaming*

It is a kind of withdrawal when faced with real problems of life. We retire to a make belief world, where everything is possible, where we are victors or conquerors. It is a pleasant thing. It may help us during times of stress. For example:

Patients who are very ill may fantasise that when they recover, many good things will happen to them.

Excessive daydreaming may lead to loss of contact with realities and may lead to a psychotic disorder called Schizophrenia.

### *Withdrawal*

Whenever an individual suspects that he is likely to be criticized, ridiculed or disgraced on account of some prior unfortunate experience or failure, he resorts to withdrawal, e.g. avoiding all the works.

It is a protective device by which the individual prevents further hurt and damage to his security by withdrawing from people. It may be temporary and makes no real friends. It is one of the dominant personality traits of the schizophrenics.

### *Conversion*

In this an emotional conflict is expressed, as a physical symptom for which there is no demonstrable organic basis.

For example, A student may develop fever during exam.

Conversion hysteria is the conversion of strong emotional conflicts into such physical symptoms that the very helplessness of the victim will resolve the conflict.

For example:

A small boy who hated his father may wish to strike him, he could suddenly develop complete paralysis of his right arm, which would do two things for him.

- Resolve the conflict (inability to strike his father)
- Bring him a great deal of attention and sympathy

### *Suppression*

It is an intentional pushing away from awareness of certain unwelcome ideas, memories or feelings. We merely push them into the background into our subconscious mind, where they are accessible to us whenever we wish to remember them. As it is conscious, it is not a defence mechanism in the strict sense.

# *Social Psychology*

## SOCIAL PSYCHOLOGY

### **Nature/Scope**

Social psychology is the study of interdependence, interaction and influence among persons.

Interdependence → produces interaction → produces influence.

We depend on other persons for goods and services. For example-milk, paper, etc. Throughout a day we interact with our friends, parents and so on. Our parents, friends and so on influence us. The result of these will give rise to social behaviour, e.g. election campaign, the leaders influence the people.

## RELATION TO PSYCHOLOGY, SOCIOLOGY AND ANTHROPOLOGY

### **General Psychology**

It studies learning, motivation, perception, intelligence, personality, etc. General psychology studies these processes in physical environment.

### **Social Psychology**

Social psychology studies the behaviour of the individual in his face-to-face interactions with other persons.

- Gives attention to individual behaviour
- Interested in the problem of learning, perception, motivation, etc. in the context of social interaction.
- Studies the individual behaviour in social environment or social situations (behaviour settings), e.g. classroom, playground.

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- It studies how the individual perceives the norms, sanctions and roles in the group in which he lives and works
- Studies the impact of the individual on the group and the system

### *Anthropology*

Anthropology also studies social behaviour. It is concerned with the culture of the group, its technology, its beliefs, values and so on.

### *Sociology*

It studies the social systems. It relates the various aspects of social structure to pattern of human behaviour. It explains how the knowledge of norms, sanctions and roles in the given society leads to uniform pattern of behaviour.

### *Interdependence*

It means the degree to which individuals requires one another to obtain goods and services which would not be available otherwise. This interdependence will lead to interactions among human beings.

### *Social Interaction*

It refers to the reciprocal relationship between two or more individuals whose behaviour is mutually dependent

Interactions include communication process; take place in an interpersonal situation, that is face-to-face relationships. Interactions may be episodic or sustained over a long time.

E.g.—*Episodic*: Interacting with those sitting next to us during bus or train travel.

*Sustained*: Interactions with parents, siblings, etc.

Interactions enhance socialisation. Culture is transmitted through generations. Interactions occur during stressful situations.

### *Social Influence*

It is the reciprocal effect of one person on another in social interaction. It occurs whenever one individual response to the actual or potential presence of other human beings.

Man's personality, his beliefs, attitudes and values are all based on social interaction.

It gives rise to the problem of conformity, prejudice, leadership and other group phenomena.

- Person on group—Leadership
- Group on person—Prejudice conformity
- Group on group: This influence may lead to cooperation and conflicts (between villages, nations, etc., social problems, tensions)

### **Some Variables Studied in Social Psychology**

- **Attitude:** They are towards persons, things or events.
- **Value:** Basic sentiments or standards by which people orient toward goals and ideas. Values are ideas about desirable states of affairs shared by the members of a group or culture.
- **Attribution process:** It is the process of inferring dispositions from the actions of other persons.
- **Group cohesiveness:** It indicates the degree to which members of a group find it attractive.
- **Group norm:** This is the conduct that is expected of the individual by the group. Norms control the behaviour of the individual. Norms include social standards, customs, traditions, fads and fashions.
- **Conformity and deviation:** These variables are related to group norms.
- **Society and culture:** Culture is the pattern of arrangements adopted by a society.



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- **Interpersonal Response Traits:** It helps us to understand social behaviour of individuals in social situations. Through paper—pencil test, self-description or interviews this can be measured. They are mostly learned behaviour.

## *Attitude*

### **ATTITUDE**

One of the key concepts of social psychology is that of attitude. An attitude is a learnt predisposition to react in a persistent and characteristic manner to some situation, idea, material, objects or person.

Attitude has got three components, which are as follows:

- Cognitive [What a person knows of it and his belief about it (awareness, knowledge)]
- Affective [How he feels about it (feeling really shows concern)]
- Conative [behavioural tendency both verbal and non-verbal towards the objects]

### **Opinion (Belief)**

It is a belief that one holds about some object in the environment. It differs from attitude being relatively free of emotion. It lacks the affective component central to attitude.

### **Value Systems**

Attitude differs from value systems, which is regarding a whole class of objects.

Attitudes involve the individual's perception and evaluation of situation and of people in it. Heredity plays only a small part in the development of attitudes through differences in physical characteristics and intelligence. It is mainly the environmental factors that are responsible for development of attitudes.

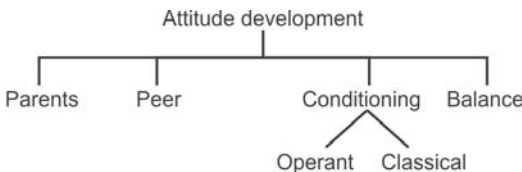
### **FUNCTIONS OF ATTITUDE**

1. Adjustment
2. Ego defensive - reduces anxiety
3. Value—expressive function
4. Knowledge function (cognitive adaptation)

### **CHARACTERISTICS OF ATTITUDE**

- They are learned behaviours (not biogenic). For example, craving for food is biogenic but preference of rice is attitude (Sociogenic).
- They are enduring and subject to change by environment influence
- They are not internal factors subject-object relationship is must (Stimulus is essentials)
- It involves group or individual
- It has got motivational affective properties but differs from motive
- Shared by member of family
- Norms and values are internalized by attitude formation
- Beliefs form Attitude form Values
- It is a goal directed behaviour

### **Attitude Development:**



Family is the first place for formation of attitudes. Information provided by the parents in the earliest stages of life is very difficult to undo. Motives, emotions, parent-child relationships

and the ways of perceiving things all influence our attitude formation.

Attitudes originated in the family are strengthened when peers, playmates, neighbours, etc appreciate them. A child is likely to internalise the attitudes of people whom he likes and tends to reject attitudes of people whom he dislikes.

Attitudes accompanied by strong feelings are called sentiments.

This kind of process is called social learning, which occurs through the following process.

- Classical conditioning
- Instrumental conditioning
- Balance theory/cognitive dissonance
- Social comparison
- Cognitive response approach.

## Theories of Attitude

### *Learning Theories*

- a. Classical conditioning: According to this theory association of stimuli influence the formation of the attitude. For example, the attitude of the participants of a conference that is held in hot and cold room environment made a great difference of interpretation of the concept.
- b. Operant conditioning: According to this theory the attitude change depends upon the arguments put forward or the expected reward or punishment that might follow. The acquisition of new attitude depends upon attention, comprehension and acceptance. The persistence of attitude depends upon both information and incentives for acceptance and this depends on reinforcement. Studies have shown that the words 'good' and 'correct' are very effective reinforcers while just nodding or 'mm-hmm' is not.

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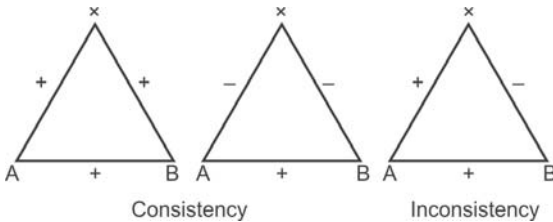
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- Verbal reinforcement techniques used by a teacher towards students.
- Formation of club, union
- Attitude of the family members

### *Consistency Theories*

- a. Balance theory: Heider (1946) asserted that we tend to have a relatively coherent and consistent view of other things or persons though this may lead to a biasing effect. As a result new experiences which are inconsistent may not be so quickly absorbed, for example, when A and B are friends and likes or dislikes X there is consistency.

When A likes X and B does not like X there is inconsistency so to maintain consistency there happens attitude change.



- b. Cognitive dissonance theory (Festinger 1957): An inconsistency between two or more attitudes, beliefs, etc. which give rise to discomfort and motivates the individual to reduce the dissonance through cognitive and attitudinal changes. For example, “Smoking is hazard campaign promoted by a cine actor who actually smokes may lead to attitude change or formation of new cognitive elements (counter attitudinal role playing).

### *Cognitive Response Theory*

According to this theory the favourable response leads to attitude change.

### *Type Theories*

- a. Keilman's three-process theory: Compliance, identification and internalization are the three processes capable of changing one's attitude during the normal process of socialization.
- b. Katz functional theory: According to this theory the individual strives to maximize the rewards and minimize the costs and penalties .

### *Osgood and Tannenbaum's Congruity Theory (1985)*

According to this theory when there is a favourable attitude towards an object, it affects the attitude towards a second object in the same direction similarly, with an unfavourable attitude.

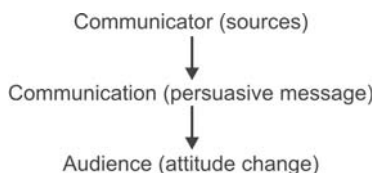
When two attitude objects of differing evaluation are linked with an assertion, there is a tendency for the evaluations to shift towards a point of equilibrium or congruity .

For example, ancestor worship and fear of the dead may exist in the same cognitive structure.

