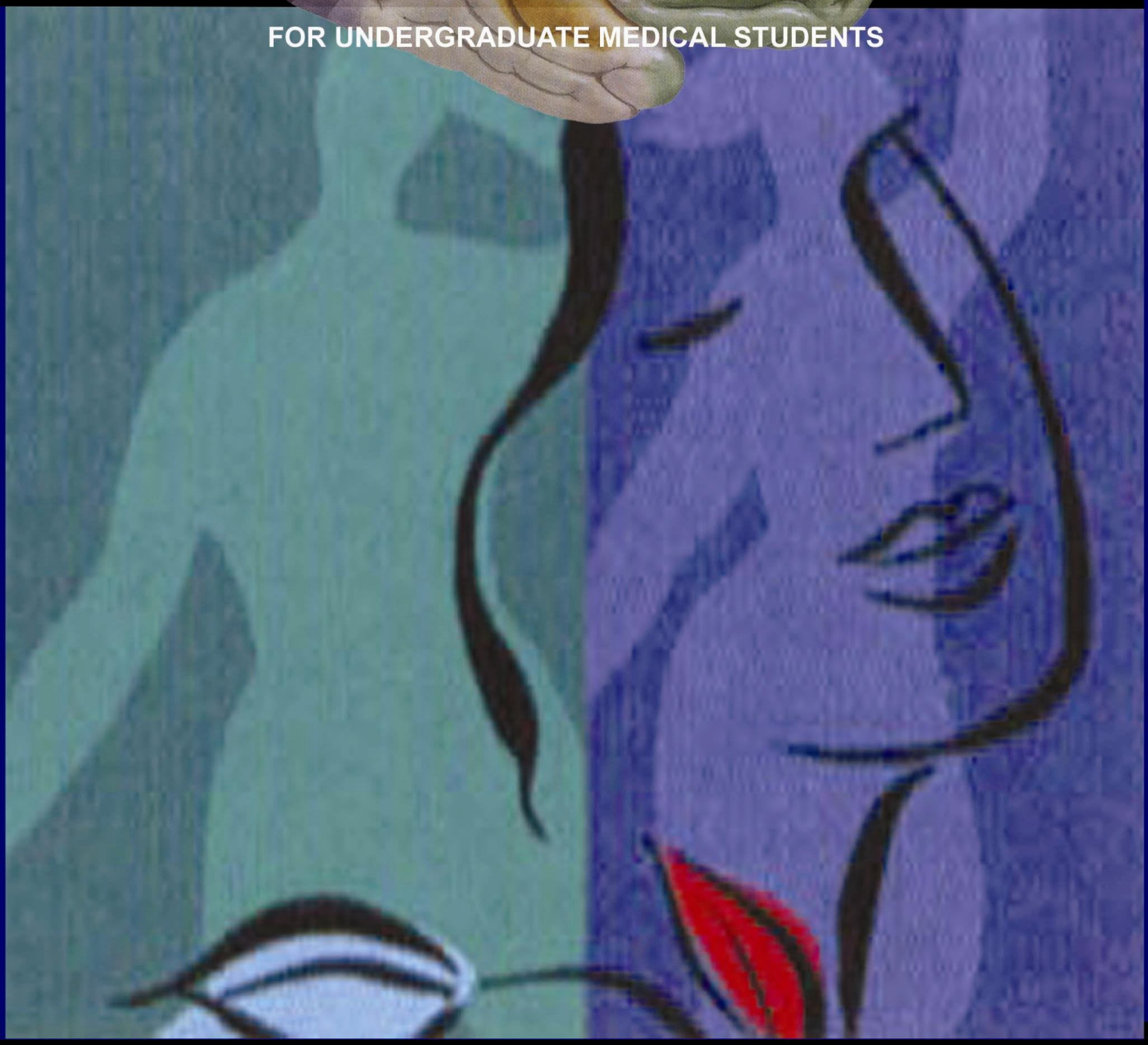
MEDICAL PSYCHOLOGY

FOR UNDERGRADUATE MEDICAL STUDENTS



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DEDICATION

For all those

Who Taught us

Psychology and Psychiatry

Prof. Ahmed Okasha

Prof. Moustafa Kamel

Prof. Adel Sadek

Prof. Zienab Bishiry

Prof. Farouk Lotaeif

Prof. Abdel Moniem Ashour

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(1st edition, 2005)

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PREFACE

The overall goal of this book is to teach medical students to know psychology as a scientific discipline and to understand our own humanity.

The scope of this book is to clarify also the body-mind relationship and how psychological factors affect the physical health.

The crucial issue which is highlighted in this book is the importance of effective doctor-patient relationship.

The book covers important topics and gives a clear understanding of basic psychology, developmental, social and dynamic psychology.

Fortunately, this volume has contributions by some of the most prominent professors in this field, who write their respective chapters in an accessible manner.

Finally, it remains for me to thank people who have made this book possible; my deepest gratitude goes to all our contributors and the collaborative efforts of the associate editor and technical assistants who were always there to deal with all aspects of producing this book.

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What is Psychology?

Definition of psychology:

Psychology can be defined as the scientific study of behavior and mental processes.

Perspectives of Psychology:

Any topic in psychology can be approached from a variety of perspectives. Each perspective offers a somewhat different explanation of why individuals act the why they do.

We have five psychological perspectives:

1. Biological Perspective.
2. Behavioral Perspective.
3. Cognitive Perspective.
4. Psychoanalytical Perspective.
5. Phenomenological Perspective.

1-Biological Perspective:

The biological approach relates behavior to electrical and chemical events taking place within the brain and nervous system.

The biological approach to learning has emphasized that conditioning involves occurrence of changes in the connections between neurons mediated by alterations in the amount of certain chemicals produced in the brain.

2- Behavioral perspective:

With the behavioral approach, a psychologist studies individuals by looking at their behavior rather than at their brain and nervous system. The first founder of this approach was the American psychologist John Watson in 1900.

According to behaviorism, Stimulus-response psychology studies the stimuli in the environment, the responses that are elicited

by these stimuli and the rewards or punishments that follow these responses.

3- Cognitive perspective:

It is concerned with mental processes such as perceiving, remembering, reasoning, deciding and problem solving.

Cognitive psychology resembles a modem computer or what is known as Information processing system. Incoming information is processed in various ways i.e., it is selected, compared and combined with other information already in memory, transformed, rearranged and so on. The response output depends on these internal processes at that moment.

4- Psychoanalytical perspective:

The basic assumption of Freud's theory is that much of our behavior stems from processes that are unconscious. By *unconscious processes* Freud meant beliefs, fears and desires a person is unaware of but, nevertheless influence behavior. Forbidden impulses (sex and aggression are focused out of awareness into the unconscious where they remain to affect dreams, slips of speech, manifest themselves as emotional problems and symptoms of mental illness.

5- Phenomenological perspective:

It focuses almost entirely on subjective experience. We are not acted on by forces beyond our control, but instead we are, capable of controlling our own destiny. We are the builders of our own lives because each of us is a free agent, to make choices and set goals and therefore accountable for our life choices. Some phenomenological theories include also humanistic views which mean that all of us have a basic need to develop our potential to the fullest towards self actualization.

In summary:

- The biological perspective uses concepts and principles that are drawn from physiology and biology to explain psychological concepts and principles in biological terms such as change in neurotransmitters and neural connection.
- In behaviorism, behavior is controlled by external stimuli.
- In cognitive psychology behavior is determined by the processing of information in perception and memory.
- In psychoanalytic theories behavior is controlled by unconscious impulses.
- Phenomenological perspective emphasizes the importance of free will for self-actualization.

Fields of Psychology

1- Biological Psychology:

Physiological psychologists seek to discover the relationship between biological processes and behavior.

2- Experimental psychology:

Psychologists who use experimental methods to study how people react to sensory stimuli, perceive the world, learn and remember, reason, and how they are motivated to action.

3- Developmental Psychology:

Psychologists who are concerned with human development and the factors that shape behavior from birth to old age.

4- Social psychology:

Psychologists who are interested in the ways of interactions with other people, which influence attitude and behavior, public opinion surveys, market research, investigating topics such as persuasion, conformity, inter-group conflict and the formation of attitudes.

5- Personality psychology:

Psychologists who study each individual's unique qualities and differences between other individuals.

6- Clinical psychology:

Psychologists who apply of psychological principles to the diagnosis and treatment of emotional and behavioral problems, mental illness, juvenile delinquency, criminal behavior, drug addiction, mental retardation, marital and family conflict and other adjustment problems. Clinical psychologists may work in psychiatric hospitals, institutions of the mentally retarded, prisons, university medical schools or in private practice.

7- Counseling psychology:

Like clinical psychologists work with high school or university students providing help with problems of social adjustment and vocational and educational goals.

8- School and educational psychology:

School psychologists work with individual children to evaluate learning and emotional problems, intelligence, achievement and personality. Educational psychologists do research on teaching methods and learning.

9- Industrial and engineering psychology:

Industrial psychologists are concerned with selecting people for jobs, training programs, motivation of employees, consumer behavior and advertising. Engineering psychologist seeks to improve the relationship between people and machines; they help design machines to minimize human error.

10- Forensic Psychology:

Psychologists who work within the legal and judicial systems. They may consult with police departments and prisons, to increase the understanding of human problems. They participate in decision about whether an accused person is mentally competent to stand trial, or prepare psychological reports to help judges decide on the most appropriate course of action for a convicted criminal.

Psychology In Relation To Medicine

Psychology has a direct relation to medicine in five areas:

1- Behavioral manifestation of medical illness:

a. Some physical diseases and general medical conditions are presented with changes in behavior.
b. In many diseases of aging there are changes in behavior.
c. In diseases of the brain, changes in behavior arise from damage to localized brain regions.
d. Intake of some medical drugs may be presented with psychiatric symptoms (corticosteroids induced hypertension).

2- Human behavior has a role in the etiology of medical problems:

Many physical illnesses arise from what people do to themselves. Human behavior such as smoking and reckless driving can result in serious and often fatal medical problems. (e.g., cancer lung, car accidents) There are also ranges of disorders, which are referred to as "stress - induced" illnesses. (Psychosomatic disorder) e.g. bronchial asthma, peptic ulcer etc.

3- Understanding doctor - patient relations:

The relation between the doctor and the patient lies at the heart of all medicine. The quality of communication between doctor and patient can determine not only what problems are discussed, but also the degree to which patients adhere to treatment. The patient responds emotionally both to illness and treatment.

4- Patient's response and coping to illness and treatment:

Serious medical illnesses require psychological and social adjustment. The psychological aspects play an important role in determining adaptation to treatment and subsequent speed of recovery.

5- Psychological approaches in treatment of physical illness:

Behavioral medicine is concerned with the application of psychological approaches for treatment of physical disorders. Such methods as talk, relaxation, emotional expression and direct behavior medication are used to treat hypertension, headache and pain. It is also important to note that the incidence of some problems, such as respiratory and cardiovascular diseases could be affected by changing behavior such as stopping smoking, exercise and healthy diet.

Coping with physical Illness

The physical illness can be perceived as a stressful event.

1- Problem-focused or direct coping behaviors involve attempts to deal directly with the situation in order to make it more manageable or tolerable.

2- Emotion focused or palliative coping is more concerned with managing the emotions generated by the illness.

I- Coping with chronic illness:

There are many illnesses in which recovery is unlikely to happen and where there may be no change or even a progressive deterioration. The effects of the illness on individuals will depend very much on how they cope.

a. Denial:

Many patients appear to show a degree of denial soon after receiving the diagnosis of a major chronic illness, such as cancer. In many ways this response may be adaptive both in protecting patients

from all the implications of having that illness and, in allowing them time to adapt.

b. Direct coping:

After the initial reaction, both direct and indirect coping may be seen in chronically ill patients. Patients who cope directly seek out and assimilate information about their condition, the treatment and the likely outcomes in addition they are motivated and active in adhering to treatment ad make all sorts of other adjustments in their lives to deal with the illness and related problems in a positive way.

c. Indirect coping:

Indirect coping consists of attempts to minimize the psychological impact of the illness by such strategies as denial or distraction.

Social factors generally, and social support in particular, have been identified as having a very important influence on the way individuals cope with a chronic illness. Support from small group meetings with patients with a similar condition can also be valuable as a form for sharing worries and for learning information and new coping strategies **(Group therapy)**.

There are often major problems experienced by families in caring for a member with a chronic disease. Thus it is important for the family to be involved in the clinical management and to be adequately informed and prepared for dealing with the long-term demands which chronic illness often imposes **(Family therapy)**.

II- Coping with terminal illness:

1. Communicating with dying patients:

Most people do want to know the truth about their condition and that they cope better when communication has been open and honest. Similarly, openness in communication with close relatives also seems to be associated with a better outcome. However, there are important individual and ethnic differences and it is clear that

communication should be guided by and tailored to the needs of individual patients.

2. Psychological responses of dying patients:

The reactions of dying patients to their impending death show wide variations depending on their situation, their personality and their degree of expectation or preparation for the 'bad news'. Some patients, who may have spent months of uncertainly, actually report feelings of relief when given their diagnosis. In contrast others may be shocked or numbed.

There are distinct phases of adjustment in dying patients. Patients will initially respond with denial and than a stage characterized by range and anger. This in turn, gives way to a bargaining phase and then a phase of depression before the reality of the terminal condition is finally accepted. Dying patients have major fears about many issues including pain, loneliness and the unknown as well as fears associated with their own clinical condition.

Psychosocial Aspects of Hospitalization

The psychosocial disruption and limitations encountered in hospital life can produce a range of psychological responses, some of which can be severe enough to want psychiatric help. Lengthy stays in hospital may result in withdrawal, inertia and an inability to cope with life outside. Moreover, there are particular psychological problems associated with the hospitalization of younger children, where this involves separation from the home.

Psychological Reponses to Specific Treatment

Some treatments are also very restricting and have been found to cause emotional and behavioral changes. In particular a number of studies have been made on patients kept in intensive care units (ICU) , those maintained by haemodialysis.

Patients undergoing such treatments are doubly stressed in they are likely to show a psychological reaction to the severity of their illness as well as to the restriction imposed by the treatment. One of the most striking earlier observations was of poliomyelitis patients receiving artificial respiration in a tank respirator. Many of these patients were found to have quite marked psychological reactions, which included acute confessional states and hallucinations due to the sensory deprivation of the tank respirator.

Psychological interventions for stressful medical procedures

Since studies have shown a relation between patients' psychological state and their recovery, it has been recognized that there could be considerable gains from providing a psychological intervention designed to reduce or minimize the psychological impact of a medical procedure. Five main groups:

i- Psychological support:

The doctor, nurse or psychologist typically allows the patient to talk about particular worries and then attempts to provide support and reassurance.

ii. Information provision:

Information about the likely sensations, including pain-, that the patient might expect to feel (sensory information) and information as to what will happen during the procedure (procedural information).

iii. Skills training interventions:

They have included training in breathing and in other aspects of bodily control, which are usually related to a particular investigative procedure. These have been found to be quite beneficial in helping patients cope with a medical procedure and in facilitating postoperative recovery.

A more general skills training procedure which has been found to be useful in recovery is (relaxation training) which has proved beneficial in reducing anxiety prior to different treatments and investigations.

iv. Modeling:

These procedures consist of allowing patients to see on film or videotape, other patients undergoing a similar investigative procedure, treatment or surgery.

v. Cognitive-behavioral interventions:

These are aimed at modifying or facilitating the way of patients and coping with the procedure they are about to undergo.

In summary, there is now considerable evidence to indicate that different types of psychological preparation can not only reduce the anxiety, stress and pain involved in many medical procedures but also that there are considerable related benefits (e.g. less analgesia, better recovery, faster discharge, etc).

Doctor-Patient Relationship

Since medical diagnoses and treatment decisions are made on the basis of information arising from the medical interview alone, good doctor patient communication has been described as the cornerstone of good medical practice.

Models of the Doctor-patient Relationship

There are a number of potential models of the doctor-patient relationship.

1 - The active-passive model:

In this model the patient assumes virtually no responsibility for his/her own care and takes no part in treatment. This model is appropriate when a patient is unconscious, immobilized or delirious.

2- The teacher-student model:

The role of the patient is essentially one of dependence and acceptance. This model is often observed during a patient's recovery from surgery.

3- The mutual participation model:

It implies equality between doctor and patient; both participants require and depend on each others input. This model is useful in chronic illnesses as renal failure and diabetes.

4- The friendship model:

It is generally considered dysfunctional if not unethical. It often involves indeterminate perpetuation of the relationship rather than an appropriate ending, and a blurring of boundaries between professionalism and intimacy.

Importance of effective doctor-patient communication

1. Accurate diagnosis.
2. Enhancing patient compliance to treatment plans.
3. Contributing to doctor clinical competence and self assurance.
4. Contributing to patient satisfaction.
5. Contributing to cost and resource effectiveness by preventing unnecessary prescriptions for medication that are either wrongly prescribed or not properly used by patients.
6. Giving rise to institutional gains:
    a. Enhancing multidisciplinary team formation.
    b. Changing the structure of the medical school curricula.
    c. Introducing of learner-centered teaching methods.
    d. Improvement in medical school staff performance.
    e. New research possibilities.
    f. Introducing other areas of training like counseling skills and behavior change methods.

Communication skills

The clinical competence of doctors is often judged in terms of communication skills (even though communication skills are not usually taught as a formal part of medical training).

Medical students need to acquire:

A) Core communication skills:

1. Doctor-patient interpersonal skills.
2. Information gathering skills.
3. Information giving skills.

B) Advanced communication skills:

1. Skills for motivating patient adherence to treatment plans.
2. Skills for specific situations.

A) Core communication skills:

1- Doctor-patient interpersonal skills:

The following skills are needed:-

- Creating an appropriate physical environment.
- Greeting others.
- Empathy.
- Showing respect and interest.
- Showing warmth and support.
- Using appropriate language.
- Developing a collaborative relationship.
- Closing the interview.

2- Information gathering skills:

a) Using an appropriate balance of open to closed questions:

**** Open question:***

- To achieve information.
- To allow patients the freedom of response.
- To establish an atmosphere of two-way communication.
- To assess the type and level of patient vocabulary.

****Closed questions:***

- To achieve specific information.
- To allow a limited choice of response.

b) Silence:

- To allow time for the patient to collect his thoughts.
- To assess levels of anxiety.

c) Clarifying patient expectation about the consultation by tactics of clarification:

****Re-statement**:*

- To clarify the meaning and accuracy of old information.
- To demonstrate our understanding of what we have heard.
- To validate what has been said.

Reflection of content

- To explore new information
- To help patient develop and evaluate his thoughts

d) Clarifying the information given to the patient.

e) Active listening: To show that the therapist is attending closely the patient.

f) Sequencing of events.

g) Directing the flow of information.

h) Summarizing.

3. Information giving skills:

They include:

- Providing clear and simple information.
- Using specific advice with concrete examples.
- Pushing important things first.
- Using repetition (restatement).
- Summarizing.
- Categorizing information to reduce complexity and aid recall.
- Using tools such as diagrams, written instruction and technical aids to explain the information being given.
- Checking patient understanding of what has been said.
- Asking patients to repeat back what they had heard and understood.

B) Advanced Communication Skills:

1. Skills for motivating patient adherence to treatment plans:

- Tailoring the treatment to suit the patients life style.
- Providing a rationale for behavior change.
- Countering barriers to change.
- Providing examples of role models.
- Allowing opportunities for verbal rehearsal of the details of the treatment regimen.
- Feedback (positive reinforcement of constructive behavior changes already achieved since earlier consultations).

2- Other applications of communication skills in special situations:

a) Special groups of population:

- With language differences.
- With families or couples.

b) Special groups of disorders:

e.g.

- Disabled (blind, deaf, paraplegic, etc.).
- Mentally retarded.
- Chronically ill.
- Terminally ill.
- Depressive and / or suicidal patients.
- Chronic pain.
- Problems of addiction.
- AIDS.

c) Special personality problems:

- Non cooperative patients.
- Hostile patients.
- Over dependent patients.
- Inhibited patients.
- Over defensive patients.

d) Special clinical situations:

- Giving bad news.
- Dealing with sensitive issues (e.g. sexual).
- The very short contact.
- Telephone contact.
- Lack of space and lack of privacy.
- Preparation for threatening diagnostic and /or treatment procedures.
- When speaking to others (e.g. relatives about a patient).

Transference and counter-transference:

Transference refers to the unconscious attitude of a patient toward his doctor. It results from displacement of feelings and attitudes from important relationship in the patients past to the physician. The patient may regard his doctor as a parental figure, a teacher, a rescuer (positive transference) or may develop resentment or anger toward him if his expectations are not realized (negative transference).

Counter transference refers to the unconscious attitudes of a physician towards his patient. The patient may remind the doctor of a close relative or friend. Like transference, it may be positive or negative.

Compliance:

It is the extent to which a patient follows the clinical instructions of the physician.

Examples of compliance include:

- Taking medications on schedule.
- Keeping appointments.
- Following directions for changes in behavior or diet.
- Approximately 1/3 of patients are compliant with treatment.
- 1/3 complies some of the time; and 1/3 don't comply with treatment at all.

Factors associated with decreased patient's compliance with medical advice:

1. Perception of the physician as rejecting and unfriendly.
2. Physician failure to explain the diagnosis or causes of symptoms.
3. Increased complexity of treatment regimen i.e. more than three types of medication taken more than four times a day.
4. Increased number of required behavioral changes.
5. Verbal instructions for taking medication.
6. Visual problems reading prescription labels (particularly in the elderly).

Factors associated with increased patient's compliance with medical advice:

1. Good doctor-patient relationship.
2. Written instructions for taking medication.
3. Patient's subjective feelings of distress or illness.
4. Doctor's awareness of and sensitivity to the patient's belief system.
5. Physician enthusiasm, permissiveness, time spent talking with the patient.
6. Physician experience and older physician age.
7. Short waiting room time.
8. Patient knowledge of the expected positive treatment outcome.
9. Patient knowledge of the names and effects of prescribed drugs.

The Brain and Behavior

The nervous system may be considered as a set of functional units classified as sensory, motor, and association areas.

1- Sensory systems create an internal representation of the external world. A separate map is formed for each sensory modality.

Sensory areas are those, areas of the cerebral cortex that receive impulses from our sense receptors.

Receptor cells in our senses respond to environmental stimuli to send impulses along sensory nerve fibers to the spinal cord through the brain stem to the thalamus then finally to a variety of sensory areas depending on the senses

Visual impulses end in the occipital lobe concerning the visual area.

Auditory impulses end in the temporal lobe concerning the auditory area.

Body senses (touch, pressure, pain) send impulses to the front of the parietal lobe where specific body regions are mapped with different ratios of representation as. Areas like the face, lips, fingers which are highly sensitive are over represented in the body sense area of the cerebrum. It would be important to reintroduce the concept of cross-laterality which means that, in general, sensory and motor impulses to and from the brain cross from the left side of the body to the right side of the brain, and vice versa.

2- Motor systems enable persons to manipulate their environment and to influence others' behavior through communication.

Motor area is the area which controls voluntary movement. The actual decision-making step of whether or not one should move is probably made toward the front of the frontal lobe.

Different parts of the body and the muscles serving them are disproportionally represented in the cerebral cortex motor area.

3- Association areas remaining areas of the cerebrum are called association areas, they are three: frontal, parietal and temporal. No occipital association area.

Association areas are concerned of processing higher mental activities.

The two functional laterality of cerebral hemispheres:

Both cerebral hemispheres are interconnected with a network of nerve fibers that send impulses between the two hemispheres.

Left cerebral hemisphere is connected with speech and language, it is also responsible for tasks of calculation. It is also concerned with analytical thinking. It seems also to process information sequentially, handles one thing at a time.

Right cerebral hemisphere seems more global in its approach and seems better able to grasp the big picture, to see the overall view of an issue, and to be more creative, more spatially and visually oriented than the left hemisphere. It is also useful in solving spatial relations tasks. Also concerned with visual and musical stimuli than does the left hemisphere. Right cerebral cortex is more involved in expression and interpretation of emotions.

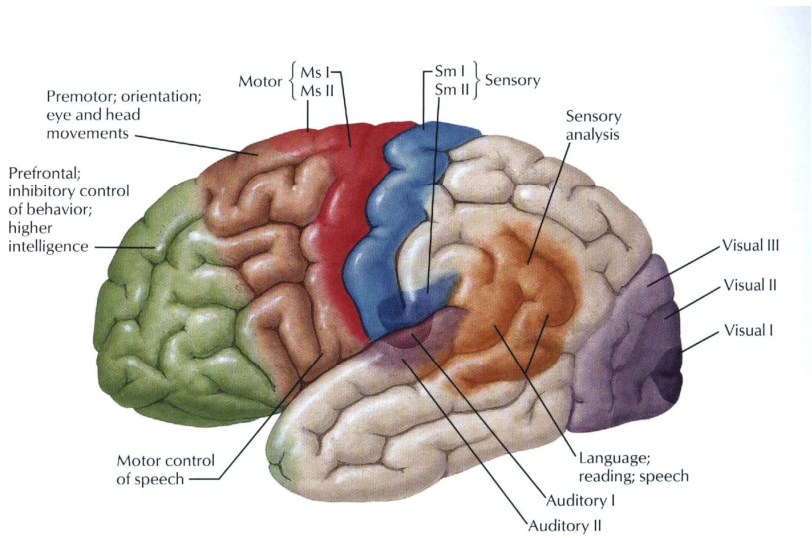
Regional functions of the brain

1- The cerebral cortex (cerebrum):

It is a large convoluted outer covering of the brain that is the seat of cognitive functioning and voluntary action.

It is formed of two symmetrical hemispheres (Right & Left) that are separated by a deep fissure running from the front to the back. Each cerebral hemisphere is formed of four lobes.

The frontal lobe, the region that determines how the brain acts on its knowledge. The frontal lobes is the main feature that distinguishes the human brain from that of other primates. There are four subdivisions of the frontal lobes. The first three-the motor strip, the supplemental motor area, and Broca's area-are mentioned above in the discussion of the motor system and language. The fourth, most anterior, division is the prefrontal cortex.



Functions of frontal lobes

- Voluntary movement
- Language production (left)
- Motor prosody (right)
- Motivation
- Regulation of automatic nervous system and control of emotion
- Executive function (capacity to copy out solution, making decisions and planning)

Functions of temporal lobes

- Audition
- Memory
- Emotion
- Sensory prosody (right)
- Language comprehension (left)
- Integration of all sensory modalities in relation to emotional

Functions of parietal lobes

- Tactile sensation
- Visuospatial function (right)
- Reading (left)
- Calculation (left)

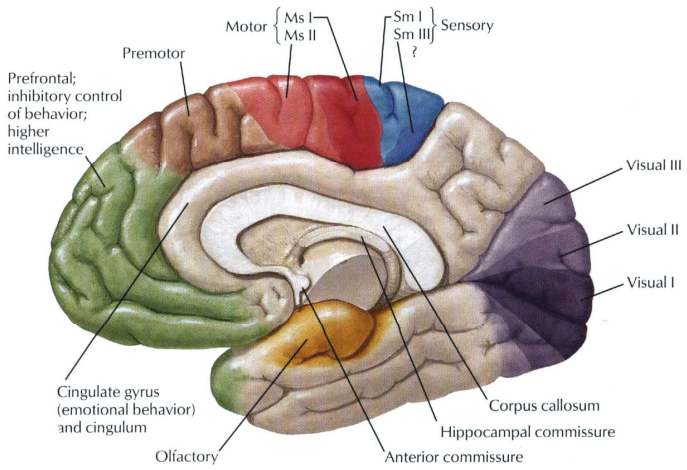
Functions of occipital lobes

- Vision
- Visual perception

2- Limbic System:

It is a collection of sub-cortical structures, including the amygdala, septal area, and the hippocampus that are involved in emotional and motivational reactions, sexual and eating behavior.

Hippocampus is responsible for transfer of memories to long-term storage.



3- Hypothalamus:

It is a small structure near the center of the brain that is considered to be part of the limbic system. It is involved in feeding, drinking, temperature and sleep, regulation as well as regulation of the endocrine autonomic system.

4- Thalamus:

It is the final sensory relay station that projects sensory fibers to their proper location in the cerebrum and that may be involved in regulating sleep-wake cycles.

Sensory messages from the lower body, eyes, ears and other senses (except for smell) pass through the thalamus.

5- Reticular Activating System (RAS):

It is a network of nerve fibers extending from the brain stem to the cerebrum that is involved in one's level of arousal or activation, so acting like a valve which act as a filter that either allows sensory messages to pass from lower centers up to the higher centers of the brain or shuts them off, partially or totally.

RAS' has a role in controlling sleep also it is concerned with electric brain activity.

PERSONALITY

Personality is the total quality of an individual's behavior as shown in his characteristic habits, thought and expressions, his attitudes and interests, his manner of acting and his philosophy in life. "Persona" originally referred to a theatrical mask worn first in Greek drama, and later adopted in about the year 100 B.C. by Roman actors.

Character refers mostly to the conduct, which can be called right or wrong that meets or fails to meet accepted social standards.

Personality traits are some particular type of behavior which characterizes the individual in a wide range of his activities and which is fairly consistent over a period of time. Although many traits are revealed more clearly in the interplay of personalities in a social situation, they also characterize the individual at other times as well. A pair of opposite adjectives referring to the two extremes usually named traits, but individuals are found distributed normally over the range of the spectrum, e.g. Cheerful/depressed, friendly/suspicious, emotionally stable/neurotic, excitable/tolerant, and warm/cold.

An integrated personality is one in which the several traits, interests and desires are combined in an effective, harmonious unity. The unity is more characteristic in mature adults than in children. Lack of integration of personality is clearly seen in certain mental disorders.

Factors affecting personality development:

1. Biological
2. Geographical
3. Social
4. Prenatal effects

1. Biological

This will include the general health, physical, genetic, chemical and endocrinal factors. The chemical substances, which circulate in the blood, may affect the brain and thus the behavior of the individual like sedative drugs, hypoglycemia, reduced diet, organic diseases and endocrinal disorders (e.g. thyroid and supra-renal dysfunction).

2. Geographical

There are different personality traits in different parts of the world. We hold a number of ready-made impressions of radical characters or stereotypes. The French, Italians and Middle Eastern are emotionally inhibited. The Irish argumentative and easily angered; The Americans are impulsive, extravagant, conceited and superficial. We recognize these as general impressions and may accept them as inaccurate, but we can hold this so firmly that we sometimes speak of such characteristics as if inherited by-all individuals and not leant as a way of life.

3. Social

a- ***Order of birth***, i.e. the eldest child has a different personality from the youngest. Also the only child will develop different traits.

b- ***Role of the family*** if the parents are overcautious and protective, the child will develop a dependent personality. If the parents are lacking in love and hard in punishment, the child develops a defensive, negativistic personality.

c- The school also has a role in forming the personality.

4. Prenatal effects on personality

- Stress of mothers during pregnancy could lead to unforthcomingness of the subsequent child, namely timidity, mousiness, and a lack of actual assertiveness.
- Drug intake barbiturates, or amphetamines, taken by the mother during her pregnancy can affect the developing fetus, not to cause macroscopic abnormalities alone, but also in affecting the finer

differentiation of the CNS so that the behavior of the grown off springs will be influenced

5- Hypoxia during delivery and low birth weight:

Numerous studies have shown that babies with low birth weight, frequently have behavioural disorders.

6- Post natal event as CNS infections, trauma etc.. influence behaviour

7- Mental manifestations are associated with medical illness: such as endocrinal, metabolic, autoimmune, electrolyte imbalance under the effect of some drugs etc.

Theories to understand personality:

The individual's common and unique experience, interact with inherited potentials to shape personality. How this occurs, and how the resulting personality can best be described, has been the subject of many theories. And different approaches:

a. Trait approach
b. Psychoanalytic approach
c. Social learning (Behavioral) approach
d. Humanistic approach
e. Cognitive approach

(A) Personality Traits and Types:

One of the earliest personality theories attempted to classify individuals into personality types and was on the basis of body build People vary greatly with respect to physique and there are popular stereotypes suggesting connections with personality, for example the jolly fat man, and the thoughtful introspective thin man etc. The reliance on physique to the study of temperament has, in fact, been supported by scientific investigations. Theories in this area date at least to the time of Hippocrates, but the most famous contribution was done by Kritchmer.

1- Types of body build (proposed by Kritchmer):

a- The pyknic (short and fat)
b- Asthenic (tall and thin)
c- Athletic (intermediate and muscular)
d- Dysplastic (mixture of different types).

2- Temperament (Sheldon)

Sheldon suggested a similar (way of classification into three body types) of body types:

a. Endomorphy (fatty) **b.** Ectomorphy (skinny)
c. Mesomorphy (muscular)

Sheldon reported some very high correlations between his body types and three theoretically matched temperamental types, namely:-

- Viscerotonia with endomorphy:- Relaxed posture, love of physical comfort, food and drink, slow reaction, immobility, deep sleep etc.
- Cerebrotonia with ectomorphy: Restrained, fast reactions, inhibited social responses, poor sleep habits chronic fatigue etc
- Somatotonia with mesomorphy: Assertedness of posture, love of physical adventure competitive aggressiveness etc.

3- Introvert/Extravert traits (Jung)

The (introvert) tends to withdraw into himself particularly in times of emotional stress and conflict; he tends to be shy and prefers to work alone. The introvert may talk to the speaking platform in support of some movement to which he is strongly committed, but even there, he is impelled from within.

The (extravert), under stress, seeks the company of others. He is likely to be very sociable and tends to choose occupations that permit him to deal directly with people, such as sales or promotional work.

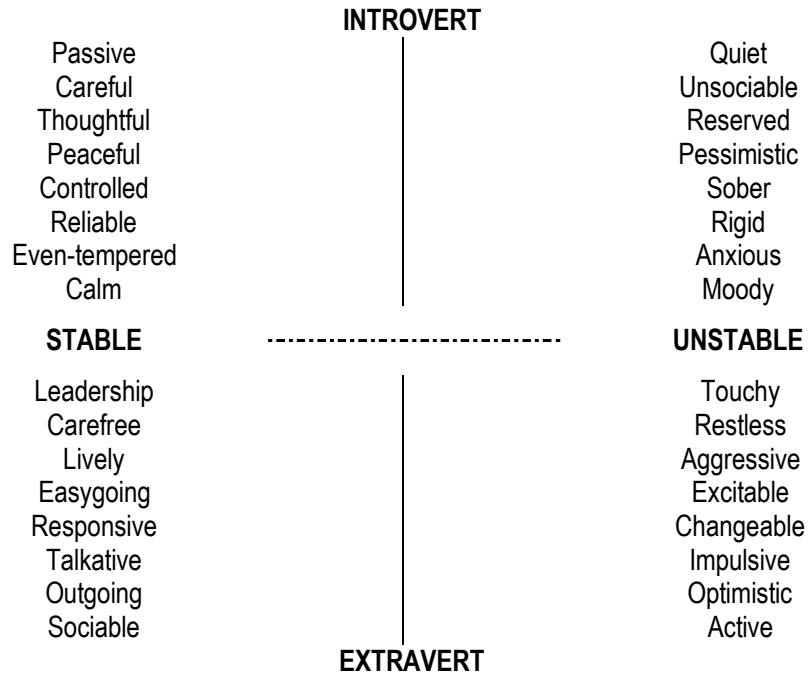
4- Personality dimensions (Eysenck):

Various traits studied by factor-analytic methods are shown in relation to the two basic dimensions of introversion-extraversion and stability-instability.

The advantage of a dimensional system is that individuals can be located at any point within the space defined by the two factors, thus allowing a much greater range of discriminable personalities. Most people, of course, fall in the middle range in each of these dimensions, with only a few tending towards the extreme.

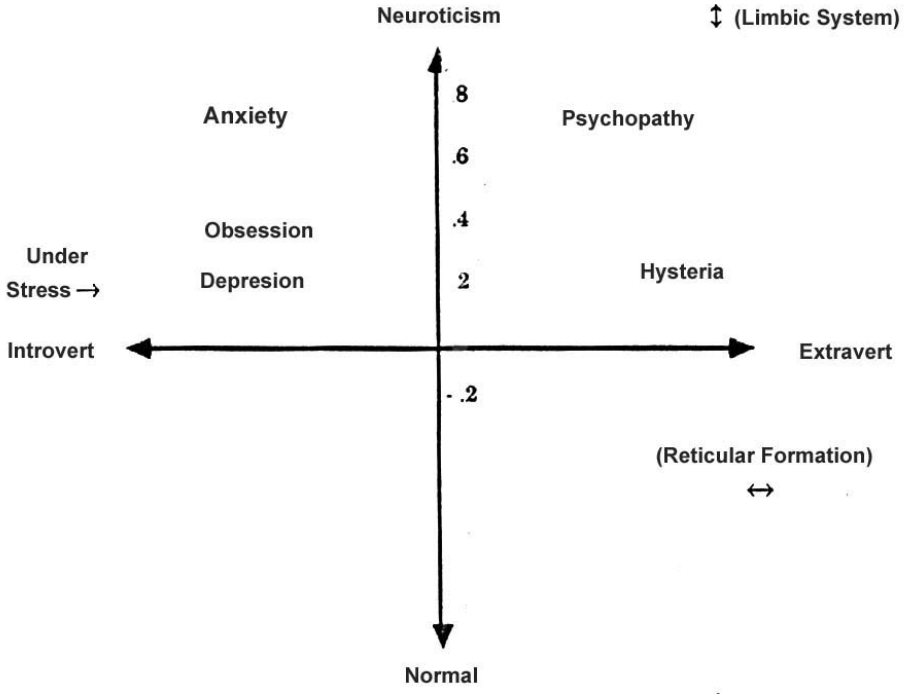
Types of dimensions were proposed by Eysenck:

a- Introversion and extraversion versus stability and instability



b- Introversion and extraversion versus neuroticism and psychoticism:

Another major dimension of personality, which has gained an increasing attention by Eysenck and his colleagues in the recent years.



Eysenck's dimensions are biologically determined as follow:

- Neuroticism is the inherent susceptibility to emotional instability this is located anatomically in the limbic system while psychoticism is the inherent susceptibility to tough-mindedness, psychopathy and aggressiveness and anxiety,
- Extraversion-Introversion dimension is supposed to be located in the activating reticular formation.
- If the individual is genetically predisposed to emotional instability and extraversion and was faced with a stressful situation, he may develop either hysterical symptoms or psychopathic personality.

- If he is an introvert and unstable he may develop anxiety, depression or obsessive-compulsive neurosis.
- The extraverts are difficult to condition i.e. it is not easy to form stable conditioned reflexes or to form habits, and subsequently it is easy to recondition them i.e. easy to remove hysterical symptoms.
- The introverts are easy to be conditioned and difficult to be reconditioned i.e. they form habits very easily but it is very difficult to remove them e.g. compulsive rituals.
- This mechanism of conditioning is used in the treatment called behavioral therapy, which is implemented in many psychiatric disorders.

Assessing Personality Traits:
Personality traits can be assessed by two methods

1- Personality inventory:

The person describes himself by answering questions about his attitudes, feelings and behaviors, Eysenck personality inventory, the Minnesota multi-phasic personality inventory (M.M.P.I.)

2- Rating scales:

Someone else evaluates the person's traits either from what he knows about the individual or from direct observations of behavior.

Evaluation of the trait Approach:

- Tend to focus on isolated traits without specifying how these traits are most important and how they relate to each other.
- No adequate description of the individual's personality.

Summary of the basic concept of trait theory:

- Traits are biologically determined.
- Development of psychiatric disorder is due to inherited susceptibility.
- Assessment of personality traits is beneficial for:
    - Vocational guidance.
    - Assessment of susceptibility to psychiatric illness

(B) The Psychoanalytic Approach (Freud)

Psychoanalytic theory is based on the depth study of the individual personality, his motivation and unconscious.

1- Structure of the mind: personality is a mixture of three major systems as Freud studied personality from three major aspects: The Id, the Ego, and the Superego. Each of these systems has its own functions, but the three interact to govern behavior.

The Id: The Id is a collective name for the primitive biological impulses. It presents the innately given part of a personality.
The acting role of the Id is that of the pleasure principle and immediate gratification. It is the seat of all instincts. If it is strong, it may lead to an irresponsible, selfish, pleasure seeking individual, i.e. psychopathic personality.