### **Attitude Change**

The source of attitude change is by obtaining new information, what may come from other people or through the media; such new information may produce change in the cognitive component of a person's attitude. This change affects the other components. This is usually done by a process called 'Persuasion'.

The effort of persuasion involves the following elements.



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Persuasion can be done by

- Experts
- Fore warning
- Attractive communicators
- Low self-esteem people can be persuaded easily
- Two-sided communication approach
- Pace of speech
- Emotional appeal
- Cognitive dissonance (inconsistency between two attitudes)
- New informations.

### **Attitude Measurements**

It can be done by:

- Survey method—using self-report measures (polling public opinion)
- Observation of the overt behaviour
- Osgood Semantic Differential technique (seven point scale)
- Likert's Technique (Rating scale - five point scale)

## *Leadership*

### LEADERSHIP

#### Leader

Leader is defined as a group member who exerts more positive influence over others than they exert over him or her. Leader may influence the motives, attitudes, values or feelings of one or more members of the group.

#### *Characteristics of Leader*

In order to become leader, a person must possess certain qualities, which distinguish him from others in many ways. Common sense would tell us that a major quality is experience.

- **Intelligence:** Higher in intelligence than rank and file. “Mann” observed that intelligence was the characteristic found to be commonly associated with leadership.
- **Dominance:** According to “Mann”, the dominance was the highly correlated variable next to intelligence. It is the ability and authority to prevail upon others. It is most influencing for an administrator, policy maker, arbitrator, dispenser of punishment and reward.
- **Adjustment:** Individuals adjustment influences our willingness to accept him as a leader.
- **Activity:** The members would perceive one who is more active in discussion as a leader. “High degree of participation is must.”
- **Extroversion:** The leaders are mostly externally oriented and view the environment with a more positive attitude than others.



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- **Social distance:** Leaders must maintain a degree of social psychological distance of the group they lead.
- **Self confidence:** They must have enough self-confidence when they take a decision.
- **Empathy:** They must know to understand the others situation. Empathy is nothing but thinking oneself into the others situation.
- **Interpersonal sensitivity:** They must know the value of human interactions. They should be goal and person oriented.
- **Creativity:** It is the ability to think of novel things.

### *Leadership Styles*

It is the way of operation of a leader. It differs from leader to leader. Three styles are:

- Democratic
- Autocratic
- Laissez-Fair (Free reign leadership)

*Democratic leadership:* Leader is one who formulates his policy through group discussion. There is decentralization of authority and he encourages the followers to function as a social unit and makes full use of their talents and abilities.

He is like the conductor of an orchestra rather than an one-man band. He formulates his policies in group discussion and issue orders only after consultation with the group.

He stresses the maximum participation of the members of the group so that it provides greater involvement, initiative and solidarity.

Permits his subordinates to make important decisions in the area of their functioning. He himself participates in activities.

*Autocratic Leadership:* The leader holds the most authority and closely controls the group activities. He gives many orders and makes all decisions for himself. He determines what

activities the groups would perform. He orders and assigns each member without considering the personal preference.

- Have got centralized powers
- They never participate
- They are suspicious and have inferiority complex
- They don't have a feeling of adequacy
- They feel threatened by the presence of others who they think that may replace them
- If the leader is weak and inefficient, the followers also will be weak.

*Laissez-fair leadership:* The French word means, "let it go." The leaders adopt a hands-off approach. He will not participate in-group activities. He is very much interested as an "observer". He gives information if required by the group members.

This style can work only if the subordinates are highly intelligent and duty conscious.

### *Effective Style*

There are so many controversial views on the effectiveness of the style.

- Kent Lewin experiment on school student's supports democratic style as an effective one.
- Situational approach or contingent style of leadership style can be adopted on the basis of the situation.
- Fiedler proposed two kinds of leadership styles: -
  - Task oriented
  - Relationship oriented

Fiedler argues both kind of leadership can be quite successful. It depends upon the situation where they have situational control is very significant in selecting the leadership style.

1. High and Low situational control (Task oriented)
2. Intermediate situational control (Relationship oriented)

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### *Transformation Leadership*

Charismatic leaders influence and control the group by their activities. They use tactics, a foreseen visionary approach, route to the solution and framing the activities. By doing all these, they get an impression from the group.

### *Criteria to become a Leader*

- *Traits:* Are some people born to lead? Conventional answer: YES  
“Great person theory”: Great leaders possess certain traits that set them apart from most human beings, e.g. Abraham Lincoln, Gandhiji, Alexander, etc.
- *Situation:* Modern theories of leadership recognise that it is a complex role involving not only influence but also many kinds of interaction between leaders and followers and the situation, i.e. “Social Situations”.

### *Categories of Leaders*

There are following different categories of leaders:

- Administrators
- Bureaucrats
- Policy makers
- Experts
- Ideologists
- Political leaders
- Symbolic leader
- Parents

*Administrator:* It covers a wide variety of activities such as planning, coordinating, managing, directing and organising. Following are the main tasks:

- Maintenance of organisational process
- Carry out the organisational policies

*Bureaucrats:* It refers the individual who hold positions in the intermediate and lower level of the administrative hierarchy. Following are the main tasks:

- *Supervising and directing organisational process:*

The power of this leadership depends upon the structure of the organisation and the regulation. So they have limitations.

*Policy maker:* In large organisations they are likely to be members of boards of directors or legislators. He is often a covert leader. The man behind the throne is the common example.

*Experts:* The experts work generally in consultant capacity to the policy makers and administrators. They are specialists in some field. They may participate.

*Ideologists:* They are also specialists but in ideas and beliefs rather than in some technical field, e.g. Karl Marx, Gandhiji, Galileo.

*Political leaders:* They embody the role of policy makers and ideologists. Charismatic influence on people.

*Symbolic leaders:* They represent their group symbolically, e.g. Foreign Ambassador.

*Parents:* The first leaders with whom the child becomes acquainted are parents. Teachers can also be included as leaders.

### *Social Power*

The capacity to alter the actions of others. The leaders have these powers to control their group.

- Information power
- Referent power
- Legitimate power
- Expert power
- Reward and coercive power

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*Information power:* People act according to their belief and attitudes, which are largely, depend on the information that is at people's disposal. By using this information skillfully, people in power can change other individual's belief or attitudes so that they will act as desired.

*Referent power:* It is based on identification. It is accompanied by positive feelings for the other person.

If one person identifies with another, he is likely to imitate his actions or preferences. As one changes his behaviour, those identify with him may change their behaviour. So this power is used to change the attitudes.

*Legitimate power:* It refers to the power that rests on a set of social agreements about who has the right to direct behaviour under various circumstances and also the legalized source of power, e.g. Tax collection, Setting speed limit, Defence spending

*Expert power:* A leader acquires this power through his knowledge in the fields. However, an expert's sphere of influence is very narrow not targeted fully on masses, e.g. Impact of poets, thinkers and scientists

*Reward and coercive power:* These kinds of leaders have the power to reward or punish another person's actions, e.g. Parents power. Coercive powers have adverse effects.

# Growth and Development

## GROWTH AND DEVELOPMENT

Development means a progressive series of changes that occur in an orderly, predictable pattern as a result of maturation and experience. The human being is never static from conception to death. Change is taking place constantly in his physical and psychological capacities, abilities, interests and problem-solving skills, all develop with growing years.

### Erickson's Eight Life Stages

<i>Age</i>	<i>Stage</i>	<i>Central issue</i>	<i>Significant relations</i>
0-18 months (Infancy)	Trust Vs Mistrust	Testing of the trust— worthiness of the infant's significant others.	Mother
18 months— 3 years (Early childhood)	Autonomy Vs Shame and Doubt	Testing of the individual capabilities in relation to significant others.	Parents
3-6 years (Middle childhood)	Initiative Vs Guilt	Testing out abilities to compete in the outside world.	Basic family
6-12 years (Late childhood)	Industry Vs Inferiority	Gaining mastery of cultural tools.	School
13-19 years (Adolescence)	Identity Vs Role confusion	Developing a sense of personal identity.	Peer groups
20-40 years (Early adulthood)	Intimacy Vs Isolation	Merging of identity with another to achieve intimacy.	Friends

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<i>Age</i>	<i>Stage</i>	<i>Central issue</i>	<i>Significant relations</i>
40-65 years (Late adulthood or middle age)	Generativity Vs Stagnation	Investing creative energies in promoting the social welfare.	Household
65 years— Death (Old age)	Ego integrity Vs Despair	Acceptance of the life one has lived as worthwhile.	Mankind

### *Infancy (Neonatal Development)*

The newborn or neonatal stage lasts for first four weeks. This is the time of transition from total depending of prenatal life to a more independent creative existence. The rhythms of breathing, feeding, sleeping and elimination are established.

*Reflexes:* Neonatal are born with abilities to perceive and respond to some parts of their world in an organised and effective way. Groping for the breast, to suck when an object is placed in the mouth and swallow when milk or other liquids are poured in the mouth.

These three reflexes are essential to feeding; other inborn reflexes are breathing, blinking, sneezing, coughing, vomiting and withdrawing from the painful stimulus. They show positive reaction to sweet stimulus and negative reaction to salt, bitter and sour tastes. They turn their heads to strong odour and the direction of the sound. All these reflexes are improved during infancy. The infant shows a lot of reaction such as imitating adults.

*Motor development:* The infant starts moving the hands, head that show the beginning of further motor development such as turning the body, creeping, crawling, standing and walking.

- 2-4 months—Head and back support
- 4-6 months—Can sit with support

- 8-10 months—Can sit without support
- 10-12 months—Can stand with support
- 12-14 months—Can walk with support
- 14-16 months—Can walk alone

*Social development:* The first relationship most infant develops is with parents especially with mother. Attachment is an early, stable, affectionate relationship with mother. In absence of mother they have shown fear and refused to relate to others. Psychologists have said that it is essential for mental health that the infant must have warm, intimate and continuous relationship with his mother.

*Emotional development:* Smiling appears at different ages for different reasons. Some smile is seen even in newborn, which is automatic and hardly emotional. By the 3rd and 4th months infants smile at their mothers. By 5th month, infants begin to combine smiling and laughing. By 12th month they laugh at funny figures like human mask. Happiness and delight develop hand and hand.