The Ego: ego or reality self is that part or function of the personality, which establishes the relationship with the world in which we live. It contains the evaluating, judging, compromising, solution-forming and defense creating aspects of the personality.

Its functions are to deal rationally with the requirements of reality, adapt behavior to the environment and other reality situations and to maintain harmony between the desires of the Id and the demands and aspirations of the super-ego.

The Super-Ego: The super-ego is the inhibiting and conscious including component of a personality. The super-ego functions to sustain the moral and social values. It is derived particularly from identification with parents and their substitutes. It acts as the supervisor of the ego and of inner unconscious tendencies and therefore is the repressing part of the personality. It criticizes the ego and causes pain to it whenever the latter tends to accept impulses from the repressed part of the Id. It does this by creating an anxiety and by professing guilt and remorse. If the super-ego is severe and inflexible, the resulting fear of it will lead to a rigid, inhibited unhappy, anxious and often neurotic personality, i.e. obsessional personality.

In a well-adjusted person his behavior simultaneously and successfully meets the demands of the Id, the ego and the super-ego.

On the other hand, the behavior of the neurotic, the psychotic and the pathological personality may be conceived of as resulting from disturbance in the dynamic balances of the three parts of the personality structure.

2- Personality Development: This passes through Five phases

i) Infancy period (0-3 years)

The child will follow during that phase the pleasure principle and immediate gratification. It is divided to

Oral phase: the infant depends on his mother's breast and so the only source of his pleasure will be his mouth this is called by Freud the oral phase extending from birth till 1-1.5 years old. So if we leave the child on breast feeding for a long time it will be difficult for him to pass through further phases of development and he will always try to achieve his emotional, sexual and nutrient pleasures through his mouth, i.e. oral personality.

This type of personality will be dependent, easy going, unable to persist at one task for a long time and undisciplined. The same can be applied if the child did not have adequate satisfaction during this phase.

Anal phase: comes after the oral one and extends from 1.5 till three years of age. Here the child gets his pleasure by the freedom and inability to control his anal and urinary sphincters. The parents start to teach the child how to control his sphincters and this is the beginning of the first fight between the child's pleasures (1d) and the parents' desire (ego and super-ego). If the parents try to control their child at too early age, he will develop what is called the compulsive or obsessional or anal personality. This is characterized by inflexibility, stubbornness, discipline, a tendency towards cleanliness, ideals, perfection and clinging to the routing in a rigid way.

So the infancy period should be dealt with in a healthy way without too much freedom or excessive restriction to avoid damage to a balanced personality.

ii) Childhood period (3 - 6 years):

This phase extends from the age of three till six or seven years. It starts with the ability to speak and the acquisition the habits to satisfy the daily needs. If the parents are psychologically healthy, the child will acquire integrated and balanced habits, but if they are disturbed, the child will grow with psychological diseases.

Castration complex in boys and penis envy in girls:

A boy found himself different from his sister as regards the size of his genitals, he attempts to touch them. This may, disturb his parents who try to punish him whenever he touches his genitals and sometimes they threaten him that they will cut it with a knife if he continues to touch it. The poor child cannot understand the meaning of punishment, as he is not punished when he touches his ears or mouth so why with that part? He starts to have sexual fears and this is the origin of the **(castration complex)** and the fear of the man that he will lose his sexual power, which may continue till adulthood and may cause some sexual disorders.

At the same time the girl may feel inferior when she sees herself without the organ, which her brother has and this produces her jealousy of the opposite sex. During this the Oedipus situation arises i.e. the boy starts to be jealous from his father and wants to possess his mother (Oedipus complex), the same happens to the girl, when she loves her father and becomes jealous of her mother (Electra complex). The parents should be aware and cautious to show their feelings in front of their children or to prefer any child to another, otherwise the children will develop with great difficulties in forming relationships with the opposite sex.

iii) Socialization period (6-12 years)

This ranges from 6 or 7 till about 12 years. The child's interests extend beyond the family to the outside world. With the beginning of this phase he has started school, meets new children, teachers and relatives and hears about heroes of history, religion, cinema and

television. During this period he acquires the traditions and habits of the society.

Identification: he identifies or imitates the morals and manners of his relatives and follows their ideals. During this phase it is necessary for the child to become attached to an integrated and mature figure.

iv) Adolescence period

It starts at about 12 years and extends till 16-18 years. The adolescent gets interested in the same sex, chooses all his friends from the same sex forming gangs and groups, enjoying their journeys, sports and sometimes homosexual activity may occur. Also the girl becomes attached to girls of the same age or to her teacher and becomes jealous if she speaks to another person and because of this tendency Freud called this phase the (Homosexual period).

The adolescents starts to become interested in other peoples opinions about him and tries hard to be independent, to feel his self-identity and attempts to assert himself, enjoy arguments with his parents, trying to be different in his thoughts, behavior and appearance. This attitude will make him stubborn, disagreeing with his parents and enjoying provocation. He may join minor political or religious groups and will receive his parents instructions aggressively.

v) Maturity and Adulthood

The maturity of the personality does not depend on any specific age but depends largely on genetical and environmental factors, which can reinforce the process of maturity. The mature adult is the person who can establish an intimate, continuous and loving relationship with a mature member of the opposite sex. He should be able to bear all responsibilities of family life and the rearing of children, sacrificing for their welfare and happiness.

Assessments of Personality (Projective Techniques):

The psychoanalytic approach understands the individual's personality by finding out about his unconscious conflicts and motives. This could be achieved by;

- ***Projective tests:*** presents an ambiguous stimulus to which the individual may respond as he wishes. So the individual projects his personality through his responses. Projective tests tap the subjects' imagination, and through his imaginative production, it is assumed that he reveals something about himself. Two of the most widely used projective techniques are:
  The "Rorschach Test", and the "Thematic Apperception Test".
- **Free association.**
- **Dream analysis.**

Evaluation of psychoanalytic Theory:

- Freud overemphasized the role of sex in human motivation.
- Ignored social influence
- His theories were not based on objective data.

Summary:

Basic concept:

- Personality depends on instinctive childhood experiences.
- Psychiatric symptoms due to early intra-psychic conflicts and repressed impulses.
- Assessment of personality is beneficial for dynamic evaluation and psychoanalysis.

C- The Social Learning (Behavioral) approach: (Pavlov, Watson and Skinner)

Many psychologists attribute the acquisition of personality characteristics to learning. The basic beliefs of such theories are that social behavior is learnt in the same manner as any other kind of response.

Behaviour is learnt:

It is a matter of stimulus-response which differs according to the situation and reinforcement. We learn the behaviour through the interaction between society and environment either by direct learning and experiences or through observation (vicarious learning)

Variables determine the individual behavior:

1. Competencies: intellectual abilities, social skills and other abilities.
2. Cognitive Strategies: the selective attention to information and the way of organizing it into meaningful units
3. Outcome expectancy: expectations about the consequences of different behavior and the meaning of certain stimuli.
4. Subjective value of the outcome: even if individuals have similar expectations, they may choose to behave differently because of differences in subjective values of the outcome they expect. Two students may expect that a certain behavior will please the professor, but for one this outcome is important while for the other is not.
5. Self-regulatory systems and plans: rules guiding behavior, self-imposed rewards for success or punishment for failure and the ability to plan and execute steps leading to a goal, will lead to differences in behavior.

Assessment of personality:

- ***Behavioral assessment*** based on assessment of problematic behavior which occurs in certain situations and to provide a clear description of a set of selected and carefully defined behavior.
- The by observation of the situation in which the specific behaviour occur.
- Observation of the stimulus condition which appear with specific behaviour.

Evaluation of the Behavioral Therapy:-

- We can observe but we can not feel others.
- This theory ignores other variables.

Summary:

- The basic concept is that personality is shaped by learning.
- Psychiatric symptoms are the result of faulty learning
- Theories of learning are applied in the field of psychiatry in behavioural therapy.

D) The Humanistic Approach

The humanistic approach to the study of personality includes a number of theories that, although different in some respects, share a common emphasis on man's potential for self direction and freedom of choice. They are concerned with the self and the individual subjective experiences.

Most humanistic theories stress our positive nature, our flush towards growth and self-actualization. Their emphasis is also on the (here and now) rather than on events in early childhood that may have shaped the individual's personality.

1- Carl Rogers Self Theory

Rogers theory of personality developed from his experiences with a specific- therapeutic method for helping troubled individuals. His (non-directive) or (client centered) theory assumes that each person has the motivation and ability to change, the therapists task is simply to facilitate progress towards this change.

***The Self-concept**

The most important concept in Rogers theory of personality is the self concept. An individual with a strong positive self-concept uses the world quite differently from one whose self-concept is weak.

***The ideal self**

is the conception of the kind of person we would like to be the closer the ideal self is to the real self, the more fulfilled and happy the individual. A large discrepancy between the two results in an unhappy dissatisfied individual.

Self-Actualization:

Rogers stated that the basic forces motivating the human organism is self-actualization, a tendency toward fulfillment, and actualization.

Abraham Maslow's Self Actualizers:

Maslow proposed a hierarchy of needs progressing from the basic biological needs through the psychological needs and ends with the need for self actualization. By self-actualization, he meant the development of the full individuality with all parts of the personality in harmony.

He began his investigation in a somewhat unique manner. He selected from among eminent historical figures those whom he considered self-actualizers, men and women who have made extraordinary use of their full potential, for example, Lincoln, Thomas Jefferson, Spinoza, Einstein, Roosevelt etc… After studying their lives, he arrived at a composite picture of self-actualizers.

Many people experience transient moments of self-actualization, Maslow called these moments peak experiences. A peak experience is one of happiness and fulfillment, an experience of being in a temporary, non-striving, non-self-centered, state of perfection, and goal attainment.

Maslow's view is much more positive and optimistic than Freud's. None of our innate needs are anti-social. Aggression, for example, arises only when attempts to satisfy the basic needs are frustrated.

Evaluation:

- The chief criticism of his approach lies in the lack of precision and vagueness of the concepts.
- Self actualization is not clearly defined, nor are the criteria he used in selecting his self-actualized persons.

Assessment of personality:

- No specific test

Depends on the interaction between the therapist and the patients.

Application:

Used in a type of therapy called client-centred psychotherapy.

Summary:

The basic concept is the individual's free will to choose choice and his potential towards self direction and actualization.
Human being is capable of controlling his behaviour

5) The Cognitive Approach

Cognitive theories see personality in terms of the particular cognitions an individual possesses, which explain his feelings and behavior. Cognition, is the thoughts, anticipations, beliefs and other mental processes that are peculiar to any individual.

Personal construct theory:

Kelly (1963) stated that personality and behavior are determined by our perception and interpretation of our interactions with others, rather than by the actual interactions themselves.

Locus of control (Rotor):

This theory attempts to describe the individual differences in the perceived, control over events in people's lives. Some people feel that they are able to influence events i.e. internal locus of control, whereas others feel that they have little or no control over things which happen to them i.e. external locus of control.

Learnt Helplessness Theory:

Seligman (1975) postulated that people who are prone to depression see adverse happenings in their environment as due to themselves, whereas good events are thought to be due to chance. According to this theory, an individual's interpretations or attributions

of environmental events may be instrumental in generating feelings of helplessness and ultimately depression.

The Assessment of the Individuals Cognitions:

In contrast to behavioral assessments, which attempt to produce an accurate description of a set of behavior, the cognitive approaches are concerned with how people view their world, and with understanding their behavior as arising from these views. Two assessment techniques, which provide some insight into an individual's cognitions, will be described:

1. The repertory grid technique (This is based on Kelly's personal construct theory, and offers a technique for eliciting an individual's constructs).
2. The locus of control assessment (This scale can be used to determine beliefs that individuals hold about the causes of events, and the extent to which events in their lives are attributed to themselves (internal control) or- to external or chance factors (external control).

Summary:

- The basic concept that our personality and behaviour depends on cognitive schemata
- Psychiatric symptoms are produced due to faulty cognition.
- Cognitive theories could be applied in the cognitive therapy.

Shaping of personality:-

Personality is shaped by many factors:

1- Heredity, genetics and constitution.
2- Common experiences through interaction with culture, environment etc..
3- Unique experience.

Personality Disorders

Personality disorders are the abnormal manifestations in the form of patterns of persistent behavior that colour the whole or the main aspect of the personality, starting since early childhood.

The personality traits are:

a. Inflexible,
b. Maladaptive,
c. Causing significant impairment in social or occupational functioning,
d. Subjective stress, that they constitute personality disorder.

Three groups of personality disorders:

Group I: Odd or eccentric:

a. Paranoid
b. Schizoid
c. Schizotypal

a) Paranoid Personality Disorder

The essential features are:

- Hypersensitivity.
- Suspicion and mistrust of people.
- Restricted- emotions and coldness
- Inability to accept criticism.
- Hostility and aggression.

They always expect trick or harm from the others. They search in the environment for signs of threat or taking unneeded precautions most of the time. They like to be secretive and guarded; they avoid accepting blame even when they do mistakes. They always question the loyalty of others and for this reason they may have some pathological jealousy. They are concerned with hidden motives and special meanings often transient ideas of references occur, e.g. people

saying vulgar things about them. They are usually argumentative and exaggerative by making (mountains out of molehills).

b) Schizoid Personality Disorder

They are characterized by:

- Emotional coldness and absence of warm tender feelings for others. Indifference to praise or criticism or to the feelings of others.
- Tendency to isolation, they do not like to mix with others and they have no more than one or two friends including family members.
- They are often unable to express aggression or hostility,
- They may seem vague about their goals, indecisiveness in their actions
- Self-observed, absent-minded, detached from their environment,
- Excessive daydreaming because of lack of social skills. Males of this disorder usually are incapable of mixing and rarely marry, females may passively get married.

c) Schizotypal Personality Disorder

Here there are various eccentricities and abnormalities of thought, perception and speech.

- Magical thinking e.g. superstitious, clairvoyance, telepathy, sixth sense, bizarre fantasies.
- Ideas of references that people are talking and referring at them.
- Social isolation e.g. no close friends, contacts limited to essential everyday tasks.
- Recurrent illusions sensing the presence of a force or a person not actually present.
- Odd speech, but without loosening of association e.g. the speech is vague, circumstantial, metaphorical, pseudo-philosophical, and does not reach definite end.
- Inadequate feelings in face to face interaction e.g. cold, and aloof.
- Suspiciousness and paranoid ideation e.g. people are against me.
- High social anxiety or hypersensitivity to real or imagined criticism.

This personality may have attacks of anxiety, depression, and a sometimes-transient psychotic symptom that is why some scientists believe it should be part of the psychotic spectrum and not a personality disorder. .

Group II: Dramatic, emotional-or erratic:

a. Histrionic
b. Narcissistic
c. Antisocial
d. Borderline

Histrionic Personality Disorder

It is estimated to be a frequent disorder among females ranging between 10-20% of the population; it is characterized by the following:

- Emotional immaturity with continuous changeability in their feelings, inability to maintain their emotions for long period. They are like effervescent tablets get highly excited in a short time but soon calm down and become completely normal.
- Suggestibility: They behave according to their emotions and not logic, and so they may react to any stimulus or believe anything said without investigation and details. In medicine, this personality is more liable to complain of the same symptoms as they read or hear about from friends or journals or in the hospitals
- Selfishness: They like to be the centre of attention, and attraction they will exaggerate in the way they talk and walk, they dramatize events, and they use heavy cosmetics, perfumes and bright colors in their dresses.
- Sexualization of non-sexual objects. Although they appear very sensual and sexual, attracting and provoking men and may give a sexual interpretation of any word or action of the other partner, yet a great percentage of them are sexually frigid and are never able to make a happy and successful life. This is probably one of the reason for their multiple affairs, marriages or divorces.

- They have characteristic disturbance in inter-personal relationship. They may be perceived by others as callous and lacking genuineness even if superficially warm and charming. They are egocentric and inconsiderate of others. They are demanding, dependent, helpless, constantly seeking reassurance, prone to manipulative suicidal attempts, gestures or trends.
- Dissociation: Under stress and in order to escape from certain situations they may have dissociation of their personality and become a different type of personality, e.g. double personality, amnesia, fugue, or they may change their anxiety to physical symptoms, e.g. paralysis, blindness, deafness, etc.

Narcissistic Personality

It may be similar to the hysterical personality with some differences:

- ***Grandiosity:*** Sense of self-importance or uniqueness e.g. exaggeration of achievement and talent. They always focus on their special problems as if there is nothing else in the world.
- ***Preoccupation:*** with day dreams and fantasies of unlimited success, power, intelligence, beauty or ideal love,
- ***Exhibitionism:*** The person requires constant attention, admiration and praise.
- Cold indifference or marked feelings of rage, inferiority, shame and humiliation, or impudence in a response to criticism.
- Disturbance of inter-personal relationship, they accept special favors without reciprocal responsibility, they take advantage of others and disregard others' rights and alternate between extremes in their relationship of over-idealization and devaluation, and they are unable to appreciate the stress of someone who is seriously ill.

Antisocial Personality Disorder

At least four of the following manifestations may occur:

- Inability to sustain consistent work behavior e.g. too frequent job change, significant unemployment, serious absence from work, and walking off several jobs without finding another one.

- Lack of ability to function as responsible parent as evidence by child malnutrition or illness resulting from minimal hygiene standards, child's dependence on neighbors for food or shelter, taking money required for household necessities for his own pleasure.
- Failure to accept social standards and the law of the society, e.g. repeated thefts, prostitutions, selling drugs, multiple arrests and imprisonment.
- Inability to have a continuous attachment to the opposite partner as indicated by two or more divorces or separations.
- Irritability and aggressiveness as indicated by repeated physical fights or assaults.
- Failure to honor financial obligations.
- Failure to plan ahead or impulsivity e.g. traveling from place to place without arranging to find a job or clear goal.
- Repeated lying.
- Recklessness as indicated by driving while intoxicated or recurrent speeding.
- Tendencies to antisocial behavior by using substance as alcohol, opium, heroin or other drugs and sexual perversions.
- They never learn from experience, i.e. they make the same mistakes apologize, regret, and then go back again the following day repeating the same mistakes.

Before the age of 18 usually there is a history of these personalities escaping from school or suspended from school for behavior, delinquency, running away from home, persistent lying, repeated drunkenness or substance abuse, school grade below expectation inspite of their good I.Q., chronic violation of rules at home and/or at school and initiation of fights.

Borderline Personality Disorder

- Impulsivity or unpredictability with self-damaging behavior e.g. sex, gambling, substance abuse, shoplifting, over-eating, and physically self-damaging acts.
- Unstable and intensive interpersonal relationships e.g. marked shifts of attitude, idealization, devaluation using others for one's own.
- Inappropriate and intense anger or lack of control of anger e.g. frequent display of violence.
- Identity disturbance manifested by uncertainty about several issues related to identity such as self-image, gender identity, long-term goals, current choice, friendship pattern, values and loyalties.
- Emotion unstable, marked shifts from normal mood to depression, irritability, anxiety for few hours and rarely more than few days, with return to normal mood.
- Intolerance of being alone.
- Physically self-damaging acts e.g. suicidal gestures, self-mutilation, recurrent accidents or physical fights.
- Chronic feelings of intense boredom.

Group III: Anxious or fearful

a. Avoidant
b. Dependent
c. Compulsive
d. Passive aggressive

Avoidant Personality Disorder

- Characterized by hypersensitivity to the possible rejection, humiliation or shame and unwillingness to enter into relationships unless given unusually strong guarantees of critical exceptions.
- Social withdrawal inspite of a desire for love and acceptance and lastly low self-esteem.
- They are very concerned about how others assess them and they withdraw from chances for developing close relationship because of fear that they may be humiliated.

- They may have one or two close friends but this is conditioned that they should be approved for any behavior.
- They are different from the schizoid personality who are socially isolated but have no desire for social relations but those they need and want, and they are looking for affection and acceptance.

Dependent Personality Disorder

- The essential feature is that the individual passively allows other to assume responsibility for major areas of his or her life, because of a lack of self confidence and inability to function,
- He becomes a follower to others on whom he is dependent in order to avoid any possibility of having any responsibility.
- They are indecisive and are unwilling to make demands on people they depend on for fear of disturbing their relationships, e.g. a wife with this disorder may tolerate a physically abusive husband for fear that he might leave her.