*Adjustment problems in infancy:* Adjustment problems between the infants and parents may experience at this stage. They are stubborn and short tempered. Sometimes these stresses involved in coping with infant's problems may make parents inadequate. In this regard counselling for parents is required.

### *Early Childhood (Pre-school Stage) and Middle Childhood*

During this stage, their transition is from sensory thinking to language development. The peer relations develop through play. The frequency and intensity of peer interaction force the child to deal with aggressive impulses and learning how to help. The child learns logical operations. The child develops identity concept such as gender identity, self-concept. Egocentric is also present.



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*Language development:* The steps involved in language development are quite similar in children in variety of culture. It starts with monosyllable such as ‘mummy’ to a single sentence as ‘I want milk’. Later it develops complex structure.

*Social development:* The child’s behaviour and attitude are brought into harmony with socialisation.

*Parent/Child relationship:* The child’s increasing physical power and language skill transforms the nature of parent-child relationship. The child becomes manageable than before. At this stage parent and child behaviour influence each other.

*Sex roles:* Children of both sexes may initially adopt traditionally feminine and maternal behaviours. By the age of 4 to 5 years boys begin to show traditional male type of behaviour. The toys they choose and the roles they play in games become increasingly masculine. At the same age girls starts showing feminine type of behaviour.

*Peers and play:* The nature of children changes in predictable ways over the early childhood years. In the beginning children engage in solitary play, though they are close to children, they maintain their independent in play. This solitary play will be replaced by parallel play.

*Pre-school behaviour:* Self-control and autonomy are initiated at this stage. Pre-schoolers can be aggressive but they can also be touchingly, helpful, generous and comforting. It happens through four stages.

- In the 1st stage, infants have trouble-differentiating self from others. They often cry when other children cry, and laugh when other children laugh.
- In the 2nd stage, they develop a sense of all, as different from others.
- In the 3rd stage, they show specific expression of emotion.

- In the 4th stage, children help other children who are very dull and withdrawn.

*Adjustment problems:* They show problem such as demanding, attention, disobedience, stubborn behaviour and other strong expression.

### *Late Childhood (School Going Stage)*

*Social development:* It includes classmates and teachers. Between the age of 6 to 12 years most of the children develop friendships. They learn how to organise groups. At school and playgrounds, the child develops skills that help him to compete, cooperate and get along successfully with others. The child becomes somewhat independent of the family and finds a place for himself among his peer groups.

During this stage the child develops a sense of industry and learns the rewards of performance and diligence. The adjustment problem at this stage is that the child may develop a sense of inferiority if it is unable to master the tasks set by teachers and parents.

It is called latency because sexual interests are repressed and lie dormant till puberty. Group games with rules, which have to be followed, help to teach moral rules to the child.

### *Puberty and Adolescence*

The transitional period from childhood to adulthood is known as adolescence.

*Physical changes:* Towards the end of later childhood, sexual changes or puberty begins. Secondary sexual characteristics develop like enlarged hips and breasts develop in girls and muscular development and voice changes in boys. Both sexes begin to grow pubic hairs. Puberty is completed when primary sexual functioning occurs.

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*Social changes:* Because of conflict over dependency—*independency* needs, the adolescent may be hostile towards adults, particularly parents and teachers and rebellious towards authority. He craves for love, recognition and encouragement.

*Achieving identity:* Developmental task at this stage is to develop a sense of identity regarding occupational, familial and social roles, as opposed they may develop role confusions.

This state causes one to feel isolated, empty, anxious and indecisive.

*Cognitive and moral development:*

- Thinking becomes abstract
- They develop moral reasoning.

*Social development:* Relationships with peer, family and heterosexual relationships influence this stage. They develop leadership qualities, self-reliance, independence and social responsibilities.

### *Young Adulthood*

The major development tasks are choosing a mate, establishing a home and accepting the responsibility of parent. Children cannot be effectively nurtured unless family has a reasonable degree of security.

### *Mature Adulthood*

Changes that occur during adulthood have given rise to various expressions such as middle age, mid-career crisis, middle age slump, referring to recognition of losing youth and coming to old age.

Parents have to redefine their roles in relationships to one another, to their family and to the larger world outside the family. The conflict within this period is between

generativity and stagnation. We begin to look at what we have generated—products and ideas, the legacy we leave to future generations. When generativity is weak and not given expression, the personality regresses or stagnates.

### *Old Age*

A matter of subjective perception. The boundary between middle and old age is not clearly marked by any physical or intellectual transformation.

*Physical changes:* The strength and ability declines, sensory capacity decreases. The intellectual skills stay on more or less stable.

*Intellectual skills:* Their memory, learning skills and performance ability are less adequate. Their creativity and thinking also become less adequate.

This period is characterised by integrity/despair. Integrity is the acceptance of one's life cycle. It involves a continued joy in living, a sense of accomplishment of things well done. Despair expresses the feeling that what has been done is not of much value and left to do many things.

While looking back if one feels that his life was successful, and then he has integrity, otherwise despair. At this stage it is necessary to adjust to the reduced income and deteriorating health. Frequently friends or husband/wives die leading to loneliness.

<i>Prenatal period</i>	<i>Period</i>	<i>Major developments</i>
It is the period, which precedes birth from the time of conception. (Zygote formation to birth)	Till birth	<b>1. Period of zygote or germinal stage: (0-2 weeks)</b> <ul style="list-style-type: none"><li>• After 36 hrs of fertilization cell division starts.</li><li>• Zygote moves down the fallopian tube to the uterus.</li><li>• A small cavity is formed within the mass of cells resulting in the formation of outer and inner layer of cells.</li></ul>

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<i>Prenatal period</i>	<i>Period</i>	<i>Major developments</i>
		<ul style="list-style-type: none"> <li>• Trophoblast (used for the protection and nourishment of the embryo)</li> </ul> <p><b>2. Period of embryo: (2-3 months)</b></p> <ul style="list-style-type: none"> <li>• All the body defects occur during the first 3 months.</li> <li>• The inner cell mass divides into 3 layers.               <ul style="list-style-type: none"> <li>• Ectoderm—from which skin, hair, nails, parts of teeth and nervous system develops.</li> <li>• Mesoderm—from which inner layer of skin, muscles, skeleton and circulatory organs develop.</li> </ul> </li> <li>• Endoderm—from which gastrointestinal tract, trachea, lungs, liver, salivary glands and thyroid glands develop.</li> <li>• The outer cell mass gives rise to amniotic fluid and amniotic sac, umbilical cord, and placenta.</li> </ul> <p><b>3. Period of foetus: (2 months to birth)</b></p> <ul style="list-style-type: none"> <li>• Embryo becomes a foetus.</li> <li>• 3 months—sex determinations are possible.</li> <li>• 4 months—mother feels the movements of the foetus</li> <li>• 5 months—definite sleep and wake patterns</li> <li>• 6 months—regular breathing, look around, make fist, cries.</li> <li>• 7 months—visual, auditory reactions, enough survival chances</li> <li>• 8 months—fast outgrowing</li> <li>• 9 months—stops growing</li> </ul>

<i>Infancy</i>	<i>Period</i>	<i>Major developments</i>
Oral stage Trust vs mistrust (It is the shortest of all development periods)	Birth to two weeks.	<ul style="list-style-type: none"> <li>• Subperiods               <ul style="list-style-type: none"> <li>• Period of parturient:                   <ul style="list-style-type: none"> <li>– From birth to 15-30 minutes</li> <li>– Infant is still parasite</li> <li>– Makes no adjustments to environment</li> </ul> </li> <li>• Period of neonate:                   <ul style="list-style-type: none"> <li>– From umbilical cord cutting to 2 weeks</li> <li>– Separate individual</li> </ul> </li> </ul> </li> </ul>

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<i>Infancy</i>	<i>Period</i>	<i>Major developments</i>
		<ul style="list-style-type: none"> <li>– Makes adjustments to environment</li> <li>• Characters of infancy:               <ul style="list-style-type: none"> <li>• Infancy is a time of radical adjustments.</li> <li>• Infancy is a plateau in development.</li> <li>• Infancy is a preview of later development</li> <li>• Infancy is a hazardous period.</li> </ul> </li> </ul>

<i>Babyhood (Early Childhood)</i>	<i>Period</i>	<i>Major development</i>
Anal stage (Habit training stage) Autonomy vs Shame and Doubt	2 weeks to 2 years	<ul style="list-style-type: none"> <li>• The major developmental task is the child learning to be independent.</li> <li>• Self control and autonomy are initiated in this stage.</li> <li>• Some activities:               <ul style="list-style-type: none"> <li>• Evacuating the bowels or bladder</li> <li>• May express anal aggression in the form of retention of faeces, soiling, scattering.</li> </ul> </li> </ul>

<i>Middle Childhood</i>	<i>Period</i>	<i>Major developments</i>
Phallic stage (Period of family triangle) Initiative vs Guilt	2 years to 6 years	<ul style="list-style-type: none"> <li>• Problematic, troublesome, toy age.</li> <li>• Psychologists regard this stage as pre-school age, initiative age, creative age, questioning age.</li> <li>• Developments:               <ul style="list-style-type: none"> <li>• Physiological habits (eating, sleeping)</li> <li>• Adjustments to people and outside situations.</li> <li>• Advancement in mastery of handling</li> <li>• Development in speech and play activities.</li> <li>• As social horizons are broadening, the child acquires new interests in religion, sex, human body and clothes (Oedipus complex for males and electro complex for females).</li> </ul> </li> </ul>

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<i>Late Childhood</i>	<i>Period</i>	<i>Major developments</i>
Latency period Industry vs Inferiority	6-12 years	<ul style="list-style-type: none"> <li>• As the sexual interests are repressed and lie dormant till puberty, it is known as the latency period.</li> <li>• Other names:               <ul style="list-style-type: none"> <li>• Elementary School Age</li> <li>• Gang Age</li> <li>• Play Age</li> </ul> </li> <li>• Developments:               <ul style="list-style-type: none"> <li>• Learn group behaviours to achieve social acceptance</li> <li>• Learn to express emotions</li> <li>• Develop interests and autonomy</li> <li>• Sense of industry developed</li> <li>• As a hazard the child may develop inferiority.</li> <li>• Fixation also an important problem at this stage.</li> </ul> </li> </ul>