Compulsive Personality Disorder

This is characterized by:

- Restricted ability to express warm and tender emotions. The individual is very conventional, serious and formal.
- Perfectionism and preoccupation with trivial details, rules, orders. organization schedules, and lists.
- Instance that other should subunit to his or her way of doing things e.g. a husband stubbornly mists up his wife's complete obedience for him regardless of her plans.
- Excessive devotion to work and particularly to exclusion of pleasure and value of inter-personal relationship.
- Indecisiveness: decision-making is either avoided or postponed perhaps for fear of making a mistake. They have a tendency to repeat things to be sure of their actions e.g. read a letter several times., check the lights, doors and gas before they sleep follow a certain ritual in the morning, i.e. tea, news papers, bath, breakfast, a routine which they cannot change. If they come to the physician they will have their symptoms and treatment tabulated in a file

Passive Aggressive Personality Disorder

There is resistance to demands for adequate performance in both occupational and social functioning. The resistance is expressed rather than directly, through stubbornness instead of inefficiency because of the passive resistant both socially and occupationally because of the passive resistant behavior. They are dependent and lack self-confidence.

Affective or Cyclothymic Personality

They have cyclic swings of mood alternating between being outgoing, friendly, warm, undertaking tasks with enthusiasm and looked at as fantastic and charming, though unpredictable persons. This would alternate with sadness, lack of interest, alternating with period of happiness and activity. It is subdivided into a depressive personality in which he is in a continuous mood of sadness, despair, lack -of energy, lack of interest and multiple complaints or a hypomanic personality in which he is always cheerful, happy, charming, talkative. And the alternation between the two personalities is called cyclothymic personality. All these type of affective personality are more vulnerable to depressive disorders.

Personality and Response to Illness

Five areas of such differences are observed:

1. Symptom perception
2. Symptom action
3. Symptom formation
4. Response to illness
5. Response to treatment

1- Symptom Perception:

This refers to the way in which people perceive symptoms occurring in their own bodies. The variation is situationally and culturally determined. For example, it was, reported that:

- Introverts were found to have a lower pain threshold, in that they tend to feel pain sooner than extroverts.
- Situational factors may also alter pain threshold by affecting anxiety levels. Someone under pressure at home or at work might well be made more anxious and this could amplify the perception of a symptom.

2- Symptom Action:

This describes what action people take in response to the perception of a symptom and in particular whether they seek medical help or not.

Anxiety level is a factor correlates with high attendance to medical services, the higher the anxiety the more likely the patient is to seek medical help.

Locus of control can influence the type of action, which follows the perception of symptoms. Locus of control refers to the extent to which an individual feels that the things, which happen to him are determined by internal factors under his own control, or external factors not affected by his behavior. Some research have shown that patients who have high scores on locus of control questionnaire, i.e. with a strong belief in external determinants, are more likely to seek medical and psychiatric help, since they feel that

they are less able to bring about any effective change in themselves and hence rely more on external agents to do so.

3- Symptom Formation:

This describes the possibility that different types of people might be prone to different types of disorders.

Type A and Type B personality

- The type "A" behavior pattern is characterized by enhanced aggressiveness, and competitive drive, a preoccupation with dead lines, and a chronic impatience sense of time urgency. Also they were able to provide clear evidence that type A behavior has an association with coronary heart disease.
- The type "B" behavior pattern is characterised by being more relaxed, less hurried found of sedentary life.

4- Response to Illness:

Some people appear to over-react, and others appear to under-react, or deny the seriousness or inconvenience of an illness. Others become hostile and aggressive while some people may actually welcome and exaggerate their illness because it provides an opportunity to express their feelings of dependence on others.

5- Response to Treatment:

Placebo effect:

In general, people who show large placebo responses are found to be fairly suggestible and dependent types, whereas people with more suspicious natures tend not to respond to placebo tablets. The personality of the doctor or person administering the medication also appears to modify the extent of a placebo response.

Response to certain drug:

It has also been claimed that there are personality differences in response to drugs affecting the CNS. In anxious patients, greater tolerance of sedatives is found amongst the more introverted, whereas the extraverts are found to be much more sensitive to these drugs.

Doctor-patient relationship:

It has been shown that the personality factors may play a role in determining the effectiveness of communication between doctor and patient.

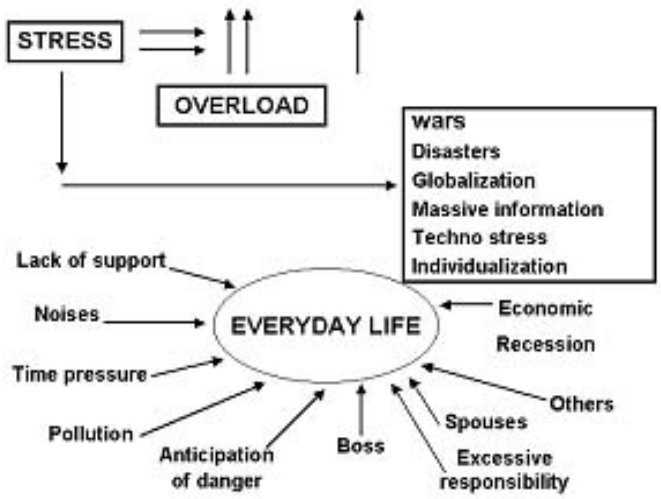
STRESS

What is stress?

It is the psychological and physiological response of an individual seeking to adapt and adjust to both internal and external pressures. So it is an unpleasant and un-welcomed stimulus that challenges the power of adaptability of the individual.

Sources of stress:

1. Life change: Death, divorce and change of job.
2. Hassels: Daily stressful events.
3. Stress in work, financial stresses.
4. Home stress.
5. Acculturation and immigration.
6. Wars and disasters.
7. Others.

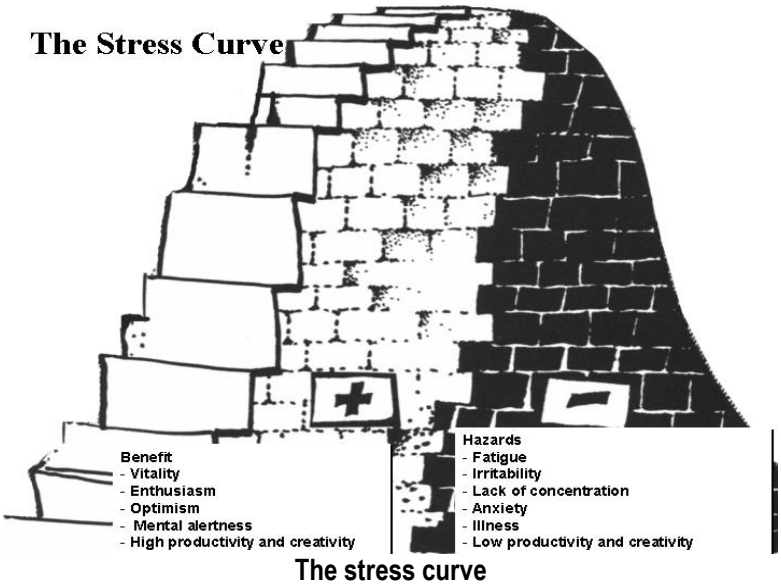


Sources of Stress

Every Person under stress has a yielding point:

Any person can withstand stress up to certain limit at which his power of adaptation will be broken.

The World Bank expectation is that psychiatric disorders will increase the following twenty years due to the increase in exposure to stress.



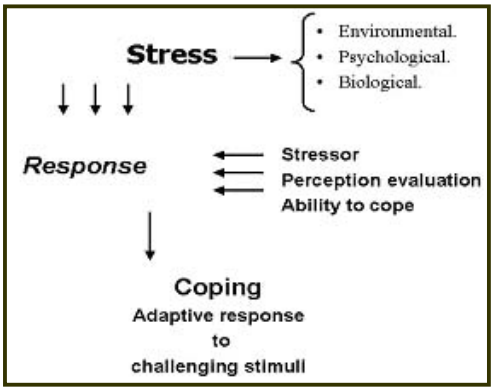
The stress curve

Aetiology of stress:

1- Environmental Factors:

Environmental stressors and events that are responsible for the stressful impact on the individual depend on:

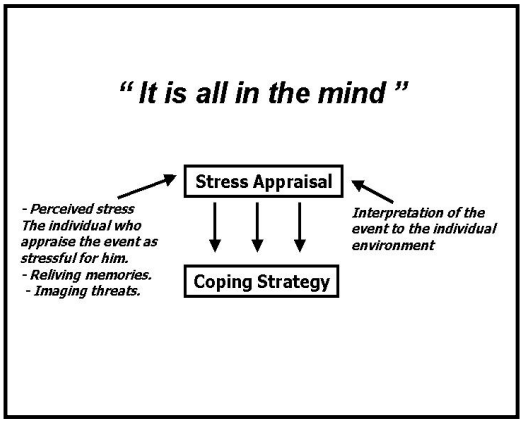
- The magnitude of the events.
- The nature of the events either positive or negative.



- The timing interval and duration of the events (acute or chronic).
- The vulnerabitiy of the individual.

2- Psychological Factors:

Things are rarely good or bad, but our thinking makes them so. Stress depends on the individual's perception and evaluation of the potential harm posed by the environmental experiences. The person is under stress when the environmental demands are perceived to exceed the ability of coping the individual.



3- Biological factors:

This perspective focuses on the activation of physiological systems that are particularly responsive to physical and psychological demands.

a) Immediate response and reaction to emergency situation

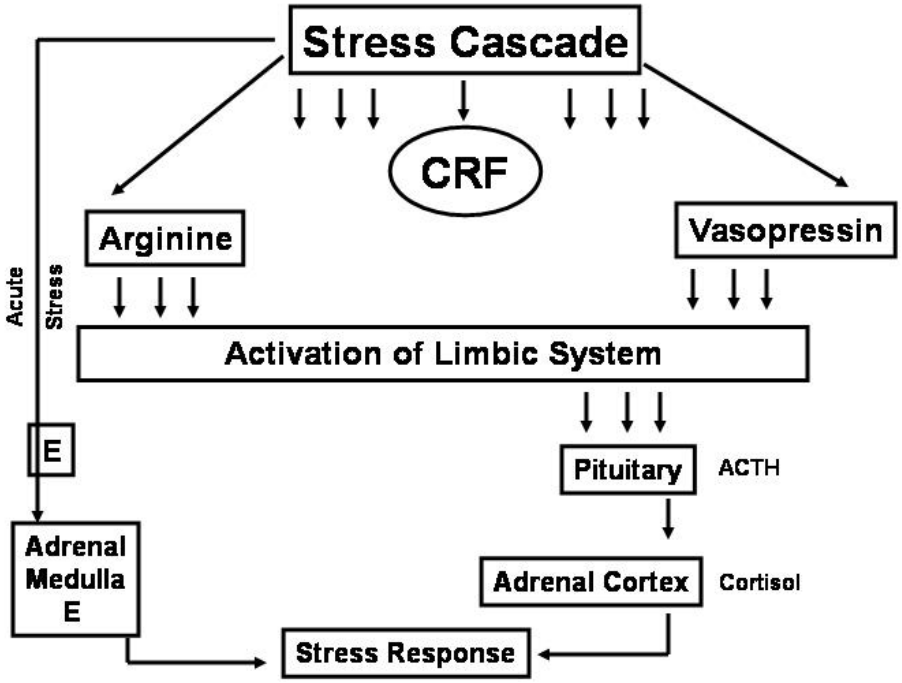
Activation of peripheral reaction via cortico, sympatho-adrenal medullary system, with release of epinephrine from adrenal medulla, increase in sympathetic activity, increase in blood pressure, heart rate, sweating and constriction of peripheral blood vessels.

b) Delayed response

This is mediated by the release of corticotrophin releasing factor (CRF) and arguinine-vasapessin (AVP), which integrate response to stress in a very complex manner as follows:

- CRF released in hypothalamus, activate the Hypothalamic Pituitary adrenal axis (HPA).

- ACTH released from the pituitary leads to increase in cortisol level due to activation of the adrenal cortex.
- Activation of the autonomic nervous system both sympathetic and parasympathetic system.
- Increased cortisol and glucocorticoids suppress the function of the immune system, thus increase vulnerability to infections.
- This complex process is associated with dysregulation of the level of some neurotransmitters (Serotonin, Dopamine, Norepinephrine and Gamma amino butyric acid GABA).
- This process is terminated by inactivation of the cortisol level, decrease of ACTH and CRF. If the HP axis deviation persists it will lead to psychiatric disorders.



Coping with stress:

1- Successful Coping:

a- Direct coping: The aim is to escape from unpleasant situation by confrontation, compromise or withdrawal.

b- Indirect coping (palliative coping): The aim is softening the impact of stress and minimizing the stress by using defensive mechanisms (rationalization, denial, intellectualization etc…).

2- Pathological coping:

- If the individual resorts to drugs and alcohol to cope with stress.

3- Stress will lead to: Psychiatric disorders such as anxiety and depression.

Factors modulating the response to stress:

1- Prior experience.
2- Preparatory information.
3- Individual differences and personality styles.
4- Ability to control the unpleasant stimulus.
5- Social support.

General Management of Stress:

1- Measures to help in coping with stress,
- *Physical exercise, relaxation exercise and deep breathing*
- *Spiritual nourishment and religious involvement*
- *Positive attitude, flexibility and finding.*
- *Suitable alternatives.*
- *Enthusiam, humor*

2. Psychotherapeutic management,
3. Pharmacological management, by antianxiety and antidepressant drugs.

Stress and physical illness:

There is a strong correlation between stress and the onset of physical disease and psychiatric disorder.

1- Physical disease

- **a.** Psychosomatic e.g., peptic ulcer, irritable colon, bronchial asthma atopic dermatitis etc, …
- **b.** Autoimmune diseases.
- **c.** Others.

2- Psychiatric disorders.

As anxiety and depression.

EMOTIONS

Definition:

- Emotions are complex responses, which are triggered and aroused by external events.
- Emotions are temporary stirred up states of the individual due to physiological and psychological changes, which occur as a complex response to external events.

Importance of emotions:

Method of communication. Essential for motivation and enthusiasm.
Build energetic activity. Help in dealing with the environment.
Important for proper thinking, perception, attention and motivation.

Emotions and performance:

- Performance is optimal at moderate levels of arousal.
- At high levels of emotional arousal, performance begins to decline.

Hazards of emotions:

- It influences motivation, recent memory, learning, perception and thinking.
- It has a relation to impaired judgement and fanatism.

Normal Emotions	Pathological Emotions
• Enhance creativity, productivity. • Do not lead to suffering. • Do not endanger the biological reactions.	• Hinder creativity, productivity. • Lead to suffering. • Endanger the biological reactions. • Depends on the intensity and duration of emotion.

Components of emotions:

A. Experience:

1. Affective component:

Subjective experience of feelings (e.g., being afraid, angry, depressed, happy, …etc.).

2. Cognitive component:

Knowledge, interpretation and recognition of the type of emotion.

B. Expression:

1. Bodily component:

Autonomic and neuromuscular responses.

2. Behavioural component:

Smiling, crying, running, shouting, change in facial expression.

Aspects of emotions:

A- Physiological aspects of emotions:

1. Emotions and Autonomic Nervous System Manifestations:

On exposure to stress, there is activation of either sympathetic or parasympathetic or both systems.

a. Emotions and the gastro intestinal function:

When we are angry there is congestion of the mucous membrane, increased secretions of stomach and increased motility of intestine.

When we are depressed, there is pallor of the mucous membranes, decreased secretions of stomach and decreased motility of intestine.

b. Emotions and smooth muscles:

We get either contraction or relaxation according to either sympathetic or parasympathetic stimulation.

c. Emotions and the cardiovascular system:

In response to stress there is increase in cardiac output, heart rate and blood pressure.

d. Emotions and renal function:

In state of tension there is decrease in salt and water excretion. In state of excitement there is increased diuresis associated with increased sodium and potassium. In state of depression there is retention of water and intracellular sodium. These effects are mediated through the influence of hypothalamus on posterior pituitary, antidiuretic hormone (ADH) and mineralocorticoids.

e. Emotions and blood changes:

In response to fear and anger there is:

- Increase in blood viscosity.
- Decrease in clotting time.
- Decrease in prothrombin time.
- Contraction of spleen**.**

f. Emotions and endocrine:

- CRF produced in response to stress with increase in the secretion of ACTH and also cortisol this occurred due to activations of Hypothalamic Hypophyseal Adrenal axis (HPA axis).
- In response to acute stress there is increase in adrenaline secretion from the suprarenal medulla.

g. Emotions and respiratory system:

Change in respiratory rate according to emotion.

- Anxiety leads to increased rate of respiration, hyperventilation and air hunger.
- Depression leads to decrease rate of respiration.
- Bronchospasm resulted for exposure to stress in some people.

h- Others

- Increased sweat gland activity (sweating, perspiration).
- Decrease in salivary secretion (dry mouth).
- Papillary dilatation.
- EEG shows fast activity.

Clinical application of autonomic manifestations of emotions in the field of Psychiatry:

(1) Lie detector.
(2) Psychophysiological measurements.
(3) Biofeedback training

2. Emotions and neuromuscular functions:

Reactions of voluntary striated muscles are the following;

a. Static for maintenance of posture.
b. Purposive for running, .. etc.
c. Local for facial expression, swallowing, chewing.. etc.
d. Increased motor tension due to increased isometric contraction phase, which leads to muscle tension, and pain e.g., (headache).

3. Emotions and the Central Nervous System:

a- Hypothalmus:

It is responsible for emotional expression since it controls the autonomic functions and the endocrinal change through it is connection to the pituitary (Hypothalamo-Hypophyseal-Adrenal axis) HP Axis.

NB:

1. Lesions of the medial part of the Hypothalamus lead to Sham Rage reaction.
2. Lesions of the posterior area lead to abolition of emotional reaction.

b- Limbic System:

Its function is to regulate emotion hence removal of the limbic system from higher control leads to exaggerated pleasure seeking emotional behaviour.

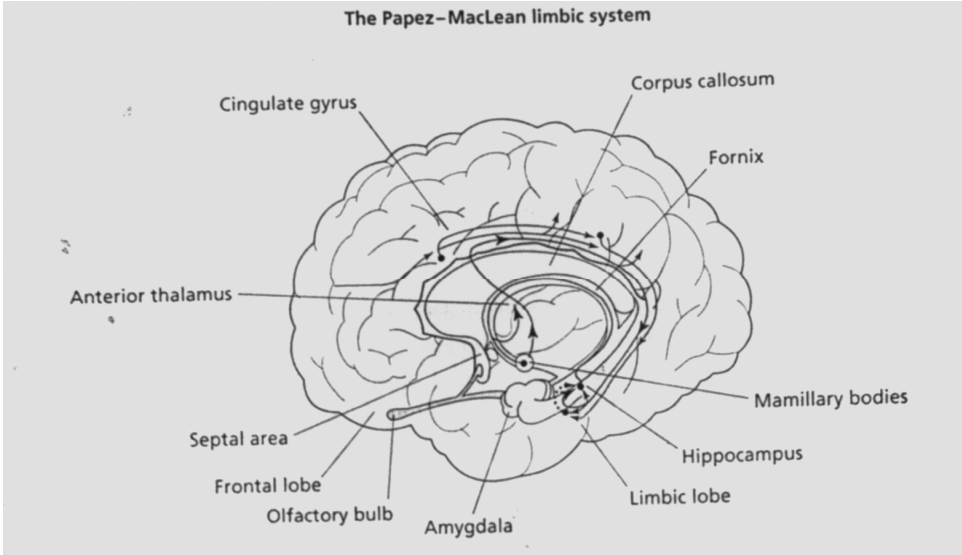
c- Cerebral cortex (orbito frontal lobe cortex):

It is responsible for:

- Integration and modulation of emotional reactions.
- Recognition of emotion (experience).
- Cognitive aspects of emotion (evaluation and appraisal).
- Memory of emotional experience.

NB:

Lesions in orbito frontal lobe (as in dementia, infarction, orbito-frontal lobe tumours). ***Lead to:*** silly behaviour, euphoria and emotional incontinence, excessive sexual demands, loss of feelings or fear and anxiety.