<i>Puberty</i>	<i>Period</i>	<i>Major developments</i>
Identity vs Role Confusion	It is the time when the person becomes sexually mature and capable of producing offspring.	<ul style="list-style-type: none"> <li>• Towards the end of later childhood, puberty begins.</li> <li>• Secondary sexual characteristics develop.               <ul style="list-style-type: none"> <li>• Enlarged hips and breasts (for girls)</li> <li>• Muscular changes and voice changes (in boys)</li> </ul> </li> <li>• Pubic hair growth</li> <li>• Puberty is completed when primary sexual functioning occurs.</li> </ul>

<i>Adolescence</i>	<i>Period</i>	<i>Major developments</i>
Identity vs Role Confusion	13-17 years —early adolescence (Teenage) 17-18 years— late adolescence (Young age)	<ul style="list-style-type: none"> <li>• Characteristics:               <ul style="list-style-type: none"> <li>• It is a transitional period</li> <li>• It is a period of change</li> <li>• It is a period of unrealism</li> <li>• It is the threshold of adulthood</li> </ul> </li> <li>• Developments:               <ul style="list-style-type: none"> <li>• Learning to work well in peer group</li> <li>• Learning an appropriate sex role</li> <li>• Accepting one's physique</li> <li>• Emotional independence</li> <li>• Assuring economic independence</li> <li>• Selecting, preparing for occupation</li> </ul> </li> </ul>

<i>Early adulthood</i>	<i>Period</i>	<i>Major developments</i>
Intimacy vs Isolation	18-40 years	<ul style="list-style-type: none"> <li>• Choosing a mate</li> <li>• Establishing a home</li> <li>• Accepting the responsibility of parent</li> <li>• Characteristics:                             <ul style="list-style-type: none"> <li>• It is the reproductive age.</li> <li>• It is the settling down age.</li> <li>• It is the problem age.</li> <li>• It is the age of emotional tension.</li> <li>• It is the age of social isolation.</li> <li>• It is the age of value changes.</li> <li>• It is the creative age.</li> </ul> </li> </ul>

<i>Middle age</i>	<i>Period</i>	<i>Major developments</i>
Matured Adulthood (Generativity vs Stagnation) <b>Hurlock classification:</b> Early middle age—40-50 years Late middle age—50-60 years	40-60 years	<ul style="list-style-type: none"> <li>• Characteristics:                             <ul style="list-style-type: none"> <li>• It is the age of transition.</li> <li>• It is the awkward age.</li> <li>• It is the age of achievement.</li> <li>• It is the age of evaluation.</li> <li>• It is the age of boredom.</li> </ul> </li> <li>• Developments:                             <ul style="list-style-type: none"> <li>• Redefining the responsibilities</li> <li>• Losing youth recognition is known as mid-career crisis or middle age slump</li> <li>• Conflict between generativity and stagnation</li> </ul> </li> </ul>

<i>Old age</i>	<i>Period</i>	<i>Major developments</i>
Senescent Stage Ego Identity vs Despair (Integrity is the acceptance of one's life cycle)	60 years to death	<ul style="list-style-type: none"> <li>• Early old age—60-70 years</li> <li>• Late old age—70 to end of life</li> <li>• Characteristics:                             <ul style="list-style-type: none"> <li>• It is the period of decline.</li> <li>• Individual differences exist in the aging.</li> <li>• There are many stereotypes about aged.</li> <li>• The desire for rejuvenation is widespread in old age.</li> </ul> </li> <li>• Developments:                             <ul style="list-style-type: none"> <li>• Physical change in the body</li> <li>• Adjustments to reduced income and deteriorating health</li> <li>• Loneliness</li> </ul> </li> </ul>



# *Psychological Disorders*

It is defined as patterns of abnormal behaviour, emotion, or thought that significantly interfere with an individual's adaptation to important life demands and often cause distress in the individual or in others.

## **FACTORS FOR JUDGING**

- Consider the social context in which the behaviour occurs.
- The extent to which the behaviour (overdone or underdone).
- The degree to which the behaviour interferes with the individual's adaptation.

## **TRADITIONAL CLASSIFICATION OF DISORDERS**

There are four general categories:

1. Brain syndromes: Due to damage of brain tissue, it may be reversible or irreversible.
2. Psychosis: These are severe disorders in which the individual's perception of reality is distorted and psychological functioning is disorganized. For example, delusions (false belief), hallucinations (schizophrenic and paranoid disorders).
3. Neurosis: These are mild disorders in which individual's perception of reality is not grossly impaired. They are mainly due to internal conflicts and anxiety. For example, anxiety disorders.
4. Personality disorders: It is long-standing maladaptive personality patterns. It affects the relationships. For example, mistrust on others, antisocial behaviour, loneliness.

## **CURRENT CLASSIFICATION**

There are two categories:

1. Clinical syndromes: It includes brain syndromes, psychosis, and neurosis.
2. Personality disorders

### **Clinical Syndromes**

- Disorders of infancy and childhood
- Organic mental disorders
- Substance use disorders
- Schizophrenic disorders
- Paranoid disorders
- Affective disorders
- Psychotic disorders
- Anxiety disorders
- Somatoform disorders
- Psychosexual disorders
- Factions disorders
- Adjustment disorders

### **Personality Disorders**

Paranoid, schizoid, histrionic, antisocial, borderline, avoidant, dependent behaviour, compulsive behaviour, etc.

## **FEATURES OF FEW DISORDERS**

### **Infantile Autism**

It is a devastating combination of retarded development and peculiar behaviour.

- General lack of responsiveness
- Defective communication skills and language
- Unusual repetitive responses to the environment
- Failed normal attachment to their parents
- Lack of co-operation with other children

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### *Causes*

- Abnormal physiological arousal
- Cerebral lateralization (left hemisphere deficit)
- Unusual cerebral dominance patterns
- Heredity.

### **Bulimia (Binge eaters)**

It is an overeating disorder (closely related to anorexia) “Binge-Purge Syndrome”

- Binging and purging are hidden.
- Loss of control over eating.
- Obesity (later stages).
- Feelings of depression, shame and self-contempt.

### **Substance Use Disorders**

They are caffeine or tobacco dependence, tobacco withdrawal and alcohol and heroin dependence.

### *Levels of the Disorders*

- Abuse—milder level
- Dependence—physical addiction
- Withdrawal—unpleasant symptoms due to cessation

### *Withdrawal Symptoms: “Delirium tremors”*

- Tremor, delirium, convulsions and hallucinations
- They are agitated and depressed
- Mental deterioration and personality changes.

### **Schizophrenia (Dementia praecox)**

It includes several specific psychotic disorders.

- Cognitive slippage and derailment
- Loosening of association

- Delusions/Hallucination
- Autistic thought process
- Withdrawal from others
- Lack of responsiveness
- Youthful insanity—affects mostly adolescence or early adults
- Frequent mood disturbances (extreme behaviours)

### *Types*

1. Disorganized type
2. Catatonic type (severe psychomotor disturbance)
  - Flat emotional expressions
  - Lack of insight into their behaviours

### **Paranoid Disorders**

These are characterised by delusions of grandiosity or persecution. People with these disorders often have a long history of finding fault with others except this they seem quite reasonable and sane.

- Delusional jealousy (unfaith)
- Delusion of grandeur
- They look for hidden motive or secret meanings in the behaviour of other people
- Well-organised delusional system
- Distrust people, social withdrawal and isolation, false belief
- Ordinary frustration of life taken personally
- Paranoid thinking with normal intelligence.

### **Mood or Affect Disorders**

In this extreme moods (flatted and down) are combined with particular patterns of maladaptive thinking and behaviour.

#### *Depression (Sad Feeling or Negative Thinking)*

- Adaptive change
- Loss of interest in usual activities (including sex)

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- Loss of energy
- Diminished ability to think
- Feelings of worthlessness (self-reproach)
- Suicidal thoughts
- Inferiority complex
- Unsuccessful at work.

*Causes:*

- *Life experiences, learning and social factors, especially a loss of significant reinforcers.*
- Cognitive factors (distorted interpretations).
- Biochemical or genetic factors.

*Manic—Depressive Disorders (Bipolar Disorders)*

Sweeping mood swings that involve both depression and elation.

- Flight of ideas followed by depression (All or nothing).
- Sharp burst of activity.
- Grandiose feelings (thinking as big VIP).
- Poor judgment and irrationality.
- Spending motto (buying a car without plan of repayment).

### **Anxiety Disorders (Uneasy feeling or Feeling of Fear)**

*Phobia:*

An intense, persistent, irrational fear of something specific is a phobia. For example, fear of enclosed places, high places, blood, darkness, insects, etc.

*Generalized anxiety disorders:*

Distress and uneasiness are persistent, painful and spread across multiple situations. It may be mixed with physical symptoms.

*Panic disorders*

It is specific, focussed time-bound attacks of intense fear, even terror.

*Obsessive—Compulsive Disorders:*

Persistent unwanted ideas, thoughts associated with seemingly irrational behaviours repeatedly carried out in a fixed, repetitive way. For example, washing hands often, taking more showers a day.

**Personality Disorders**

They are longstanding maladaptive behaviour patterns. People with this disorder cope with life's problems and relate to others in ways that may be considered troublesome, unusual, strange and tiresome (to others) for example, all deviant behaviours.

- Paranoid personality disorder
- Schizotypal personality disorder
- Compulsive personality disorder
- Histrionic personality disorder: It is immature, self-centered, seductive, attention getting behaviour. They are manipulative. More often women.
- Antisocial personality disorder (Psychopathic): It is characterised by defects of impulse control and conscience.

**Characteristics of Psychotics compared with those who are Neurotic or Psychophysiologically ill**

<i>Neurotic and psychophysiologically ill</i>	<i>Psychotic</i>
He frequently talks about his symptoms and does not accept his condition. Talks about how healthy he used to be and anticipates that day that he will return to his normal self.	The psychotic often denies that there is anything wrong with him and tends to accept his illness as inevitable. If someone calls attention to his unusual behaviour, he will defend it. He lives his psychosis.