B- Anatomical Aspects of emotions:

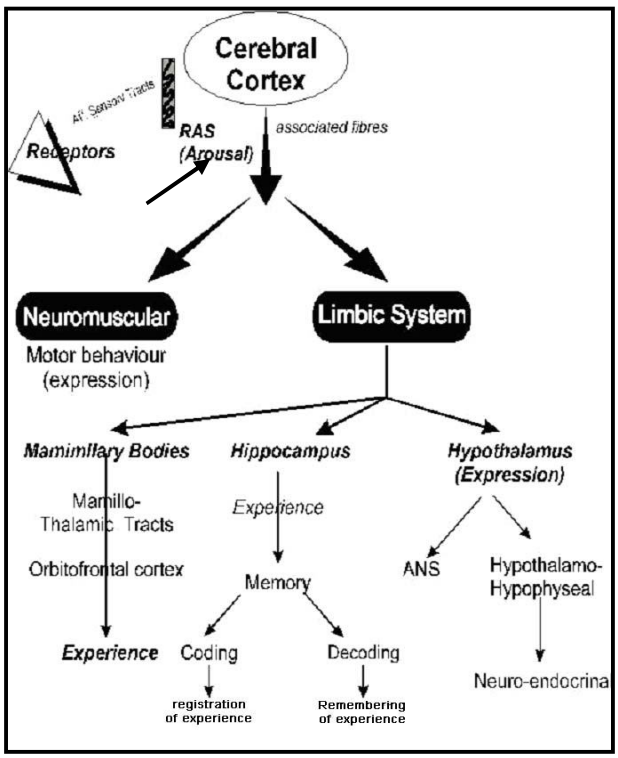
(Papez- Maclean circuits)

External events stimulate afferent sensory tracts which stimulate the reticular activating system, which in turn stimulates the psychosensory areas of the cerebral cortex.

The cerebral cortex responds via association fibers that pass to:

1- Neuromuscular system producing motor behavior (emotional expression).

2- Limbic system: here we have three relay areas.



a- Mammillary bodies which project to mammillothalamic tract to orbito-frontal cortex producing emotional experience.

b- Hippocampus projecting to the memory stores where the emotional experience is being registered or decoded.

c- Hypothalamus projecting to the autonomic nervous system to produce autonomic response and to neuroendocrinal system through the hypothalamic hypophyseal adrenal axis to produce endocrinal response.

d- Amygdala is important in the appraisal of danger and the emotion of fear and anger.

C- Biochemical aspects of emotions:

Some neurotransmitters are involved in emotion:

In order to understand the role of the brain in emotion it is important to focus on the ways in which these various areas communicate with each other via;

a. Neurotransmitters e.g. serotonin, norepinephine and dopamine.
b. Neuropeptides e.g. GABA and excitatory neurotransmitters.

Clinical application:

Antidepressants and antianxiety drugs act by modulating neurotransmitters at different regions of the brain (limbic system and cerebral cortex).

D- Cognitive aspects of emotions:

Primary appraisal: The situation is regarded as being positive stressful irrelevant to well-being	➔	***Secondary appraisal:*** Account is taken of the resources that the individual has available to cope with the situation	➔	***Re-appraisal:*** The stimulus situation and the coping strategies are monitored, with the primary and secondary appraisals being modified if necessary

When we experience an event or action. The stimuli that elicit emotions are subjected to cognitive processes that concern the evaluation and interpretation of the situation.

We differ in our interpretation of stimuli according to the previous experiences, values and motivational state.

Summary:

Emotional responses:

1. Are carried out by the Hypothalamus.
2. Refined and controlled by the Limbic system.
3. Modulated and integrated by the orbito-frontal cortex.
4. Requires level of awareness (RAS).
5. Involvement of the endocrine glands.
6. Involvement of the neurotransmitters and neuropeptides.

Theories of emotion:

Main site	Visceral	Thalamic	Reticular	Physiological	Cognitive
Scientist	James Lange	Canon Bard	Lindsly's	Papez Maclean	Schachter
Concept of the theory	Feeling is a mass sensation coming from the viscera	Emotional experiences and behavior arise from the thalamus then hypothalamus	Reticular system must be activated to produce emotions from the hypothalamus	Structures forming the limbic system are the source of emotions and hypothalamus has a role in expression	Emotional experience depend on one's perception judgment and interpretation of the situation
Relation to emotional expression	expression occur before experience	At the same time	If RAS is not active – no expression		
Criticism of the theory	Against is Cutting sensory tracts did not abolish emotions	Thalamus is not associated with any emotions other than pain.	It did not explain emotional experiences		

Thus it is clear, that autonomic arousal contributes to the intensity of emotional experience, but does not differentiate the type of emotions.

Measurements of emotions:

1- Rating scales (Beck depression inventory, Zung and Manifest taylor anxiety scale; for monitoring severity of anxiety and depression.

2- Projective technique (For dynamic interpretation)

3- Observation of behavior For non-verbal expression (Facial, Posture).

4- Psycho-physiological measurements

- Heart rate, blood pressure, respiratory functions.
- Skin conductance, salivary gland function.
- Blood Flow, (forearm and peripheral).
- EEG (to detect fast activities).
- EMG (increase in isometric contraction phase).
- Pupil size (dilated).

5- Neuro-biochemical assessment

(Metabolites of neuro-transmitters in urine and CSF).

6- Neuro-imaging techniques

Disturbances of emotions:

I. Pleasant emotions

A) Euphoria

It is a subjective feeling of well being and confidence, the patient is rather happy, unconcerned of his physical or mental illness. It occurs in:

a. Some physical diseases as syphilis, multiple sclerosis, frontal lobe tumours, etc..

b. Psychiatric disorders as (mania, hypomania and schizophrenia).

B) Elation

It is a sense of enjoyment and self-confidence, which is radiating from the patient and infectious to other persons who share the patient's happiness. It occurs in mania and hypomania.

C) Exaltation

It is an intensive elation accompanied by grandiosity. It occurs in mania, hypomania, schizophrenia.

D) Ecstasy

It is a sense of tranquillity and power with peaceful feeling. It occurs in hysterical dissociation, epilepsy, schizophrenia, affective disorders and religious settings.

II. Unpleasant emotions

A) Grief

It is sadness secondary to loss of a beloved person.

B) Depression

It is a feeling of unhappiness, hopelessness, helplessness, guilt feelings, lack of appetite, lack of concentration and insomnia. It occurs in mood disorders (depression).

C) Anhedonia *(Loss of pleasure)*

It occurs in some psychiatric disorders.

D) Anxiety

It is a feeling of apprehension and fear associated with symptoms of increased activity of the autonomic nervous system. It occurs in: Anxiety disorders, thyrotoxicosis, hypoglycemia and other physical illnesses.

E) Others

e.g., panic and tension.

III- Inadequate emotions

A. Apathy:

Emotional expression and experiences are affected

B. Indifference:

Emotional expression is abolished while emotional experiences are not affected.

C. Emotional blunting or flattening:

(Inability to express emotions adequately)

IV- Incongruous or inappropriate emotions

It is a disharmony of emotions, it occurs in schizophrenia and in some organic diseases.

V- Others

Depersonalisation

Unpleasant subjective awareness of changes in oneself associated with a change in the environment (derealization). It occurs in: Anxiety, hysteria, schizophrenia, depression, physical illnesses, and under hashish or LSD effect.

MOTIVATION

Motivation can be defined as the force and process of arousing, determining, directing and maintaining behavior towards a goal. It is concerned with the question: why do people do that? and why do they keep doing that?

Motivation affects every thing we do. It influences our ability to learn, affects our memory and has an impact on our perception.

Classification of motives:

A- Inherited Motives:

1- ***Survival motives:*** *Physiologically based*, directed towards the survival of the individual e.g., (the need for air, water, food, rest, sleep, illumination, physical exercise, sensory stimulation, warmth, shelter and respiration).
2- ***Biological motives*:** directed towards the survival of the species e.g. (sex, motherhood).
3- ***Emergency motives:*** directed to dealing with the environment e.g., (escape and fear, combat and anger).
4- ***Objective motives:*** directed to knowing the environment, e.g., (exploration, manipulation and interests).

Characteristics

1- They are innate, and inherited.
2- Universal.
3- Some of them are homeostatic (restore equilibrium).

B- Acquired motives:

1- Social motives:

a. General social motives shared by the whole environment.
b. Cultural social motives related to culture.
c. Individual social motives: related to education and subculture of the individual.

2- Individual motives:

- **a.** Achievement motive (need to succeed and excel).
- **b.** Power motive (need for power control and competency).
- **c.** Affiliation motive (need to belonging).
- **d.** Need for recognition and affection.

Characteristics:

1- Acquired and learned.
2- Not universal.
3- Non homoestatic.

Concepts of motivation:

We have different concepts or approaches; each contributes to our understanding of behavior.

1. The concept of instincts:

Instincts are unlearned patterns of behavior e.g., (Nest-building is an instinct present in birds).

We engage in some behaviors for reasons that are basically physiological and more inherited than learned.

McDougall suggested that human behaviors were motivated by (18) basic instincts.

2. The concept of needs and drives:

A need is a shortage or lack of some biological essential required for survival. When an organism is kept from food, it develops a need for food. A need then gives rise to a drive. A drive is a state of tension, arousal or activation (hunger drive) that creates motivation to satisfy the need by eating (reach the goal). When an organism is in a drive state, it is motivated. It is aroused and directed to do something to reduce the drive by satisfying the underlying need.

Types of drives

A- Primary and secondary (Hull):

1- Primary drives are based on unlearned physiological needs
2- Secondary drives, which are based on learning experiences.
3- Many drives are more learned than biologically based.

B- Hierarchical arrangement of needs (Abraham Maslow):

Has proposed that human needs can be placed in an ordered hierarchy, beginning with basic survival needs and ending with a need to achieve. The first things that motivate us are the basic survival needs: food, water, shelter and so on.

One moves higher in the hierarchy only when lower needs are met. The highest level of needs: self-actualization needs; we strive to be the best and to be as productive and creative as possible.

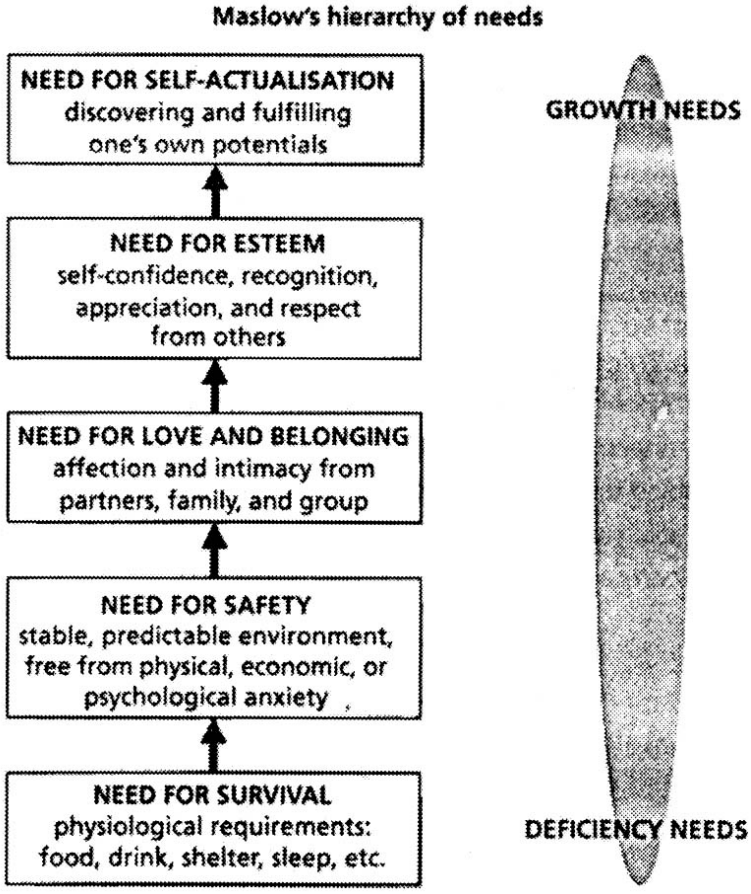
Maslow was able to detect the characteristics of self actualizers as follows:

1. Able to look at life from an objective point of view.
2. Accept themselves and others as they are.
3. Capable of deep appreciation of the basic experiences of life.
4. Concerned with the well-fair of mankind.
5. Establish deep satisfactory interpersonal relationships with a few rather than many people.
6. Experience life as a child with full absorption.
7. Have a good sense of humor.
8. Highly creative.
9. Perceive reality efficiently and able to tolerate uncertainties.
10. Problem centered rather than self centered.
11. Spontaneous in thought and behavior.

Behavior leading to self actualization:

1. Always try something new.
2. Assume responsibility.
3. Be honest.
4. Listen to one's feelings in evaluating experience.

5. Try to identify one's defenses and to have the courage to give them up.
6. Work hard.



3. The concept of incentives:

Incentives **are** external stimuli that serve as motivating agents or goals for our behavior. Thus behaviors are explained in terms of their end results, goals and outcomes rather than their internal driving forces e.g. (drives)

Basis of incentives:

Incentives may sound like operant-conditioning.
The basic principle of operant conditioning is that one's behaviors are controlled by their consequences.
Positive incentives: We are motivated to do whatever leads to reinforcement.
Negative incentives: We tend not to do whatever leads to punishment.

4. The concept of equilibrium:

The basic idea here is that we are motivated or driven to maintain a state of balance, a state of equilibrium or optimum level of functioning.

Homeostasis: Many survival motives operate according to the principle of homeostasis, which is the body's tendency to maintain a constant internal environment in the face of a changing external environment, such as body temperature, body water and blood glucose level, etc.

Example: hunger

A need arises when the level of blood sugar drops below the ideal value. This physiological imbalance is corrected by the pancreas signaling the liver to release sugar into the blood stream. A drive is activated and the aroused organism seeks food with high sugar content.

In this concept

Need = is the physiological imbalance.
Drive = is the arousal state that results from the need.
The state of equilibrium could involve

- Physiological processes.
- Emotional reactions.
- Cognitive processes (modification of a cognitive set to return to a balanced state).

5. Psychoanalytic concepts of motivation (Freud):

I- Instinct model

Freud believed that behaviors stemmed from two opposite groups of instincts which are;

a. The life instinct "Eros" that enhances life and growth:
The energy of the life instinct is "Libido" which involves mainly sex and related activities.

b. The death instinct "Thanatos" that pushes towards destruction:
The death instinct can be directed inward in the form of suicide or self-destructive behavior, or outward in the form of aggression towards others. According to Freud the two basic human motives are sex and aggression.

II- Conscious and unconscious motives

Conscious motive:

- The individual realizes the motive of his behavior.

Unconscious motive:

- The individual is unaware of his behavior. Freud stressed the importance of unconscious motives in human behavior which are expressed in:
- Dreams (express wishes)
- Slips of speech (reveal hidden motives)
- Symptoms of mental illness (unconscious motive lead to mental illness)

III- Repression model

It is the process by which the painful emotions arising from a conflict remain in the unconscious but they still remain active and can direct our behavior.

IV- Complex model

It is an idea or associated group of ideas partly or wholly repressed and associated with strong emotions. The behavior resulting from a complex *is usually incompatible with the intensity of the stimulus*.

6. Social learning theory of motivation:

Social learning theory focuses not on instinctual drives, but also on the behavior. The individual learns coping with the environment. The emphasis is on the reciprocal interactions between behavior and environment.

Patterns of behavior can be acquired through direct experience or by observing the behavior of others. Some responses may be successful, others may produce unfavorable results.

Through the process of differential reinforcement, the person eventually selects the successful behaviors and discards the others.

Social learning theory stresses the importance of:

1. Vicarious learning i.e. learning by observation.
2. Cognitive processes:
   Because we can think and represent situations symbolically, we are able to foresee the probable consequences of our actions and behaviors. Our actions are governed to a large extent by the anticipated consequences.
3. Self-regulatory processes. (internal reinforcement):
   A specific behavior produces an external outcome, but it also produces a self-evaluative reaction. Thus reinforcement has two sources, external and self-evaluating. Sometimes the two coincide and sometimes they are contradictory.

The reinforcement that controls the expression of learned behavior may be:

1. ***Direct:*** rewards, social approval or disapproval or adverse conditions.
2. ***Vicarious:*** observations of someone else receiving punishment or reward for similar behavior.
3. ***Self-administered:*** evaluation of one's own performance with self-praise or reproach.

Disorders of motivation *(affect volition and will)*
Amotivational syndrome which occurs in:

1. Schizophrenia (There is a disturbance of the will power together with lack of drive).
2. Hashish abuse.
3. Depression (decrease motive).
4. Some personality disorders (schizoid).

How to illicit motives

1. The Goal should be

- Clear
- Definite
- Near
- Vital

2. Enhance confidence.
3. Fair competition.
4. Avoid negative suggestions and bias.
5. Minimize doubts.

PERCEPTION

Definition:

- It is a mental cognitive process for transferring sensory stimuli into psychological information i.e., giving meaning to sensations.
- Perception is an active process which includes;
    - Selectivity.
    - Organization and interpretation.
- Perception is important for adaptive actions to happen to deal with the environment. It affects our thinking, behavior, emotion and social interaction.

What is difference between perception and sensation?

	Perception	**Sensation**
Definition	Interpreting, giving meaning understanding and recognition of sensory input	Receiving stimuli from; • Exteroceptors • Interoceptors
Site	Secondary association area	Primary association area
Role of brain	Active	Passive
Basis	Psychological	Physiological
University	Variable	Universal

Perception depends on:

1. Past experience (we perceive as we learned).
2. Selectivity (we perceive as we want).
3. Expectation (we perceive as we expect).
4. Organization (we perceive as a whole).

Factors affecting perception:

A- Stimulus factors (figural factors):

I- Perceptual selectivity:

a- *Contrast:*

The most important factor in perceptual selectivity is contrast; it is the extent to which a given stimulus is in some physical way different from the intensities of other stimuli around it.

b- *Intensity:*

We are more likely to attend to a stimulus if its intensity is different from the intensities of other stimuli.

c- *Physical size:*

The bigger the stimulus, the more likely we are to attend to it.

d- *Motion:*

A bird in flight is much clearer to see as a figure than a bird sitting in a bush. Once again, it is also easy to spot a motionless person against the ground of moving bodies.

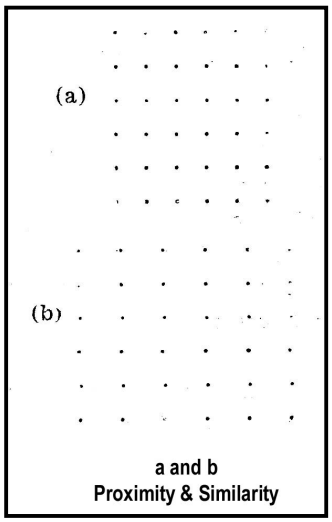
e- *Colour:*

The colorful object attracts perception.

f- Repetition and changeability of the stimulus attract attention.

II- Perceptual organization:

Gestalt psychologists proposed that there is tendency to organize stimuli into meaningful units.



a and b
Proximity & Similarity

a- *Proximity:*

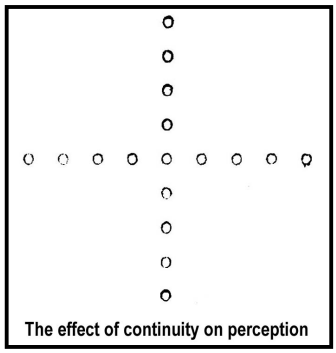
Events that occur close together in space or in time, are generally perceived as belonging together.

b- *Similarity:*

Stimulus events that have properties in common tend to be grouped together in our perception "similar things are perceived together".

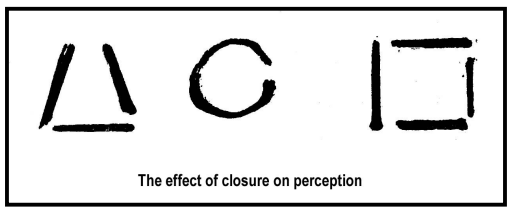
c- *Good Form:*

- ***Continuity:*** We tend to perceive things as continuous.
- ***Closure:*** We tend to close figures in our mind i.e. we tend to perceive incomplete figures as whole and complete.
- ***Symmetry:*** We tend to perceive beautiful symmetrical objects.