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*Contd...*

<i>Neurotic and psychophysio- logically ill</i>	<i>Psychotic</i>
This person does not lose contact with reality testing is at all impaired, it is in the direction of over activity—he can't seem to ignore reality.	In sharp contrast, the psychotic has lost contact with or has a tenuous reality and substitutes fantasy for it.
Orientation for person, place, and time is intact.	Orientation is poor or entirely gone.
Although he complains that he is 'falling apart', he rarely does.	The psychotic's total personality may be disorganized by his illness and his lifestyle is chaotic.
He continues to function socially and the job.	The psychotic may harm himself or others. Consequently he often requires close care or hospitalisation. His close relatives are among the first to insist that he seeks help because they are often the victims of his strange behaviour.
The prognosis for recovery of acceptable functioning is favourable.	Although many psychotics benefit from treatment (sometimes recovery is spontaneous), most benefits consist of temporary cures of particular symptoms or of behaviour.

# Psychotherapy and Counseling

## PSYCHOTHERAPY

Psychotherapy aids designed to reveal the psychological causes of behaviour problems and to stimulate the development of adaptive new ways of behaving. Psychotherapies focus on analyzing underlying motives and conflicts and psychodynamic approaches. E.g. Psychoanalysis by Freud. The aim of psychotherapy is to bring personality change.

<i>Psychotherapy</i>	<i>Counseling</i>
<ul style="list-style-type: none"> <li>• Deals with neurotics// psychotics in hospital set up.</li> <li>• Long duration</li> <li>• Reconstructive</li> <li>• Focusing on past</li> </ul>	<ul style="list-style-type: none"> <li>• Deals with normal people in community settings.</li> <li>• Short duration</li> <li>• Problem solving</li> <li>• Focusing on the present and future.</li> </ul>

## COUNSELING

Pepinsky and Pepinsky (1954) state that “counseling is a process involving an interaction between a counsellor and a client in a private setting, with the purpose of helping the client change his behaviour so that a satisfactory resolution of needs may be obtained”.

It has got three roles:

- Remedial role (marital counseling)
- Preventive role (suicide prevention programmes)
- Developmental role (work shops and seminars).

## Goals

- Facilitating behaviour change
- Enhancing coping skills
- Promote decision-making



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- Improving relationships
- Facilitating client potential

Psychotherapy and counseling methods are very useful to change the attitude of a human being.

### **PSYCHOTHERAPIES**

#### **Biomedical Therapies**

- Electroconvulsive/Electroshock Therapy
- Psychosurgery
- Chemotherapy

#### **Psychodynamic Therapies**

- Psychoanalysis techniques (All used to uncover unconscious urges and conflicts and reduce the need for neurotic defenses)
- Jungian analytical therapy (Used dream analysis and word association)
- Adler's individual therapy (Emphasis on social and interpersonal factors)
- Karen Horney's form of analysis (Emphasis on social factors).

#### **Humanistic Therapies**

- Carl Rogers client—centered therapy (uses self-actualization)
- Gestalt therapies (Humanistic + Existential therapy)  
Enhances self-awareness and feelings of personal responsibility + paradoxical intention (Over exercising).

#### **Behavioural Therapies or Behavioural Modification Therapies**

- Instrumental or Operant Conditioning Techniques
  - Positive and negative reinforcement

- Extinction
- Differential reinforcement
- Token economies
- Covert Sensitisation
- Punishment
- Classical Conditioning Techniques
  - Systemic sensitization
  - Flooding
  - Aversion therapy
- Modeling Techniques (Observational Learning Techniques)
- Cognitive Approaches (Cognitive Behaviour Therapy)
  - Ellis's rational Emotive Therapy (RET)
  - Beck's cognitive Therapy
  - Meichenbaum's self-instructional training.

### **Behavioural Medicine or Health Psychology**

- Relaxation training
- Hypnosis
- Bio-feedback

### **Behaviour Modification Therapies (BMT)**

It is a set of procedures based on learning theories, which focus on the interaction between the individual and the environment for changing and undesirable behaviour.

- They use learning principles
- Changes observable behaviour
- Emphasis on assessment of behaviour and change of behaviour by techniques
- Uses classical conditioning, operant conditioning and observational learning principles.

Salient features of behaviour modification:

1. Relative to other methods of psychotherapy it concentrates on the behaviour itself rather than on some presumed underlying cause.

2. It assumes that maladaptive behaviours are to large extent acquired through learning in the same way that any behaviour is acquired.
3. The behavioural approach assumes that learning principles are extremely effective in modifying maladaptive behaviour.
4. Behaviour modification involves setting specific goals.
5. It rejects classical trait theory.
6. It focuses on the present rather than the past.
7. The behavioural approach places great emphasis on observable and measurable responses and obtaining empirical support for their various techniques.

### *Operant Conditioning Techniques*

#### *Concept—Pay Off*

*Token economy:* Principle of token economy is BMT. The problematic behaviour that is acquired through learning and conditioning can be eliminated by means of techniques derived from learning and conditioning principles.

In token economy the operant conditioning principle is used.

Here people “earn” objects (token), which they can exchange for desirable items, services or privileges. These tokens are contingent on appropriate behaviour. It can be used in institutions, classrooms, workshops and other settings. E.g.—For institutionalized schizophrenic patients for personal care and grooming behaviours. Token given for the following criteria.

- Proper use of make up
- Clean fingernails
- Hair combed
- Teeth brushed
- Clothing buttoned, zipped, tucked

- Body clean
- No odor
- Shaven

By using token they can purchase leisurely meal times, games, snacks and cosmetic items. This technique resulted in dramatic improvements in the patient's behaviour.

*Drawbacks:*

- Affects human freedom
- Reverse of the condition when tokens withdrawn

*Functional analysis of behaviour:* Study the relationship between the client's behaviour and the conditions and events in his or her environment.

A-B-C Analysis → Antecedents-Behaviour-Consequence

E.g.

1. People smoke cigarettes when under stress.
2. Overweight people (Obesity)

<i>Antecedents</i>	<i>Example 1 Stressful situations</i>	<i>Example 2 Sad or lonely situations</i>
Behaviour	Smoking	Eating
Consequences	Relieves tension	Satisfaction

In the above functional analysis, it explains why the behaviour is repeated.

*Identifying Positive and Negative Reinforcers:*

- *Positive Reinforcers:* These are events which when contingent on a certain response increase the likelihood that the response will be repeated, e.g. a smile or hug.
- *Negative Reinforcers:* These are the events that increase the likelihood of a response when their termination is contingent on the response, e.g. same smile or hug may be negative for some people.

*Extinction:* It takes place when the reinforcement for a particular response is withdrawn.

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For example:

1. A neurodermatitis patient having scratching habit, neglected by the family members whenever he does the same, led to extinction of that behaviour.
2. Omission training in schools (timeout area without children, books, etc).

*Differential reinforcement:* It consists of giving positive reinforcement for desired behaviours and withholding it in their absence.

For example:

1. Used for autistic children.
2. Used to help cancer patients.

*Punishment:* It is not used mostly as it interferes with learning. However, occasionally used as a last resort to stop behaviour that is so disordered and dangerous.

For example, A child with severe vomiting and chronic chewing of the vomited food was treated with a painful electric shock showed good response. The child gained weight and showed greatly increased activity and social responsiveness.

*Covert sensitization:* An alternative to physical punishment. In this technique the unwanted behaviour is imagined together with its imaginary punishing consequences.

For example, 1. An alcoholic is trained to imagine drinking and its consequences. 2. Smoking, obesity, gambling, etc. can be treated by this technique.

### *Classical Conditioning Techniques*

*Systemic Desensitization:*

- Begins with relaxation training (progressive relaxation) (Autogenic relaxation) (Image heaviness and warmth of the body parts)

- **Conditioning:** It involves systemic pairing of the feared stimuli with a relaxed bodily state.
- We cannot both relaxed and tense at the same time. Thus the fear and anxiety weaken if the client remains relaxed.
- **Principle:** Reciprocal inhibition, i.e. two incompatible responses cannot occur at the same time and the stronger of the two will replace the weaker. For example, Cockroach anxiety hierarchy.

Least feared	• Hearing a friend mention a cockroach in classroom.
↓	• Seeing an ad on TV for a cockroach spray
To	• Seeing a cockroach 10 yards ahead of me.
↓	• Opening my dormitory room and seeing cockroaches scurry everywhere.
Most feared	• Waking up in the middle of night and finding a cockroach on hair.
	• Finding a cockroach in your tea after finishing half cup.

*Flooding:* It lessens the fears in straightforward extinction. A fear-producing stimulus is presented by itself over and over again. Such direct presentation of a high strength conditioned stimulus either in imagination or in reality is called flooding, e.g. repeated exposure to extreme heights can sometimes be effective.

*Aversion therapy:* Here aim is to condition unpleasant feelings in response to a stimulus, e.g. 1. A sickness or fear-producing drug is paired with the sight, smell and taste of alcohol. Just being around alcohol makes the person feels ill or frightened. Thus he or she avoids drinking. 2. Can be used for smoking.

### *Modeling Techniques*

- **Principle:** Cognitive learning (observational learning) e.g. can be used for phobias.

There are two ways that observational learning helps people to acquire new behaviour.

- Information is provided regarding the steps by which others are able to perform it.

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- It gives evidence for the possibility of that behaviour. It encourages the belief that “I can do it.”

### *Cognitive Techniques:*

- Principle: Maladaptive behaviours are due to maladaptive ideas or cognitions and therapy should focus on modifying these cognitions.

*Elli's rational-emotive therapy (RET):* It is designed to reveal and breakdown irrational beliefs that lead to distress. Find the irrational belief and change it cognitively. E.g. Avoiding some vegetables can be treated by knowing the benefits of consuming that vegetable.

*Beck's cognitive therapy:* Used for depression. In this the therapist uses pointed, but friendly, questioning to root out depressed people's faulty depressogenic cognitions. Then they worked toward altering those cognitions. They used

- Home works (Scheduled home activities)
- Engaged patients in enjoyable activities
- Tried to counter the loss of motivation

E.g. False belief like, “If I am nice, bad things won't happen to me.” Extension of this is “If bad things happen to me, it means I am not nice.”

*Meichenbaum's self-instructional training:* It is more structured and directive than Beck's. It helps clients replace their maladaptive cognitions with rational, positive thoughts, particularly when they are in stressful situations, e.g. a student afraid of exam can be treated by this method.