The effect of continuity on perception

d- *Wholistic perception (Gestalt):*



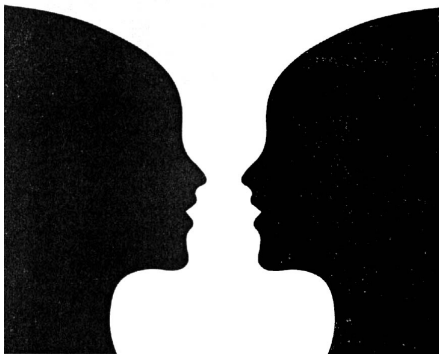
The effect of closure on perception

Gestalt principles:

1- Tendency to organize what we perceive as a whole.

2- Discrimination of object from background. The stimuli are perceived as a figure against a background.

3- Figure can be seen in different ways according to how we organized it.



B- Personal factors:

Personal factors affect our attention, they include: motivation, expectation and past experience.

a- *Motivation:*

We see what we want to see. When teachers want to draw the attention of a class they start talking about examinations.

b- *Expectation:*

It is not only that we perceive what we want to perceive but also we perceive what we expect to perceive.

c- *Past experience:*

It is the most important personal factor in perceptual selectivity because it includes both motivation and mental set, much of our motivation comes from our past experience, and similarly, our expectations develop largely from past experiences.

d- *Emotional state:*

- We tend to perceive things differently if we are emotionally involved.
- University does not accept relatives of candidates to be their examiners.
- Willingness to win alters perception.

e- *Suggestion.*

f- *Physical condition.*

C- Social factors:

It depends on the socio cultural beliefs and judgment

Disorders of perception:

1- Perceptual loss (Agnosia; failure to recognize)

- Visual agnosia: due to lesion in the left parieto-occipital area.
- Tactile agnosia: due to lesion in parietal lobe.

2- Perceptual distortion:

- Constant real object is perceived in a distorted way.
- e.g., Micropsia/Macropsia

- Hyperacusis/hypoacusis.
- Change in intensity and threshold of the stimuli

3- Perceptual deception:

a- **Illusion:** Ministerpretation of sensory stimuli.

- **Causes:**
  - Physical: illusion (mirror image).
  - Familiarity: Proof reader illusion.
  - Expectancy: when we expect to perceive a certain fact we are liable to accept very inadequate stimuli as a sign of this fact.
  - Organic brain disease: psychiatric disorders, schizophrenia mania etc..

b- Hallucinations: Sensory perception without a stimulus.

- ***Types:***
  - Auditory.
  - Visual.
  - Tactile.
  - Gustatory and olfactory.
- **Causes:**
  - *Physiological:* Hypnopomoic and hypnogogic states (before we fall asleep or wake up).
  - *Psychological:* In relation to intense emotion e.g., grief, fatigue, suggestion and sensory deprivation.
  - *Organic brain diseases.*
  - *Psychiatric disorders as schizophrenia, mania and depression.*

Extra sensory perception:

1- *Telepathy:* Thought transfer from one to another person.
2- *Clairvoyance:* perception of hidden objects or events.
3- *Precognition:* perception of future events.
4- *Psychokinesis:* a mental process affecting materials energy system.

ATTENTION

Attention is the process by which we select some stimuli for further processing while ignoring others.

Types of attention:

1. Involuntary attention as a gunshot or a flash of light.
2. Voluntary attention we intend to hear and see e.g. listening to a lecture.
3. Spontaneous attention no conscious effort is made for attention.
4. Habitual attention: Attention without the act of will as in listening to a story.

Factors that stimulate attention:

1- External factors: *(these are important in the art of advertising).*

a- Type of stimulus: it has been shown that pictures attract more attention than words, especially those pictures containing human beings.

b- Position of stimulus: e.g. the ordinary reader will observe the upper half of the newspaper more than the lower half.

c- Intensity of the stimulus: bright colors and loud sounds will attract more attention.

d- Contrast of stimulus: anything standing such as a figure contrasting with its background will attract attention more easily.

e- Changeability of stimulus: this may be the most important factor in attracting attention. A flickering light will direct our attention more than a steady one.

f- Repetition of stimulus: a repeated stimulus is more likely to be noticed than a single one, e.g. a repeating electrical advertisement is stronger than a steady one.

2- Internal factors: *(these are individual factors, which make the person more attentive to certain objects)*. These factors depend on:

a- Biological needs: the smell of food will attract attention of the hungry individual more than the well fed one.
b- Mental set: if you want to buy a certain object, it will be the first thing to strike your attention when you go into the shop.

Factors that stimulate distraction:

Many students complain that they are unable to concentrate and they cannot sustain their attention. The factors that help in distraction are:

1- Physical factors:

Fatigue, exhaustion, lack of sleep, inability to relax, irregular meals, malnutrition and endocrinal disturbances all may lead to deficient vitality and weakening of resistance which may result in distraction.

2- Psychological factors:

a- Lack of interest in a certain subject.
b- Indulgence in daydreams, or when facing a conflict or problems.
c- Distraction may occur secondary to obsessional thoughts that occupy the mind in spite of the attempts to resist them.

3- Mental factors:

a) As in schizophrenia when distraction is due fear, hallucinations or abnormal thoughts.
b) In manic-depressive disorder.

4- Social factors:

Persistent problems in the family, as financial problems, disturbed marital life or parent-child relationship.

5- External factors:

This may be due to insufficient lighting or its misdistribution, excessive heat or cold, lack of ventilation or excessive noise.

Disorders of attention:

1- *Intensified in a restricted area:* as in depression with hypochondriasis.

2- *Selective inattention:* Attention is reduced in some psychiatric disorders.

3- *Defective attention:* with physical factors such as fatigue, or psychological factors, as anxiety.

4- *Distractibility:* Inability to sustain attention which is drawn to unimportant or irrelevant external stimuli.

5- *Trance states:* A group of states with altered awareness and reduced contact with the environment, yet EEG is similar to that of the awakening rather than sleeping state. e.g., hypnosis is one of those trance-like states an example to superficially resemble sleep in which a person in trance state remains susceptible to the hypnotist and his instructions.

Sensory Deprivation

Sensory deprivation:

It is the result of:

a- Reduction of the sensory input.
b- Absolute absence of external sensory input.
c- Sensory monotony.

Effects of sensory deprivation:

A- Physiological:

- Decrease brain electrical activities and (progressive slowing of EEG waves).
- Disturbed sleep rhythm.
- Changes in respiration, body temperature, circulation and metabolic rate.
- Sense of heavy muscles and fatigability.
- Increase sensitivity to pain.
- Biochemical changes (increase in nor-epinephrine, TSH, ACTH and plasma cortisol levels).

B- Psychological:

1- Perception:

- Change in eye focusing, object dimension and colour perception.
- Perceptual distortion.
- Illusion and hallucination.

2- Mood:

- Irritability.
- Anxiety.
- Depression.

3- Cognitive functions:

- Decrease concentration.
- Decreased learning ability and impaired thinking.

4- Suggestibility:

- Susceptibility to propaganda and brain washing with liability towards attitude changes.

5- Behavioral disturbances

Clinical implications of sensory deprivation:

1- Medical field:

- Patients who are isolated in wards with few visitors and non-stimulating environment are prone to develop the psychological and physiological symptoms due to sensory deprivation. e.g.,
  - Patients in intensive care units, in dialysis units, or on ventilators.
  - Crippled patients (with hemplegia; paraplegia, quadriplegia and patients with total or partial body casts).
  - Blind patients or those who have bilateral cataract operation.
  - Psychiatric patients who are chronically institutionalized.
  - Geriatric patients living alone.
  - Children who are deprived from social interaction.

Thus we have to overcome this sensory deprivation by allowing more visits and providing a more stimulating environment.

2- Other fields:

- Industrial work if there is monotonous machine or field work in deserts as oil industry etc..
- To prevent sensory deprivation more breaks should be given to the workers.
- Military personnel, sailors and space crafts.
- Truck drivers in highway.
- Political (Brain wash): exposing prisoners or agents to sensory deprivation; Aim: To induce suggestion and increase susceptibility to change in attitudes and acceptance of materials which were usually rejected.

INTELLIGENCE

Defining intelligence:

Intelligence is the general ability to solve intellectual problems on the basis of past learning and present grasp of essentials. It is a mental activity directed towards purposive adaptation with the environment.

Standard age scores:

It is a score on an intelligence test by which one's performance is compared to that of others of the same age

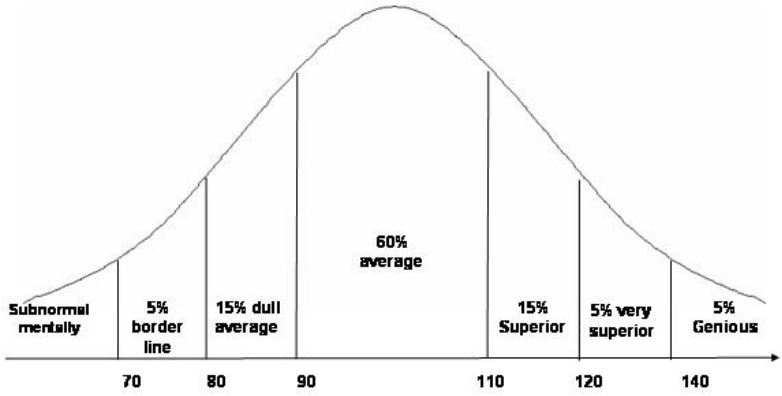
$$\text{Intelligence Quotient (IQ)} = 100 \times \frac{\text{Mental age (score obtained by the test)}}{\text{Chronological age (actual age)}}$$

If mental age is near to chronological age = average IQ.
If mental age is greater than chronological age = superior IQ.
If chronological age is greater than mental age = subnormality.

Classification of intelligence IQ by age:

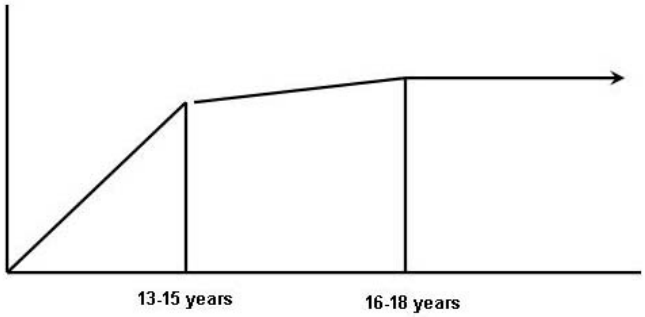
Borderline	70-79
Dull normal	80-90
Normal	90-110
Bright normal	110-120
Superior	120-130
Very superior	130

Distribution of intelligence:



The normal distribution is a bell shaped curve

Growth of intelligence:



Intelligence grows steadily and progressively to the age of (13-15y) then more slowly to (16-18y) after which no further increase occurs.

Constancy of intelligence:

Intelligence is constant over years.

Intelligence test:

Examples of Intelligence tests:

- Binét test.
- Wechsler test.
- Progressive matrices test.

IQ is constant, if an exception occurs, this may be due to

1- Use of different tests.
2- Different people with different experience scoring the same test.
3- Previous acquaintance with the test.
4- Emotional difficulties, e.g. anxiety.
5- State of health.
6- Degree of interest in being tested.
7- Cases with organic brain syndrome or psychoses.

Criteria for a good test

*1- **Reliability:*** refers to the extent to which a test provides consistent findings.
*2- **Validity:*** it is the extent to which a test measures what it is supposed to be measuring.
*3- **Norms:*** are the results of a test taken by a large group of subjects whose scores can be used to make comparisons.

Uses of intelligence tests

1- Educational purposes: to classify students according to their IQ.
2- Vocational guidance to select employees.
3- Measure the level of intellectual deterioration in organic brain syndrome.
4- To find social and intellectual harmony between husbands and wives.

Composition of intelligence

1- Verbal comprehension i.e., ability to understand words.
2- Word fluency i.e., ability to think of words rapidly.

3- Arithmetic abilities.
4- Ability to understand spatial relationship.
5- Ability to memorize and recall.
6- Perceptual ability i.e., ability to group similarities, differences and details of objects.
7- Reasoning i.e., ability to understand principles for problem solving.
8- Good judgment.

Factors affecting intelligence

I- Heredity and environment:

Both heredity and the environment are critically important in determining intelligence. Without a nurturing, stimulating environment, even the best of inherited potential may be wasted.

II- Gender:

When we look beyond the global measure that IQ scores afford, there do seem to be some reliable indications of sex differences on specific intellectual skills. Females score higher than males on tests of speed and accuracy, verbal fluency, reading and language ability. Males, on the other hand, outscore females on tests of mathematical reasoning and spatial relations.

III- Age:

The measured IQs of individuals much younger than 7 do not correlate very well with later IQ scores. We cannot put too much weight to IQs earned by 4 year olds as predictors of adult intellectual ability *(see constancy of age abilities)*.

This does not mean that the testing of young children is without purpose. Determining the intellectual abilities of young children is often very useful, particularly if there is some concern about retardation or if there is some thought that the child may be exceptional or gifted. The resulting scores may not predict adult intelligence well, but they do serve as a guide to assess the development of the child compared to other children.

IV- Race:

No race differentiation was found. White people used to score approximately 15 points higher on tests of general intelligence than do black people due to the following reasons:

1- The tests themselves are biased, and unfair.
2- Environmental factors, such as available economic and/or educational opportunities, health and nutrition.

V- Residence:

(No difference between urban and rural areas) as long as they are given the same chance in education and other environmental factors.

Mental retardation:

A condition indicated by an IQ below 70 that began during the developmental period and is associated with impairment in adaptive functioning. Further categories of mental retardation are as follows:

- IQ 70 - 85: borderline or slow.
- IQ 50 - 69: mildly mentally retarded.
- IQ 35 - 49: moderately mentally retarded.
- IQ 20 - 34: severely mentally retarded.
- IQ less than 19: profoundly mentally retarded.

Causes:

1. Being born prematurely, where prematurely is defined as being born at least 3 weeks before the due date or at a weight below 5 pounds, 8 ounces.
2. The health of the mother during pregnancy can affect the health of her child; hypertension, exposure to X rays, lowered oxygen intake rubella, maternal syphilis, or if the mother is a smoker or uses certain drugs which cross the placenta and have teratogenic effects on the foetus.
3. Difficulties or injuries during the birth process itself.
4. Genetic causes as Down's syndrome.

Abilities:

1- ***Achievement:*** is the present actual ability e.g. passing examination. Hence the achievement tests are based on a particular academic curriculum.
2- ***Capacity:*** is a measure of the individual potential ability.
3- ***Aptitude:*** is the predictable achievement and ability.

The mentally gifted:

Giftedness as a demonstrated achievement or aptitude for excellence could be in any one of six areas:

1- ***Psychomotor ability:*** strength, speed, quickness, and coordination.
2- ***Visual and performing arts:*** unusual talent for art, music, drama and writing.
3- ***Leadership ability:*** youngsters with good leadership skills tend to be intellectually bright, but they are not necessarily the smartest of their group.
4- ***Creative or productive thinking.***
5- ***Specific academic aptitude:*** in mathematics, history, or laboratory science, without necessarily being outstanding in other academic areas.
6- ***Intellectually gifted:*** inclusion in this group is based on scores earned on a general intelligence test.

LEARNING

Definition:

Acquisition of new behaviour that result from practice and past experience.

Learning helps us in mastering new skills and academic subjects. It is also involved in emotional development, social interactions and personality development. We learn what to fear, what to love, how to be polite, how to be intimate, etc ...

There are two approaches to learning:

I. The behavioral approach.
II. The cognitive approach.

I. The behavioral approach to understanding learning:

Learning is based on associations. Associative learning means that certain events go together. We have two kinds of associative learning: classical conditioning and operant conditioning.

In classical conditioning, an organism learns that one-event follows another-for example a baby learns that the sight of a breast will be followed by the taste of milk.

In operant conditioning**,** an organism learns that a response it makes will be followed by a particular consequence. For example, a young child learns that striking a sibling will be followed by disapproval from his parents.

Methods of learning:

1- Imitation: as in children.
2- Trial and error as in animals.
3- Insight learning: trial and error with planning a solution on a mental level.
4- Conditioning (classical and operant).

A- Classical conditioning (Pavlov):

Classical conditioning is a type of learning in which an originally natural stimulus comes to evoke a new response after having been paired (associated) with another stimulus that reflexively evokes the same response.

This form of learning was described by Pavlov. He noted that a dog salivates (unconditioned response; UR) at the sight of food (unconditioned stimulus; US). Repeated pairing of a ringing bell (conditioned stimulus, CS) with the sight of food results in learning, the bell (CS) alone elicits salivation (conditioned response, CR). Classical conditioning pairs a new stimulus with an existing response; thus new responses cannot be produced and the responses concerned are often autonomic.

Thus, there are three stages in classical conditioning:

Stage 1 **:** is the pre-training phase. Food acts as a US and in its presence a dog salivates. US --- UR.

Stage 2 **:** is the training phase, in which the sound of the bell is paired on several occasions with the sight of food, yielding an unconditioned response. CS +US ----- UR.

Stage 3 **:** The mere sound of the bell, in the absence of food, elicits salivation. CS ---- CR.

Thus in classical conditioning, a natural or reflex behavior (salivation) is elicited in response to a learned stimulus (the sound of the bell).

Phenomena associated with classical conditioning:

1. Stimulus generalization:

A dog trained to respond to a particular sound and then tested with a sound of higher or lower pitch will continue to respond. The response to stimuli, which are similar but not identical to the original, is termed stimulus generalization.

2. Stimulus discrimination:

The capacity to respond in the presence of one stimulus and not in the presence of another. A dog can be trained to salivate in response to a high pitch sound but not in response to a low pitch sound.

3. Extinction:

The process by which a response is removed by repeated presentation of the CS (the sound of the bell) in the absence of the US (the food).

4. Spontaneous recovery:

The process where by a behavior, which was extinguished again reappears.

B- Operant conditioning (Skinner): *(Instrumental learning)*

This is based on the observation that behavior, which is followed by a reward, is likely to be repeated, whereas behavior followed by noxious consequences will be eliminated.

An operant is a behavior carried out on the environment. In order to study such behavior, the animal is placed in a box. After a period accidentally the animal presses a lever present in the box. This behavior is rewarded with a pellet of food. After a few such occasions this behavior (pressing the lever) becomes established.

Thus operant conditioning is concerned with the consequences of actions. A response increases in frequency if followed by a reward (positive reinforcement).

Concepts associated with operant conditioning:

Reinforcement:

It establishes a connection between a stimulus and a response, and can be positive or negative. A positive reinforce is a reward; whereas a negative reinforces is the avoidance of an unpleasant event,

both the positive and negative reinforcements increase the rate of behavior, both can be used to reward a desired behavior.

Schedules (patterns) of reinforcement:

1. Continuous reinforcement is presented after every response and is the least resistant to extinction.
2. Fixed reinforcement is presented after a set number of responses (fixed ratio and fixed interval).
3. Variable reinforcement occurs after a random and unpredictable number of responses and is very resistant to extinction. The most rapid acquisition of behavior is associated with variable reinforcement.

Shaping:

Production of new behaviors by reinforcement of natural responses, which approximate to the desired one. It is a procedure whereby behavior already present is used as basis for acquiring new behavior. Patterns of behavior which approximate to the desired are reinforced. In articulate utterances in the case of a mentally retarded child may be used as the basis for language acquisition. Thus shaping involves rewarding closer and closer approximations at the desired behavior until the correct behavior is achieved.

Chaining:

Teaching of complex behaviors by breaking them down into simple components. The first action in the sequence is reinforced once acquired. Reinforcement is given only following both the first and second components and so on until the complete sequences is established.

N.B. Chaining and shaping are extensively used in teaching children with severe learning difficulties.

Punishment:

A noxious stimulus is presented after a behavior to prevent its recurrence in the future. It does not provide alternatives to the punished behavior and may elicit aggression.