Uses the following:

- Self-talk
- Relaxation

Problems treated:

- Achievement deficits
- Social anxiety
- Poor self-control

## *Stress*

### **STRESS**

Stress is the inner pressure/distress. It is an internal state which can be caused by physical, environmental and social situations which are evaluated as potentially harmful, uncontrollable or exceeding our resources for coping. The above causes or factors of stress are known as stressors. There may be responses in the human being due to the felt stress or inner pressure state. It can be of two types:

- Bodily responses
- Psychological responses

Moreover, stress is a big problem in the medical field as it contributes 75% of bodily diseases.

### **Stressors**

Any changes in the environment may act as a stressor. But what events produce stress varies from person to person and depends on one's coping skill. The stressors may be:

- Physical Stressors (injury, infection, exercise, noise, climate)
- Emotional stressors (frustration, conflict family, transitions of life)
- Environmental stressors (social activities, health, finances, job)

### **Stress Reactions/Responses**

Stress may produce some body reactions, which are generally called as General Adaptation Syndrome (GAS). It consists of three stages, which are as follows:

- Alarm reaction



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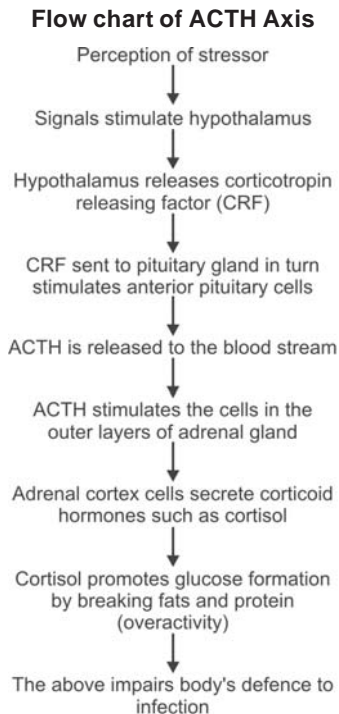
- Stage of Resistance
- Stage of Exhaustion

### *Alarm Reaction*

It is the emergency responses of the body, which are mediated by the sympathetic nervous system, prepare us to cope with the stressors.

### *Stage of Resistance*

If the stressor continues to be present, the body tries to resist the effects of the stressor. However, resistance to new stressors is impaired during this stage. The hormonal responses occurring in the body (mainly adreno-corticotrophic hormone) play a defensive role against stressors. Among the hormonal responses ACTH axis is very important.



### *Stage of Exhaustion*

In this stage the body's capacity to respond to both continuous and new stressors has been seriously compromised. At this stage or late in the stage of resistance, various psychosomatic disorders and mental health disorders may occur.

*Psychosomatic disorders:* This term was coined by Hein Roth, 1818. 'Psycho' means mind and 'Soma' means body. Hence, psychosomatic disorders are those ailments, which are physical in their appearance, but their cause is to be found in the psychology of the person.

Research has indicated that 75% of human diseases are stress prone disorders. They are mainly caused due to mental and emotional strains.

### **Disorders**

- **Respiratory Disorders**
  - Common cold
  - Rhinitis (Congestion of nasal mucous membrane)
  - Bronchial asthma (Bronchial spasm).
- **Cardiovascular Disorders**
  - Tachycardia (Increased heart rate with irregularity of the heart rhythm)
  - Anginal syndrome (Sudden and severe pain in the chest)
  - Hypertension (High blood pressure)
  - Coronary disease (Heart attack).
- **Gastrointestinal Disorders**
  - Anorexia (Loss of appetite)
  - Bulimia (Excessive appetite)
  - Peptic ulcer (It is an open sore situated on the lining of the stomach or more frequently on the upper portion of the small intestine)
  - Colitis (Inflammation of the colon. Symptoms include diarrhoea, constipation, lower abdominal pain and bleeding).

- **Migraine Headache** (It refers to an intensity painful headache recurring periodically on only one side of the head.)
- **Genitourinary Disorders**
  - Enuresis or bedwetting
- **Menstrual Disorders**
  - Premenstrual tension
  - Dysmenorrhoea (Painful menstruation)
  - Psychogenic amenorrhoea (Stoppage of menstruation).
- **Disturbances of Sexual Functions**
  - Psychogenic impotence (for male)
  - Frigidity (for female).

### *Mental Health Disorders:*

- Anxiety disorders
  - Panic disorder
  - Phobias
  - Post-traumatic anxiety
  - Obsessive compulsive disorder
  - Tensions, Worries
- Somatic form disorders
  - Conversion disorder
  - Somatization
  - Hypochondria
- Dissociative disorders
  - Psychogenic amnesia
  - Psychogenic Fugue (wanders away from home)
  - Multiple personality disorder
  - Depersonalization disorder
- Depression disorders
  - Substance abuse (alcohol, drugs).

### **Coping with Stressors**

There are methods to cope up with the stressors and put down their medical consequences. Those are as follows:

### *Transcendental Meditation (TM)*

Maharishi Mahesh Yogi gives it. In this technique the person is given a special sound to repeat while sitting in a relaxed position. An instructor helps the student learn to repeat the sound mentally. The physiological measurements after learning this technique have shown that the bodily changes in the TM state are no greater than when one is simply relaxed.

### *Herbert Benson Relaxation Response Technique*

The person sits 20 minutes in a relaxed and comfortable position and relaxes the muscles progressively from feet to head. Then concentrates on breathing and saying 'one' after completion of a cycle.

### *Systematic Desensitization*

This is a behaviour therapy technique in which the classical conditioning learning principle is used, e.g. phobia treated by this method.

### *Direct Coping Methods*

- Confrontation of the problem
- Compromise with the stressors
- Withdrawal from the situation

*Use of defence mechanisms like denial, repression, projection, identification, reaction formation, displacement and sublimation.*

### *Hypnosis*

Hypnosis (from the Greek hypnos, sleep) in general is simply a sleeplike state of focused awareness. To say that hypnosis is "a sleeplike state" means that it isn't sleep exactly, and therefore dreaming, for example, isn't hypnosis either. And

yet, in those moments we all experience just on the verge of falling asleep or waking up—moments called hypnagogic states—we are sort of awake and sort of sleeping, sort of conscious and sort of dreaming. When such an experience is induced deliberately, it's called a trance.

Trances can be very useful clinically. In such a sleeplike state, a person can be very open to new and creative ways of looking at the world because rational logic—and old, restrictive, psychological defenses—can be bypassed.

To experience a deep trance therapeutically, of course, one needs a hypnotist to direct the process, because one's own conscious processes just can't function when so deeply relaxed.

One can, however, induce a lighter trance all by himself; this is called self-hypnosis. Self-hypnosis can be induced by listening to relaxation tapes; it can be induced by creating one's own visual imagery; it can be induced by meditation or Progressive Muscle Relaxation; and it can be induced by "talking to self," as in autogenics. In all of these cases one can experience a moderate level of relaxation while maintaining a certain conscious awareness that continues to direct the self-hypnosis process by which one offers to himself creative suggestions for new and healthy behaviour.

- *Yoga / Meditation*
- *Use of cognitive approaches to problems*
- *Developing good characteristics, which can be useful to cope up stressors.*

You should always be "pilot in command," even if you're never in control of anything.

- a. Trying to be in control is just a vain illusion that you can determine what happens next in your life.
- b. Being in command means that even though you can't control what happens next, you can make decisions about what to do in response to whatever happens.

## **FOUR MAXIMS**

1. *The threat of change is perceived individually:* This means that there are no absolutes to SNS arousal. An activity, which feels threatening to one person, may not be at all threatening to someone else. I'm a private pilot, I enjoy flying small airoplanes, and I really have had fun flying aerobatics—but there are many persons who would freeze in panic at just the thought of flying upside down. This “relative” quality of threat is why so-called psychological “stress tests” are of better use for entertainment than clinical assessment. In fact, if you need a stress test to discover how much your resources are being challenged by changes in your life, forget the score—the very fact that you're so out of touch with your body and your mental health as to need a stress test is a clinical statement in itself.
2. *For any individual, some activities are more physiologically arousing than others;* accordingly, a less threatening activity can provide a relative sense of relaxation after a highly threatening activity. This means that a person in a demanding job, such as options trading, or air traffic control, or emergency medicine, might find an activity such as woodworking to be relaxing. Even though woodworking may have its own inherent demands, it can be a major relief from the life-or-death decisions a person may have to make as a daily part of his or her job.
3. *Some activities are more efficient at relieving SNS arousal than others:* This means that even though a person in a demanding job might find woodworking relaxing, there may be other activities, such as meditation, that can be more relaxing than woodworking. Accordingly, you should try to pursue the most direct form of relaxation possible.

Remember also that some forms of relaxation can turn out to be more demanding than you imagined. A project to build your own airplane, for example, can become a real nightmare. So be careful not to get trapped in what started as a seemingly good idea.

4. *No matter what relaxation method you choose for relaxation, the underlying mechanism is the same:* This means that meditation works in essentially the same way as woodworking. Remember the basic physiology of the sympathetic and parasympathetic nervous systems: relaxation works by encouraging the PNS to “turn off” the SNS arousal. A relaxing activity provides relief from an arousing activity simply because the arousal is turned off—or at least turned down.

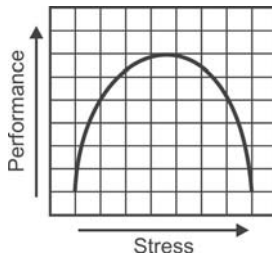
Note that this maxim applies also to medications. Although all medications work by different physiological processes, they all—prescribed (anxiolytics, such as valium), over-the-counter (such as alcohol), and street drugs (such as marijuana or heroin)—ultimately have the effect of influencing the SNS arousal to turn off.

### *Mindfulness Meditation*

Mindfulness meditation is a term often used in the practice of psychology so that meditation can be taught without seeming to have any religious implications. Many meditation techniques, such as “centering prayer,” Zen Buddhism, and even Transcendental Meditation, are quite similar to the idea of mindfulness meditation, and yet there is nothing religious about any of them. They are all nothing more than psychological techniques to achieve some form of relaxed, focused mind.

Mindfulness can be relaxing because if you focus just on the one thing that occupies you in the moment you don’t have to deal with the anxiety of future concerns. Mindfulness

meditation draws on this realization and allows you to relax by focusing just on your body in its immediate surroundings: heartbeat, breathing, environmental sounds, etc. The idea is to notice these things without judging or interpreting them. Random thoughts, for example, are noticed as transitory things that simply come and go. If you don't focus on them, they soon go away as easily as they came, and so they don't bother you—or cause SNS arousal. Accordingly, mindfulness meditation is a very passive process.