Differences between operant and classical conditioning:

Operating conditioning	Classical conditioning
• Behavior determines the effect	• Stimulus determines the behavior
• Responses are voluntary e.g. lever pressing	• Responses are involuntary e.g. salivation
• Involves craniospinal nervous system	• Involves autonomic nervous system
• Animal active	• Passive
• Create novel behaviour and modeling	• No
• Not related to specific stimuli	• Response depends on the stimulus

II-The cognitive approach to understanding learning:

Cognitive learning involves the acquisition of knowledge or understanding and need not be directly reflected in behavior i.e. it involves changes that occur within one's cognitions. Cognitions are mental representations. They include our ideas, beliefs, understanding and knowledge.

Cognitive concepts of learning:

1. Learning sets or learning to learn:

Previous learning experiences can affect present and future learning. In this case making them easier. We can not teach students all the answers of all the questions and problems. Our best hope is to teach them strategies to deal with similar tasks in the future.

2. Latent learning-cognitive map:

When one acquires a cognitive map, one develops a mental representation (or picture) of one's surroundings an appreciation of general location and where objects are located. This is called latent learning, which means the acquisition of information that may not be demonstrated in performance until later.

3. Social learning and modeling:

Learning takes place through the observation and the imitation of models. In such observational learning reinforced behaviors of

valued models are more likely to be imitated than punished behaviors of less valued models.

Learning by observing the consequences of someone else's behavior is called vicarious reinforcement or vicarious punishment,

It is a common form of human learning. Children can learn all sorts of behaviors by watching others or TV.

Application of learning theories in the management of psychiatric disorders:

1- Aversion therapy in the treatment of addition, paraphillias (sexual disorders).
2- Flooding in cases of phobias.
3- Positive reconditioning in nocturnal enuresis.
4- Experimental deconditioning in tics.
5- Systematic desensitizating in phobias.
6- Modeling and reinforcement in mentally retarded and chronic psychotic patients.

Factors affecting learning:

a- Personal factors:

- Intelligence, attention and motivation.
- Physiological state.
- Psychological state.
- Past experiences.

b- Learned material and learning strategy:

- Meaningful more than meaningless material.
- Using of mnemonic devices.
- Selection, emphasizing, summarizing of the learned material.

c- Type of learning:

- Rote learning.
- Content learning better than role learning.

MEMORY

Memory is the information processing and cognitive ability to encode, store and retrieve information.

Functions of memory:

- ***Encoding:*** is the active process or putting information into memory (learning).
- ***Storage*****:** is the process of holding encoded information in memory until the time of retrieval.
- ***Retrieval:*** is the process of using the information, which is stored in memory (remembering).

Theories of memory

There are two current theoretical views of memory:

1. The multistore model suggests that there are three different stores of information, each with its own mechanism for processing information .

2. The levels of processing model suggest that there one memory with three different levels or depths to which information is processed into that memory. Information is moved easily into sensory memory; into short-term memory only by attending to it and into long term memory only when it is elaborately rehearsed.

Anatomical areas involved in memory:

- Hippocampus.
- Temporal lobe.
- Mammillary bodies.
- Amygdala.
- Medial frontal gyrus.

Neurotransmitters involved in memory:

- Acetyl choline.
- Dopamine.
- Some neuropeptides.
- Serotonin.
- Nore-epinephrine.
- Others (protein, DNA, RNA).

Types and levels of memory:

A- Sensory memory:

- Hold large amounts of information.
- Registered at the sense receptors (auditory, visual etc ..).
- Very brief period (visual 1/2 second and auditory 3 seconds).
- It is based on electrical changes.

B- Short term memory (STM):

- Limited capacity (7±2 bits pf information).
- Limited duration (15-20 seconds).
- Limited storage.
- Encoding = we have to pay attention to the information processed.
- Forgetting occur by decay or displacement.
- Information in STM could pass to long term memory LTM by rehearsal or consolidation. It is based on chemical changes and reverberating circuits.

C- Long term memory:

- Unlimited capacity.
- Very long duration.
- Permanent but subjected to distortion or replacement.
- Information stored in organized fashion.

Types:

1. ***Procedural memory:*** Storage of the learned behaviour and skills.
2. ***Episodic memory:*** Storage and record of our life events and experiences it is as autobiography.
3. ***Semantic memory:*** Storage of facts, knowledge and vocabularies.
4. ***Meta memory:*** Storage of principles, laws etc….

It is based on:

- Neurotransmitters (Acetyl choleric mainly).
- Formation of new circuits.
- Protein synthesis involvement of RNA, DNA.

Causes of forgetting:

1- Interference: It can be retroactive or proactive.

a. ***Retroactive interference*** occurs, when previously learned material cannot be retrieved because it is inhibited or blocked by material or information learned later.

b. ***Proactive interference*** occurs when information cannot be retrieved because it is inhibited or blocked by material learned earlier. Retroactive interference is generally more difficult to retrieval than proactive interference.

2. Repression: It is sometimes called motivated forgetting. It occurs when anxiety producing or traumatic events are forced into the unconscious level of the mind (Repression is a concept introduced by Freud).

3- Failure of (encoding): See factors affecting learning.

4- Failure of registration: Consolidation and storage of the learned materials. This may be due to changes in molecular structures in the areas implicated such as hippocampus and limbic system. It may be due to

- Lesion or disease in these areas.
- Being under the effect of narcotics.
- Head trauma
- Disease affect protein synthesis or neurotransmitters

5- Failure of retrieval: It depends on

- The subject's emotional and physical state.
- The subject's interest and psychological state.
- Being under the effect of drugs.

To improve your memory the following guidelines are helpful.

1. **Retrieval:** Tends to be best when the situation in which retrieval takes place, matches the situation that was present at encoding.

The way we retrieve information depends on the way this information was encoded. It was found also that if the individual's state of mind at retrieval is similar to what it was at the time of encoding, this will improve retrieval (State Dependent Memory).

2. **Heightened:** Emotionality at encoding generally creates memories that are easier to retrieve.

3. **Meaningfulness:** In general meaningful material (or material that can be made meaningful) is easier to retrieve than meaningless material.

4. **Mnemonic devices (Encoding devices):** These are strategies used at encoding in order to help organization of the learned material to be retrieved easier e.g. rhyming, chaining, mental images.

5. **Over-learning:** This involves the rehearsal of information (encoding) more than is needed for immediate recall. Within limits the more one over-learns, the greater the likelihood of accurate retrieval.

6. **Schedules of Studying:**

- Massed practice: study or rehearsal in which there is no break or rest in one's practice.
- Distributed practice: the individual uses shorter segments of rehearsal periods interrupted by rest intervals.

In almost all cases distributed practice leads to better retrieval than does massed practice.

Disorders of Memory

A- Amnesia: Partial or total inability to recall past experience.

1. Psychogenic amnesias:

a. ***Anxiety amnesia:*** Anxiety tends to impair perception, concentration, understanding and consequently memory. Depressed and anxious patients frequently complain of loss of memory.

b. ***Dissociative or hysterical amnesia:*** There is loss of memory and identity but personality remains intact. It is often accompanied by a fugue state it is usually circumscribed, related to the conflicting situation.

2. Organic amnesias:

- Transient global amnesia occurred due transient ischaemic cerebral attaches (TICA).
- Retrograde and antrograde amnesia:
    - Retrograde amnesia: amnesia for events occurs before a point of him.
    - Antrograde amnesia: amnesia for events occurs after a point of him.

They may occur in head injuries due to failure of encoding storage and registration of information at the time around trauma.

- Amnesia for recent events occurs early in dementia.
- Amnesia for recent and remote events in advanced cases of dementia.

B- Paramnesia:

- ***Retrospective falsification:*** Memories are modified to be consistent with morbid mood and beliefs. It occurs in depression and schizophrenia. Memory becomes unintentially distorted by being affected by a person's mood thinking and cognitive state.

- ***Confabulations:*** Completely false descriptions of past fictitious events. It is unconscious feeling of gaps in memory by imagined or untrue experiences that people believes but have no basis in facts it is usually associated with organic pathology. They occur in organic brain syndrome.

C- Distortion of Recognition:

- ***Illusion of familiarity*** (dèja vu)**:** is a sense or feeling of having experienced the current novel situation before. It is illusion of visual recognition in which a new situation is in correctly regarded as a repetition of a previous memory.
- ***Illusion of unfamiliarity*** (Jamàis vu)**:** is a sense or feeling of not having experiences the situation. It is false feeling of unfamiliarity with a real situation that a person has experienced.

THINKING

Thinking includes a wide range of mental activities. We think when we try to solve a problem; we think when we daydream. We think when we decide what books to buy, plan a vacation, and write a letter etc..

In all cases, thoughts can be considered as a "language of the mind".

Definition:

Thinking is a mental activity which does not depend directly upon sensory or motor contact with the immediate physical environment surrounding us. Thinking requires the ability to imagine or represent objects and events that are not physically present.

Anatomical sites concerned with thinking:

Cerebral cortex, limbic system, and reticular activating system.

Tools of Thinking:

1. Signals.
2. Symbols.
3. Theories and laws.
4. Images.
5. Language.
6. Concepts.

A Concept is mental event used to represent a category or class of events or objects. It represents categories, classes, or groups of things, not just single individual cases.

It is ideas referred to objects or events formed by noticing similarities and differences among items. So it represents the common properties of a group of different objects.

Phases of Concept formation:

1- Generalization:

Inability to discover differences between familiar and unfamiliar objects.

2- Differentiation:

Making distinction between different items.

3- Abstraction:

Considering common characteristics referred to a group of objects. It is the ability to grasp the essentials of a whole, to break the whole into its parts, and to discern common properties. We can test the ability of abstraction in a patient by giving him proverbs.

Types of thinking:

1- Purposive thinking:

- It is a realistic goal directed thinking which needs attention and lead to exhaustion.
- It is an active process for problem solving.

2- Autistic imaginative thinking:

- It is unrealistic, uncontrolled thinking.
- Not goal directed and do not lead to exhaustion.
- Does not need attention.

Forms:

- Imaginative play in children
- Day dreams.

If moderate it may be beneficial because it is a way of gratifying desires and wishes.

If excessive it may lead to withdrawal from reality and isolation.

3- Controlled imaginative thinking:

- It is a creative type of thinking.
- Controlled and goal directed.
- It passes through these phases.

a- Preparation:

Collection of data for the study problems.

b- Incubation:

A period of unconscious thinking.

c- Inspiration:

Finding a solution.

d- Verification:

To test the solution

This type of thinking is essential for invention of new ideas.

4- Concrete and abstract thinking:

Concrete thinking: is a form of thinking characterized by very simple understanding of presented factors with inability to understand the meaning behind a word or a statement.

Abstract thinking: is a form of thinking characterized by the ability to understand, grasp essentials and the hidden meaning behind a word or a statement.

5- Logical and illogical thinking:

- Logical thinking is the using of relevant data to reach a certain and acceptable solution.
- Illogical thinking is the using of irrelevant data to reach an uncertain and unacceptable conclusion.

Problem Solving

Definition:

It is an active process to resolve a problem. It is a type of purposive thinking and one of the highest cognitive processes.

Steps of problems solving:

1- ***Initiation state:*** Recognition of the problem and definition of the goal.

2- ***State of information gathering:*** Gathering guiding ideas and information and finding the relevance of the gathered information to the problem.

3- ***Solving state:***

- Using tools of thinking.
- Putting different alternative solution.
- Elimination of the non essential information and the irrelevant solution.
- Revising previously similar solved problems.
- Using strategies for solving the problems.

Types of strategies:

Algorithms: Systematic exploring and evaluating all possible solution one by one until the correct one is found. It is time consuming but lead to a sure solution.

Heuristics: A more economical technique for generating possible solution to a problem by putting probabilities and testing them.

Reduction or patristic strategy: Division of the problem into small more manageable sub-problems.

Finding analogue: Recognizing the similarities between current problem and previous problems.

4- ***Evaluation state:***

- Assessment of the results.
- Self criticism.

- We should be flexible and unbiased.

Barriers for effective problems solving:

1- Goal indefinite and ambiguous.
2- Knowledge insufficient and irrelevant.
3- Mental set:
  - Distractibility or inattention.
  - Lack of motivation and persistence.
  - Failure to retrieve memory.
  - Inability to control emotional factors.

4- Attitude: inflexibility and inability to find alternative solution.
5- Strategies used are incorrect.
6- Tools of thinking are insufficient or using unclear concepts.

Disorders of thinking:

1- Disorders of the content of thinking:

a. Preoccupation with obsessions, fears, suicidal thoughts etc..
b. Overvalued ideas: extreme preoccupation with unreasonable idea which determine the entire subject's behaviour.
c. Delusion: false fixed belief based on incorrect inference about external reality, not amenable to discussion, not consistent with the patient's intelligence, education and cultural background.

Types of delusions:

I- Delusions in schizophrenic patients:

Example:

- *Bizarre delusions:* strange false belief e.g. invaders from space have implanted electrodes in person's brain.
- *Persecutory delusion*s: e.g. patient believes that he is being harassed or persecuted or cheated.
- *Delusion of reference*: e.g. patient believes that others refer to him.
- *Delusion of infidelity:* patient believes that his partner is unfaithful.

II- Delusion in depressed patients:

Example:

- *Delusion of nihilism:* patient believes that part of or all his body does not exists.
- ***Delusion of hypochondriasis:*** patient believes that he has a serious illness in spite of reassurance.
- *Somatic delusion:* delusion concerning body functions.

III- Delusions in manic patients:

Example:

- *Delusions of grandiosity:* the patient believes that he is important and powerful.

2- Disorders of the control of thinking:

a. *Thought reading:* The patient's thoughts are being known by others.

b. *Though insertion:* The patient's thoughts are being implanted in the patient's mind.

c. *Though broadcasting:* The patient's thoughts are being broadcasted.

d. *Though withdrawal:* The patient's thoughts are being removed form the patients mind by an external force.

3- Disorders of the form of thinking:

a. Lack of association and incoherent thinking.

b. Poverty of the content of thinking and vagueness.

4- Disorders of the stream of thinking:

a. Fast thinking with flight in ideas as in mania.

b. Slow retarded thinking as in depression.

c. Thought block as in schizophrenia.

SLEEP

Sleep is a recurrent state, during which attention to the surrounding environment is reduced, and from which arousal (spontaneous or induced) is possible, characterized by specific pattern of brain electric activity. In that sense, sleep is different from other states of consciousness like "coma" and "hypnosis".

Sleep consists of two major states:

a) Non rapid eye movement sleep (NREM): (also called "orthodox or quiet sleep"):

- This represents 75-80% of total sleep.
- During NREM, most of physiologic parameter is reduced like heart rate, arterial blood pressure, cerebral blood flow … etc.
- Dreams are rare and not recalled in this state.
- According to EEG, activity it is further subdivided into 4 stages:

1- **Stage I:** Transitional stage, representing only 1-5% of normal sleep.

2- **Stage II:** The beginning of true sleep-represents about 50% of total sleep-characterized by the presence of sleep spindles (12-14 cycles per second waves) with K-complexes.

3- **Stage III-IV:** Also called "slow wave sleep" (SWS).
   - The deepest level of human sleep.
   - Represent 20-25% of sleep
   - Characterized by the presence of slow delta waves (delta waves more in stage IV).

Functions of NREM sleep:

- Restoration of body functions.
- Prevention of lethargy
- Protein synthesis
- Neuro endocrinal functions.

e.g., GH secretion

b) Rapid Eye movement sleep (REM sleep): (also called "Paradoxical, active or dreaming sleep"):

- Represents 20-25% of sleep.
- EEG is desynchronized (saw-tooth).
- EOG (electro occulogram) shows rapid eye movements.
- EMG (electro myogram) show, complete "atorria"
- Dreams occur and are recalled during REM-sleep.
- Penile nocturnal erection occurs in adult males during this state.
- Most of physiological activities are as in awake (heart rate, blood flow …).

Functions of REM sleep.

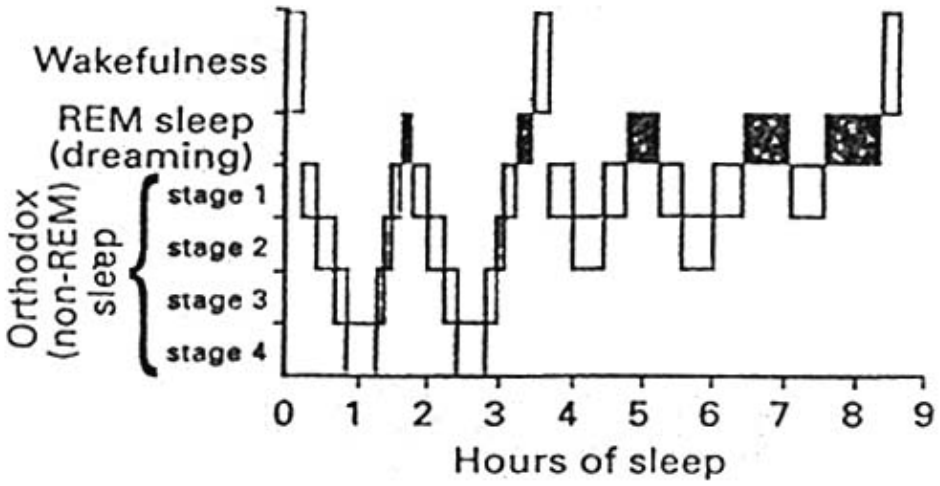
- Memory consolidation
- Ego integrity (though dream work)
- Catecholamine synthesis.

Changes in sleep with age:

- In the newly brow, half of sleep (usually total sleep is 18 hours) is REM. With increased age, REM sleep tends to decreased to be only 20-25% of adult sleep, which is in average 8 hours.
- With increasing age, in the elderly, the total sleep is reduced, with decreased slow wave sleep, and increased naps.

Sleep cycle:

- Sleep usually starts with stage I, followed by stage II & then the deep sleep.
- REM sleep usually starts after 60-90 minutes and the cycle repeats itself across the night. Each cycle usually lasts approximately 90 minutes.
- Most of slow wave sleep occurs in the early part of sleep while most of REM occurs in the late part of night.



Circadian rhythm of sleep and wakefulness:

This is driven of the Supra Chiasmatic Nucleus (SCN) (small cluster of neurons in the hypothalamus), which acts as an "endogenous" pace maker with a 24 hour cycle of electric activity, (endogenous biological clock).

This clock is "set" when light activates retinal neurons → this signal is converged to SCN where it adjusts the timing of pacemaker neurons → this time information is converged to nearly hypothalamus → wake promoting signal → around bed time, melatonin is secreted from pineal gland → inhibits SCN. Once SCN in silenced, sleep quickly follows.

Dreaming:

- This is usually associated with REM sleep.
- All people (and even animals) dream, but not all dreams are recalled. The recall of a dream depends upon several factors, including the stage during which awakening occurred, the emotional content of the dream, etc…
- Several theories have been put to explain dreaming, but from the psychoanalytic point of view, dreams play an important role in

expressing unconscious drives, in a way not producing anxiety, through mechanisms like projection displacement and symbolism (this is called "dream work"), thus dreams are important for ego integrity.

Hypnosis:

- Hypnosis is an induced state of selective consciousness and attention, during which the subject is focusing his perception mainly on certain stimuli (the hypnotizer), with psychophysiologic changes that render him more amenable to suggestion.
- Not all people can be hypnotized to the same degree of "trance", and brain electric activity during hypnosis is the same like "awake", without the characteristic changes found in natural sleep.
- Hypnosis has its indications in medical practice like: as a tool of relaxation, control of some psychosomatic symptoms, pain control, as a tool or vehicle for abreaction. etc…

Circadian Rhythm

Definition:

The pattern of biological changes which last about, but usually not exactly 24 hours,

Examples:

I- Body temperature: Lowest in the early morning hours, highest in the early evening.

II- Plasma cortisol levels.

III- Performance: Highest in the afternoon and early in the evening (increased metabolic activity).

Clinical implications:

a- Medical staff:

- Work shifts: Can affect performance efficiency and sense of well being, maxing during the first night of a night shift.
- Jet-lag affect.

b- Patients:

- ***Many diseases*** e.g. bronchial asthma, diabetes mellitus, leukemia, and pulmonary oedema.
- ***Sensitivity to treatment:*** e.g. oral histamine (prolonged if given in the morning), insulin, others.
- ***Pain threshold:*** shows peak intensity in the early evening.