There is, however, a problem with mindfulness meditation: since it is a passive process, you cannot stay relaxed unless you do nothing but meditate.

The explanation for this odd fact can be found in the traditional Performance-Stress Relationship Curve, which looks like an inverted “U”. At zero arousal, you have zero performance—which means that you’re either sleeping or meditating. At maximum arousal, you also have zero performance—here, you’re incapacitated by panic. So, curiously enough, the only way to have any performance is to have some arousal.

This curve idea is really just commonsense about physiological arousal, and it may not represent anything particularly scientific about what “stress” may or may not be.

This means that if you are performing any activity with a moderate to high level of arousal, such as driving a car, being in a state of mindfulness does not in itself reduce SNS



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stimulation (Remember that mindfulness while sitting quietly can be relaxing because sitting quietly is not inherently threatening). Therefore, although mindfulness can help to increase performance—because it increases focus and awareness—to have optimal performance you also need to use an active form of relaxation, such as progressive muscle relaxation, autogenics, or prayer, to keep SNS arousal from becoming excessive.

## *Pain*

### **PAIN**

Pain is a noxious unwanted perception in which the patient seeks medical intervention.

“Pain is subjective, individual and modified by degrees of attention, emotional state and the conditioning of past experiences” (Livingstone 1943). The intensity of the pain is not directly proportional to the degree of suffering. Because it is basically a psychological experience and depends on how it is interpreted or experienced. Moreover, it is influenced by two factors, which are as follows:

- Physiological or Physical factors
- Psychological or Sociological factors

#### *Physical Factors*

- Pain tolerance
- Body constitution/Genetics
- Age
- Sex
- Temperature
- Climate (Humidity, Cold, Winter)
- Light, darkness
- Noise level
- Avoidance of physical activity.

#### *Psychological Factors:*

- Personality (Introvert/Extrovert)
- Social context or role (e.g. Soldier vs Civilian)
- Attention
- Ecstasy

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- Attitudes, past experiences
- Anxiety/Depression
- Learning/Memory (Education)
- Dependency/Conditioning
- Avoidance behaviour
- Judgement, Ego, Expectation

### *Social Factors*

- Relationship with family
- Social norms
- Politico-Judicial factors
- Cultural effects (occupation, education, status)
- Social interactions
- Hobbies

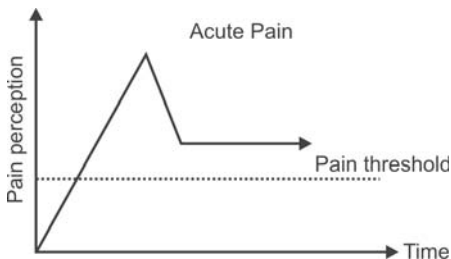
### **Types of Pain**

Following are the different types of pain based on the timing:

- Acute pain (less than 6 months)
- Chronic pain (more than 6 months)

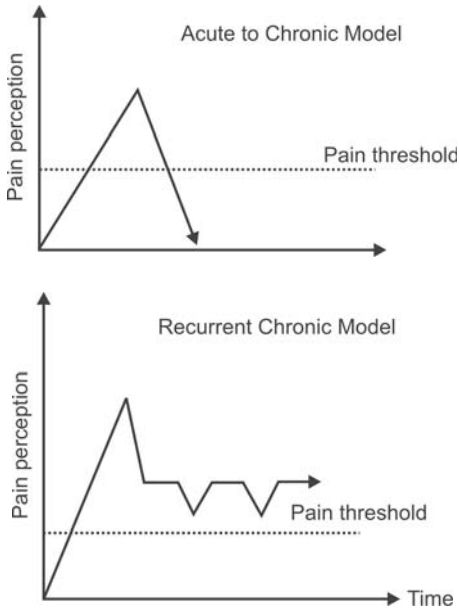
### *Acute Pain*

It typically results from some specific injury that produces tissue damage.



### *Chronic Pain*

It typically begins with an acute episode, but does not decrease with treatment and the passage of time, e.g. chronic Low Back Pain, Migraine, Cancer



## Pain Measurement

Pain behaviours are observable and measurable one. Analysis of pain behaviours help to provide a basis for assessing the degree and ways in which pain has disrupted the life of patients. The pain has got three aspects, which are as follows:

- Sensory aspect
- Emotional aspect
- Intensity aspect

Turky and Rudy (1987) developed a multiaxial assessment of pain, which includes psychological and behavioural data that may help in diagnosis and treatment (Biopsychological Approach).

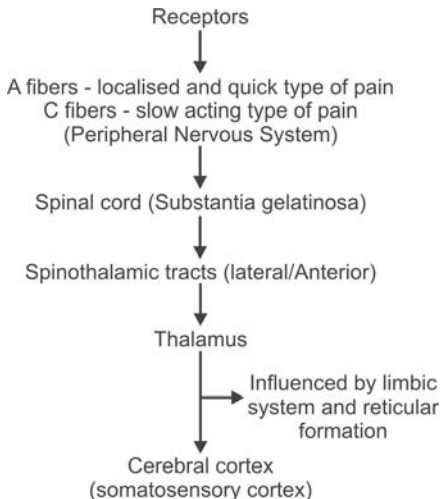
### *Sixteen Pain Behaviours*

- Asymmetry
- Slow response time

- Guarded movement
- Limping
- Bracing
- Personal contact
- Position shifts
- Partial movement
- Absence of movement
- Eye movement
- Grimacing
- Quality of speech
- Pain statements
- Limitation statements
- Sounds
- Pain relief devices (under use)

### Physiology of Pain

The receptors, nerve fibres and central nervous system are involved in the perception of the noxious stimuli. There are certain numbers of specific pathways for pain conduction.



### *Pain Control Mechanisms*

- Central Control Mechanism (Inhibition by Brain)
- Pain Gate in Brainstem and Spinal Column
- Neurochemical Mechanism (Endogenous Opioids)

### *Pain Psychology*

- Pain temporarily alters the personality variables that are consistently associated with it.
- Perception of pain is subjective, varied and complex.
- Different personality may be implicated for different type of pain.
- Personality factors can be involved either as predisposing factors or consequences of pain.
- An effect to find a pain prone personality is unsuccessful.
- MMPI (Minnesota Multiphasic Personality Inventory) reliably distinguishes acute pain patients from chronic pain patients so called “Neurotic trait”.
- Behavioural approaches to chronic pain point that much of the behaviour associated with pain are learned. An operant pain problem is one that has developed because it has been systematically reinforced while the healthy behaviours have gone unrewarded.
- Interpersonal and cognitive factors are part of the clinical pain syndrome.

### **Pain Problems in Rehabilitation Medicine**

Pain is the most presenting symptom in general medicine, accompanies diseases and disabilities. At this point the general effects of pain on rehabilitation should be considered. Pain is viewed as a deterrent to rehabilitation process. It interferes with rehabilitation by following:

- Pain prevents physical activities necessary for progress
- Pain leads to insomnia with resulting fatigue

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- Pain may result in surgical or pharmacological intervention that either slows or stops rehabilitation
- Pain can lead to interpersonal problems with staff and fellow patients
- Pain may lead to withdrawal from participation
- Pain may bring sources of secondary gain.

### **Pain Management**

The pain management techniques may include following:

- Pharmacological techniques
- Surgical techniques
- Sensory stimulation techniques
- Psychological techniques.

#### *Psychological Techniques*

- Biofeedback (principle of operant conditioning used)
- Relaxation
  - Jacobson progressive muscle relaxation
  - General relaxation
  - Controlled breathing
  - Medication
  - REST (Restricted Environment Stimulation Therapy)
- Hypnosis
- Cognitive distraction
- Guided imaging technique
- Rational emotive therapy
- Behaviour modification therapy (Shaping)
- Psychoanalytic approaches
- Assertiveness training
- Counseling

# *Psychological Tests*

Psychology is a scientific subject in which we use some tools or instruments to study human behaviour and experience. These are known as psychological tests. With the help of these instruments experiments can be conducted to reveal the concepts behind our mental processes or behaviour.

According to Freeman, "A psychological test is a standardised instrument to measure objectively one or more aspects of total personality by means of samples of verbal or non-verbal responses or by means of other behaviours.

## **CHARACTERISTICS OF PSYCHOLOGICAL TEST**

A psychological test is an objective and standardised measure of a sample behaviour should possess the essential characteristics such as validity, reliability, objectivity, standardisation, norms, simplicity, economy and interesting.

### **Validity**

It means purpose or truthfulness of the test. Studies of validity tell us how the tests measure what they are supposed to measure and how well they predict according to an acceptable criterion.

According to freeman, "An index of validity shows the degree to which a test measures what it purports to measure when compared with accepted criteria. The construction and use of test imply that the instrument has been evaluated against criteria regarded by experts as the best evidence of the traits to be measured by the test. Selection of satisfactory validation criteria and demonstration of an appropriate degree



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of validity are fundamental in psychological and educational testing”.

Psychologists, educators, guidance counselors and personnel managers use test results for a variety of purposes such as to estimate an individual's educational promise, to assist in solving learning problems, to select persons for jobs, or for job training, etc. Obviously none of these purposes can be fulfilled even partially, if psychological instruments do not have sufficiently high degree of validity.

### **Reliability**

It means consistency or accuracy of the test. Studies on reliability tell us whether the test scores are self-consistent and shows how good is the test. Reliable tests, whatever they measure, yield comparable scores upon repeated administration. For accurate predictions high reliability is essential.

### **Objectivity**

In a test, measurement, administration, or procedure, scoring and interpretation of scores should be objective irrespective of the researcher.

### **Standardisation**

Standardised tests are tests, which have been carefully constructed by experts after, try out analysis and revision. They have explicit instructions for standard administration and tables of norms for score interpretation.

### **Interpretation Norms**

It is an average, common or standard performance under experimental conditions. The norms are in the form of age,

grade percentile rank and standard score. These norms should be meaningful and accurate.

### **Simplicity**

A test should be simple in terms of procedure for administration, collection, scoring and interpretation of data. Further, simple language should be used in the psychological tests.

### **Interpretation Economy**

There should be economy in terms of the duration for administering the test and the expenses involved in testing.

## **TYPES OF PSYCHOLOGICAL TESTS**

1. Individual and group tests
2. Paper pencil tests and performance tests
3. Language and non-language tests
4. Speed and power tests
5. Tests measuring different traits

### **Individual and Group Tests**

Individual test will enable the examiner to observe the behaviour, establish rapport, obtain co-operation and maintain interest of the individual in the test. These test generally require a highly trained examiner. Bhatia's battery of intelligence tests is an example for individual test.

Group tests permit mass testing and insure more uniformity of procedure and an automatic scoring. All prognostic and diagnostic tests come under this category.

### **Paper Pencil Tests and Performance Tests**

In the paper pencil tests the subject is given with printed items and asked to give the responses in written form either

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in the form of a tick mark or one word only. Personality inventory is an example for paper pencil test.

In the performance tests, the subject is expected to handle or manipulate objects, pictures, blocks or mechanical apparatus. These tests are generally individual tests. Bhatia's battery of intelligence tests is an example for performance test.

### **Language and Non-language Tests**

Non-language tests are especially designed for the illiterate, foreign language speaking, deaf or others who are unable to take a language test whereas language test is administered on those who can read and write.

### **Speed and Power Tests**

The speed test can measure the individual differences, which depend entirely upon the speed of response or performance. Since the time is so short no one can finish or complete all items of the test.

But in power tests they have time limit long enough to permit every one to attempt all items. The items are graded steeply according to the hierarchy of difficulty whereas in speed test they are uniformly at low difficulty level, all of which are well within the ability of the subjects, taking the tests.

### **Tests Measuring Different Traits**

These are tests constructed to measure different traits like intelligence, aptitude, attitude, prejudice and achievement etc. on the basis of traits the tests can be classified into three categories.

1. Tests of general intelligence
2. Tests of special aptitudes
3. Personality tests

The following two are the examples of psychological test or tool to measure the stress and anxiety, which are the common problems of human's day-to-day life.

1. Stress questionnaire
2. Taylor's manifest anxiety scale and scoring key.

### **Stress Questionnaire**

1	Lack of holiday rest	Y	N
2	Too much to do at short period	Y	N
3	Uncertainty of coming days	Y	N
4	Prices sky rocketing	Y	N
5	Addition of new family members	Y	N
6	Lack of domestic help	Y	N
7	Change in sleeping habits	Y	N
8	Lack of emotional support at home	Y	N
9	Career pressure	Y	N
10	Academic pressure	Y	N
11	Very high family pressure to earn more	Y	N
12	Increased work load at home	Y	N
13	Pollutions and slum conditions in the locality	Y	N
14	Lack of job satisfaction	Y	N
15	Getting married	Y	N
16	Appearing for examination	Y	N
17	Lack of understanding between staff in work place	Y	N
18	Failure in exams or other achievements	Y	N
19	Discrimination in work place because of your sex/physical characteristics/religion/social status	Y	N
20	Lack of monetary security	Y	N
21	Daughter's marriage	Y	N
22	Family conflict	Y	N

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23	Huge loan to be repaid	Y	N
24	Lack of child (male child)	Y	N
25	Unemployment	Y	N
26	Sexual difficulties	Y	N
27	Unwanted pregnancy	Y	N
28	Conflict over dowry (self/spouse)	Y	N
29	Feel a sense of powerlessness or hopelessness	Y	N
30	Lack of promotion of incentives	Y	N
31	Heavy responsibility in work situation	Y	N
32	Financial loss or problems	Y	N
33	Decline in social life	Y	N
34	Too much time pressure	Y	N
35	Anxiety about unfulfilled commitments	Y	N
36	Illness of family members	Y	N
37	Major personal illness	Y	N
38	Lack of confidence in oneself	Y	N
39	Broken love affairs	Y	N
40	Lack of support or excessive expectation from yourself and those around you	Y	N
41	Intense arguments with spouse	Y	N
42	Sense of loneliness	Y	N
43	Marital conflict	Y	N
44	Alcoholism/drug addiction by family member	Y	N
45	Trouble with parent-in-law	Y	N
46	Suspension or dismissal from job	Y	N
47	Extreme boredom	Y	N
48	Lack of sense of self-worth	Y	N
49	Having a handicapped child	Y	N
50	Marital separation/divorce	Y	N
51	Extramarital relation of spouse	Y	N
52	Death of close family member/any other	Y	N

**SCORES**

- Yes—1 mark
- No—0 mark

**NORMS**

<i>Scores</i>	<i>Stress Level</i>
0-17	Mild Stress
18-35	Moderate Stress
36-52	Severe Stress

**Taylor's Manifest Anxiety Scale**

- |   |   |   |
|---|---|---|
| 1 I do not time quickly   | T | F |
| 2 I am troubled by attacks of nausea  | T | F |
| 3 I believe I am no more nervous than most others                             | T | F |
| 4 I have very few headaches   | T | F |
| 5 I cannot keep my mind on one thing  | T | F |
| 6 I work under a great deal of tension  | T | F |
| 7 I worry over money and business   | T | F |
| 8 I frequently notice my head shakes when I try to do something               | T | F |
| 9 I blush no more often others  | T | F |
| 10 I have diarrhea once a month or more                                       | T | F |
| 11 I worry quite a bit over possible misfortune                               | T | F |
| 12 I practically never blush  | T | F |
| 13 I am often afraid that I am going to blush                                 | T | F |
| 14 I have nightmares very few nights  | T | F |
| 15 My hands and feet are usually warm enough                                  | T | F |
| 16 I sweat very easily even on cool days                                      | T | F |
| 17 Sometimes when embarrassed, I break out in a sweat which arrays me greatly | T | F |

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18	I hardly ever notice my heart pounding and I am seldom short of breath	T	F
19	I feel hungry almost all the time	T	F
20	I am very seldom troubled by constipation	T	F
21	I have a great deal of stomach trouble	T	F
22	I have had period in which I lost sleep over worry	T	F
23	My sleep is fitful and disturbed	T	F
24	I dream frequently about things that are best kept to myself	T	F
25	I am easily embarrassed	T	F
26	I am more sensitive than most other people	T	F
27	I frequently find myself worrying about something	T	F
28	I wish I could be happy as others seem to be	T	F
29	I am usually calm and not easily upset	T	F
30	I cry easily	T	F
31	I feel anxiety about something or someone	T	F
32	I am happy most of the time	T	F
33	It makes me nervous to have to wait	T	F
34	I have periods of such great restlessness that I cannot sit long in a chair	T	F
35	Sometime I become so excited that I find it hard to get to sleep	T	F
36	I have sometimes felt that difficulties were piling up so high that I could not overcome them	T	F
37	I must admit that I have at times been worried beyond reason over something that easily did not matter	T	F
38	I have very few fears compared to my friends	T	F
39	I have been afraid of things or people that I know could not hurt me	T	F

40 I certainly feel useless at times	T	F
41 I find it hard to keep my mind on a task or job	T	F
42 I am usually self-conscious	T	F
43 I am inclined to take things hard	T	F
44 I am a highly sensitive person	T	F
45 At times I think I am no good at all	T	F
46 Life is a strain for me much of the time	T	F
47 I am certainly lacking in self-confidence	T	F
48 I sometimes feel that I am about to go to pieces	T	F
49 I shrink from facing a crisis or difficulty	T	F
50 I am entirely self-confident	T	F

### **SCORING**

*Scoring procedure for the Positive Statements:*

- If the answer is 'True' for positive statements, it gets '0' mark.
- If the answer is 'False' for positive statements, it gets '1' mark.

*For the Negative Statements, marks are awarded in the reverse:*

- If the answer is 'True' for negative statements, it gets '1' mark.
- If the answer is 'False' for negative statements, it gets '0' mark.
- The maximum possible score is 50.

*Item Numbers of Positive Statements:*

1, 3, 4, 9, 12, 14, 15, 18, 20, 29, 32, 38 and 50

*Item Numbers of Negative Statements:*

2, 5, 7, 8, 10, 11, 13, 16, 17, 19, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48 and 49



**NORMS**

<i>Scores</i>	<i>Anxiety Level</i>
0-8	Normal anxiety
9-18	Significantly anxious
19-30	Highly anxious
31 and above	Anxiety level in very high and uncontrollable

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# *Question Bank*

## **LONG ESSAYS**

1. Define psychology. Describe the scope of psychology in detail.
2. Describe the methods used in psychology to study behaviour.
3. Explain the role of heredity and environment on human behaviour.
4. What is attention? Explain the factors affecting attention.
5. Describe in detail about the perceptual organization and explain perceptual abnormalities with examples.
6. Define motivation. Discuss in detail about the primary or biological motives.
7. Discuss the theories of emotion.
8. Explain the psychological and physiological changes of emotion.
9. Define learning. Differentiate the classical conditioning from operant conditioning.
10. Discuss the tests used to assess the intelligence of a person.
11. Discuss the methods to improve memory.
12. Describe the personality assessment techniques in detail.
13. Psychoanalytic theory of Freud—Explain.
14. What is ego defense mechanism? Explain any five with examples.
15. Define attitude. Explain its development and change.
16. Describe the three types of leadership styles.
17. Explain the Erickson's eight stages of life in detail.
18. What is psychotherapy? Explain the techniques in detail.
19. What is pain? Explain the psychology behind understanding the pain.
20. What is the importance of pain and stress related knowledge in the field of rehabilitation?

### **SHORT NOTES**

1. Gestalt Psychology
2. Behaviourism
3. Introspection method
4. Experimental method of psychology
5. Use of psychology in physiotherapy
6. Twins study
7. Role of heredity and environment on intelligence.
8. Illusion and hallucination.
9. Motivation cycle
10. Abraham Maslow's theory of motivation
11. Emotion and motivation
12. Trial and error method of learning
13. Steps in creative thinking
14. Types of intelligence
15. Forgetting and its causes.
16. Explain information processing theory.
17. Discuss id, ego and superego.
18. Introvertism and extrovertism
19. Classification of personality.
20. Consequences of frustration.
21. Types of conflicts
22. Variables studied in social psychology.
23. Powers of a leader.
24. Shaping of behaviour?
25. Token economy.
26. Systemic desensitization.
27. Psychotherapy and counseling.
28. 16 pain behaviours.
29. Psychology of pain.
30. Psychological methods to relieve pain.
31. Coping methods of stress.
32. Sources of pain and stress.

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