Developmental Psychology

From conception to death, all of us as human beings share certain developmental events that unite us as one species. Developmental psychologists are interested in the common patterns and the ways we differ as we grow and develop throughout our lives.

The general traits, ideas, attitudes and habits that are formed in this period of development of the human organism from conception through childhood remain with us well into adulthood.

Developing organisms demonstrate a capacity to be molded and shaped by the environment. This capacity is called **plasticity**.

Prenatal Development

Human development begins at conception, when the father's sperm cell unites with the mother's ovum. At that time 23 chromosomes from each parent pair off within a single cell: the zygote.

The period from conception to birth is called the prenatal period of development.

Physical Aspects of Prenatal Development

This prenatal development is divided into three different stages:

1- ***The stage of the zygote:*** in the prenatal development the period from conception through the first two weeks.
2- ***The stage of the embryo:*** in prenatal development the period from two weeks to eight weeks following conception.
3- ***The stage of the fetus:*** in prenatal development, the period from two months after conception until birth.

Environmental Influences on Prenatal Development

1. Nourishment

When pregnant women eat poorly their unborn children may share in the results. It is also the case that deficiencies in specific vitamins and minerals also affect the prenatal organism.

2- Drugs and chemicals

Smoking has harmful effects on the unborn child. It may simply be a matter of reducing the oxygen supply being passed on to the fetus. Tar and nicotine of the smoke act directly as poisons. Mothers who smoke 20 or more cigarettes per day double the chances of having a low weight baby. They also have many more miscarriages and still births.

Alcohol is quickly and directly passed through the umbilical cord from the drinking mother to the fetus. Heavy drinking increases the probability of having smaller babies and babies with retarded physical growth, and intellectual retardation.

Some drugs taken by a mother, like the antibiotic tetracycline for example, passes through to the developing fetus and is deposited in the teeth and bones coloring them yellow. Tranquilizers can also have hazardous effects on the fetus.

3. Maternal stress

Emotionality is accompanied by hormonal changes and these hormonal changes may have some influence on the development of the embryo; or fetus. It is also the case that when a pregnant mother is under stress, the blood flow in her body, for a short while at least, is diverted from the uterus to other organs in the body, reducing the amount of oxygen available to the prenatal organism.

I. Physical and Motor development

A neonate is the newborn child from birth through the first two weeks. Almost all of the behaviors at this stage are reflexive, simple, unlearned and involuntary reactions to specific stimuli. Many of the neonate's reflexive responses serve a useful purpose; they help to

respond to a basic need. They can be used as diagnostic indicators of the quality of the neonate's development.

a. The Motor Development of Children

Regardless of the rate of one's motor development there are regularities in the sequence of one's development. We have to stand before we walk and walk before we run. In these basic motor skills there are no significant sex differences.

b. Sensory and Perceptual development

Neonates can and do respond to a wide range of stimuli in their environments. In fact; all of human's sensory modalities are functioning at birth. They develop in the following order: touch, body position, balance, taste, smell, hearing and finally vision.

The neonate may require some time to learn what to do with the sensory information. What the newborn makes of the sensations it receives will depend upon the development of its mental and cognitive abilities. This is the subject we turn to now.

II- Cognitive and Social development:

Cognitive, processes are those that enable us to know and understand ourselves and the world around us. Our major focus will be on theories of Jean Piaget. Then we shall consider development from a more social perspective, considering the psychosocial theory of Erik Erikson and Lawrence Kohlberg's theory of moral development.

Piaget's theory of cognitive development

In Piaget's theory cognitive development amounts to acquiring schemas, which are organized mental representations of the world. Children develop a schema for "father", for "mother" for "eating breakfast" and for "bedtime" for example. The function of the schemas is to aid the child in adapting to the demands and pressures of the environment. Schemas are formed by experience. Organizing and forming mental representations of the environment involve two basic processes: **assimilation and accommodation**.

Assimilation involves taking new information and fitting it into an existing schema. When a child develops a schema for "dogs", he or

she may assimilate the neighbors "cat" into the same schema simply by enlarging it.

Accommodation involves changing and revising existing schemas in the face of new experiences or new information. Learning that mother and father will not always come running down when one cries may require an accommodation.

i. Sensorimotor stage (ages 0 - 24 months)

In this sensorimotor stage children discover by sensing (sensori) and by doing **(motor)**. One of the most useful schemas to develop in this stage is that of **causality**. Pushing a bowl of rice off the high chair causes a mess and gets mother's attention. If (A) happens then (B) will happen- a very practical insight. By the end of the sensorimotor period children have learned that objects can exist even if they are not physically present, and children can anticipate their reappearance. This awareness is called object permanence. One of the skills that best characterize the sensorimotor period of development is that of incitation.

ii. Preoperational stage (ages 2 - 6 years)

Throughout most of the preoperational stage, a child's thinking is self centered, or egocentric. According to Piaget the child has difficulty understanding life from someone else's perspective. In this stage the world is very much "me", "mine" and "I" oriented. Children begin to develop and use symbols usually in the form of words to represent concepts.

iii. Concrete operational stage (age 7 to 12 years)

This stage is characterized by the formation of concepts, rules and ability to solve conservation problems. Children can organize objects into classes or categories of things. Conservation involves the - cognitive awareness that changing the form or appearance of something -does not necessarily change what it really is.

iv. Formal operational stage (Ages over 12 years).

This stage is characterized by abstract symbolic reasoning.

Summary of Piaget's stage of cognitive development

1. Sensorimotor stage (Birth to age 2 years)	- "Knows " through active interaction with environment, - becomes aware of cause effect relationships, - Learns that objects exist even when not in view, - Imitates crudely the actions of others
2. Preoperational stage (2 years to 6 years)	- Begins by being very egocentric - Language and mental representations develop - Objects are classified-on just one characteristic at a time
3. Concrete operational stage (ages 7 to 12 years)	- Develops conservation of volume, length, mass etc. - Organizes objects into ordered categories - Understands relational terms (e.g. bigger than, above etc.) - Begins using simple logic
4. Formal operational stage (ages over 12 years)	- Thinking becomes abstract and symbolic - Reasoning skills develop - A sense of hypothetical concepts develops

Reaction to Piaget:

The two major criticism of Piaget's theory are that:

1. The borderlines between his proposed stages are much less clear-cut than its theory suggests.
2. Piaget significantly underestimated the cognitive talents of preschool children.

A further criticism is that Piaget's theory gives little attention to the impact of language development. Some children may appear to fail at a task designed to measure a cognitive skill simply because they lack the word to describe what they know or because the tasks puts too great a strain on their abilities to remember.

III. Erikson's' theory of psychosocial development:

Erikson's' theory lists eight stages of development through which an individual passes. These stages are not so much periods of time as they are a series of conflicts or crises that need to be resolved. Each of the eight stages can be described by a pair of terms. Erikson's view of development is that it covers the entire life span, while Piaget focused only on the stages of development of children.

Erikson's eight stages of psychosocial development (Erikson, 1963)

Age	Crisis	Adequate Resolution	Inadequate Resolution
0 – 1.5	Trust vs. mistrust	Basic sense of safety	Insecurity, anxiety
1.5 – 3	Autonomy vs. self doubt	Perception of self as agent capable of controlling own body and making things happen	Feelings of inadequacy to control events
3 – 6	Initiative vs. guilt	Confidence in oneself as initiator, creator	Feeling of lack of self worth
6- puberty	Competence vs. inferiority	Adequacy in basic social and intellectual skills	Lack of self confidence, feelings of failure
Adolescence	Identity vs. role confusion	Comfortable sense of self as person	Sense of self as fragmented, shifting, unclear sense of self
Early adult	Intimacy vs. isolation	Capacity for closeness and commitment to another	Feeling of aloneness, separation, denial of need for closeness
Middle adult	Generativity vs. stagnation	Focus on concern beyond oneself to family, society, future generations	Self indulgent concern, lack of future orientation
Later adult	Ego-integrity vs. despair	Sense of wholeness, basic satisfaction with life	Feelings of futility, disappointment

IV. Kohlberg's theory of moral development

A child's notion of right and wrong depends on the development of basic concepts, rule learning and understanding the bases for rules. All of concerned with rules, justice and an individual's rights. They deal with moral dilemma problems differently than do females, who are more concerned with caring, personal responsibility and interpersonal relationships.

Level	Age	Stage	Orientation	What is right?	Should Heinz steal a life –saving drug for his wife?
Preconventional	Up to age 7	1	Punishment	Obeying and avoiding punishment from a superior authority	No-he will be jailed
		2	Reward	Making a fair exchange, a good deal	Yes-his wife will repay him later
Conventional	Up to age 13	3	Good boy-girl	Pleasing others and getting their approval	Yes-he loves his wife and she and the rest of the family will approve
		4	Authority	Doing duty, following rules and social order	Yes-he has a duty to care for her or No because steal is illegal
postconventional	Up to and including adulthood	5	Social contract	Respecting rules and laws, but recognizing that they might have limits	Yes because life is more important than property
		6	Ethical principle	Following universal ethical principles such as justice, reciprocity, equality and respect for human life and rights	Yes-because of the principle of preserving and respecting life

Developing Social Attachments

Attachment is defined as a strong two-way emotional bond usually referring to the relationship between a child and its mother or primary caregiver. Harlow et al. raised some baby monkeys with their biological mother and raised others in cages containing artificial mothers, those artificial mothers were models made of harsh wire, and one was covered with a soft cloth. The monkeys preferred the soft model indicating that rhesus monkey mothers provide more to their young than just food.

Social Psychology

Social Psychology is the field of psychology that is concerned with how others influence the thoughts, feelings and behaviours of the individual. Social psychologists focus on the person or individual not on the group per se (which is more likely to be the concern of sociologists)

Social cognition:

The ways by which, we perceive and evaluate others and ourselves in different social situations. Our attitudes are colored by what is called social cognition.

Stereotypes and norms are sets of ideas or beliefs (cognitions) that we form about our social world.

Stereotype:

A stereotype is a generalized mental (cognitive) representation of someone that minimizes individual differences and is based on limited experience. In other words, **stereotypes** are the perceptions, beliefs, and expectations a person has about members of some group usually, they involve the false assumption that all members of a group share the same characteristics. Stereotyping often leads to **prejudice**, which is a negative attitude, or a cluster of negative beliefs, toward an individual based simply on his or her membership in some group

Norm:

We all develop a complex set of rules or expectations about how to behave. This guides and directs our social actions. A norm is a description of how we ought to behave in the context in which we are living.

Attitude:

An attitude is a relatively stable and general evaluative disposition directed toward some object. It consists of feelings, behaviors and beliefs.

It is **evaluative** because an attitude is usually with or against, positive or negative.

It is a **disposition** because it is a tendency or preparedness to respond to the object according to our attitude. However we may not carry out this response.

An attitude needs an object for the attitude. We have attitudes towards or about something or somebody.

Structure of an attitude:

1. **Affective** component, which is how we feel about the object (feelings)
2. **Behavioral** component, which is how we tend to act towards the object of our attitude (behaviors)
3. **Cognitive** component, which is what we think about the object (beliefs)

In many cases the three components are consistent. Ideally there should be consistency between one's attitude and most behaviors.

Usefulness of the attitude:

1. Social identification function
2. People knew each other from their attitudes.
3. Attitudes of people indicate their beliefs
4. Predictability of the person’s behavior
5. Impression management function

To give selective or false impression about the self in certain situations.

Attitude formation

Attitudes appear to be learned. The question is how they are learned.

1. **Classical conditioning:** Some attitudes are acquired through the simple process of classical conditioning. Pleasant events (unconditioned stimuli) are paired with an attitudinal object (conditioned stimulus). As a result of this association the attitudinal object comes to elicit the same good feeling (a positive evaluative response) that was originally produced by the unconditioned stimulus. This mechanism is very much used in advertisements.
2. **Operant conditioning:** Attitudes can also be formed as a result of the direct reinforcement of behaviours consistent with some attitudinal positions. Several studies have shown that verbal reinforcement when someone claims agreement with attitudinal statements leads people to develop attitudes consistent with the position expressed in those statements.
3. **Observational learning:** People often tend to imitate behaviour that has been reinforced in others. When we perceive that others are gaining reinforces for having or expressing some attitude we are likely to adopt that attitude ourselves.

Attitude change and persuasion

Persuasion is the process of consciously and intentionally attempting to change the attitude of others.

1. **Cognitive dissonance theory:** Behavior should follow from attitudes and attitude change should lead to behaviour change, if our behaviour is different than our attitudes for one reason or another a state of tension is created because the balance is not there between what we believe, feel and how we behave. To reduce this dissonance we may chose to change our behaviour to match our feelings.

2. **Cognitive Response theory:** This theory suggests that the recipient of a persuasive communication is not at all passive. Rather the person whom you are trying to convince is an active information processor who generates cognitive responses or thoughts about the message you are transmitting. These cognitive responses may be favorable agreeing with and supportive of the message, or they can be unfavorable and disagreeing with the message.

Factors affecting the extent of persuasiveness of the message:

a. The quality and intensity of the message can influence the extent of persuasion:

When the message consists of strong arguments then agreement with the message would be slightly reduced if there is strong distraction. If the argument is weak then increased distraction reduces the amount of
disagreement because it prevents the listener from forming counter arguments.

b. Source of persuasive communications:

The source conveying the persuasive message plays a crucial role in making the persuasion successful. There are several factors involved in what we call credibility. Two are most important:

Expertise and Trustworthiness*:* The greater the perceived expertise of the communicator the greater the amount of persuasion. Also more attitude change results when subjects overheard a persuasive method rather than being themselves addressed by the message. The belief that their persuasion was not planned makes them more ready to accept the message.

Attribution theory:

Attribution theory tries to understand the cognitions we use in trying to explain behaviour, both ours and that of others.

Do we attribute behaviours or events to internal or external sources, to personal dispositions or to environmental situations?
Is behavior caused by the person or by the environment?

Internal attributions explain the source of behavior in terms of some characteristics of the person, often a personality trait or disposition.

External attributions explain the sources of behaviour in terms of the situation or social context outside the individual. They are also called situational attributions.

The type of attribution is determined by a combination of three factors:

1. Consensus:

- Other persons do not react to this stimulus in the same manner = low consensus
- Other persons do react to this stimulus in the same manner = high consensus

2. Consistency:

- This person reacts to this stimulus in a similar manner on other occasion's = high consistency
- This person doe not react to this stimulus in a similar manner on other occasions = low consistency

3. Distinctiveness

- This person reacts in the same manner to other different stimuli = low distinctiveness
- This person does not react in the same manner to other different stimuli = high distinctiveness.

- A person's behavior can be attributed mainly to his or her traits or motives (internal factors) if their behavior shows low consensus, high consistency and low distinctiveness.
- A person's behaviour can be attributed to environmental causes (external factors) if his or her behaviour show high consensus, low consistency and high distinctiveness.
- A person's behavior is a **mixture of both** when his or her behavior shows low consensus, high consistency and high distinctiveness.

Why do we make wrong attributions to behavior?

1- Fundamental attribution error: This is the tendency to attribute the behaviour of others to internal, personal attributions and to minimize the effect of situational factors or circumstances.

2- Just world hypothesis: The assumption that the world is just and therefore everybody ultimately gets what they deserve.

3- Actor-observer bias: This is the overuse of internal attributions to explain the behaviour of others and external attributions in explaining the same behaviour when we do it.

Interpersonal Attraction

Interpersonal attraction involves positive feelings, beliefs and ideas which one person has about another. Attraction can be seen as an attitude (a favorable attitude).
How is it formed?

Theories of interpersonal attraction:

1. **Reinforcement model:** We learn to like people and become attracted to them through conditioning. We associate them with rewards or rein forcers that are present when they are present. We tend to be attracted to those people. We tend not to be attracted to people whom we associate with punishment.

2. **Social exchange model:** People get attracted to each other when they feel that what they will get from this attraction will be rewarding. The attraction involves a cost benefit assessment.
3. **Equity model:** This is an extension of the social exchange model. One does not get attracted to somebody else depending only on what one, will get out of the attraction but also depending on what this other person will equally get out of it. Both members of a relationship feel they are getting what they want out of the relationship.

In all three models the assessment of the cost benefit of a relationship is rarely done on a conscious level.

Factors affecting attraction:

What determines what we shall be attracted to? What factors represent the reward in interpersonal attraction?

1. **Reciprocity:** We like people who like us. The fact that people like us is a positive rein forcer for us to like them back. If this liking follows a neutral attitude then we tend to like those people more, because then we know that their liking as is related to us and not only to their nature. We attribute their liking to factors in us and not to their internal factors.
2. **Proximity:** Physical closeness tends to produce liking. Being around others gives us the opportunity to discover just who can provide those interpersonal needs we seek in friendship. Another explanation for this factor is presented in the mere exposure phenomenon, which says that liking tends to increase with repeated exposure to stimuli.
3. **Physical attractiveness:** Physical appearance rates highly as a factor in attraction. The better looking the person, the more likely it is that others will find him or her attractive. It has been shown that attractive persons are assumed to have other desirable characteristics as well. People would take them for more intelligent, richer, with happier marriages, more successful, happier in their social lives etc. without having any details about their real life situations. This attitude is called physical

attractiveness stereotype, which is the tendency to associate desirable characteristics with a physical attractive person only on the basis of attractiveness.
Strangely when it comes to choosing partners, researchers noticed what they called **matching phenomenon**. This is the tendency to select a partner whose level of physical attractiveness matches our own.

4. **Similarity:** There is a very positive relationship between liking and the proportion of attitudes that we have in common with the person that we like. To put it simply: We tend to like people who are like us. This similarity enhances interpersonal attraction, which can be understood as part of the reinforcement theory of attraction. Agreement with our attitudes is reinforcing: it confirms that we are right. And people who are similar to us tend to agree with us. This bond usually holds relationships for long times.

Social Influence

Conformity

One of the most obvious and direct forms of social influence occur when we have to change our behaviour so that it is consistent with the behaviour of others. This process is called conformity.

Asch studies

Asch believes that people are not susceptible to social pressure when the social situation is clear-cut and unambiguous. If the situation is clear people behave independently of group pressure.
When the situation is not clear, subjects would need at least a small social support in order to trust their own judgment. The minority opinion can have significant effects on conformity, if that minority position is maintained consistently.

Obedience to authority

Extreme blind obedience to authority can have negative consequences. If an individual is exposed to orders that are against his or her wishes, and if there seems to be no escape from those orders, the majority would obey. The more direct the order, face to face, the more the obedience. The presence of a single individual who disobeys reduces the rate of obedience.

People tend to rely on others for help in determining social reality when ambiguity is present. The ambiguity can arise when there is conflict between what one feels is right and that which others say is right. It also arises when there is conflict between what the subject feels is the light and proper thing to do and what an authority figure says must be done. People usually have the tendency to accept perceived authority without questioning it. From very early in life we are conditioned to obey our parents' teachers, police officers etc.

Bystander Intervention

What are the social factors that can influence people to intervene or not to intervene in an emergency situation?

1. Emergencies happen quickly. People generally are not prepared to deal with emergencies when they do arise.
2. The risk of physical injury
3. Avoidance of legal consequences.

A series of cognitive events must occur before a bystander can intervene in an emergency:

1. The bystander must notice what is going on
2. He must interpret it as an emergency
3. The person should feet it is his or her responsibility to intervene
4. The person must decide how to act

A negative outcome of any of these steps of decision making will lead the bystander to decide not to offer assistance..

Bystander effect:

1. **Audience inhibition:** refers to our tendency to hesitate in doing things in front of others especially when the others are strangers. We tend to be concerned about how others will evaluate us. No one wants to do things that appear silly or incompetent
2. **Pluralistic ignorance:** the lack of social reality makes intervention more difficult. If no one deals with the situation as an emergency, everyone else will tend to do the same. The group is then paralyzed in a sense and the phenomenon is conformity to the inaction of others. The inaction of a few can delay the action of several.
3. **Diffusion of responsibility:** A single bystander must bare the responsibility alone for offering assistance, but the witness who is part of a group shares that responsibility with others. The greater the number of other people present the less is each individual's personal obligation to intervene.

Psychosocial law: (Latane)

Each person that is added to a group has less impact on a target individual than the previous person to join the group. In terms of helping in an emergency, for example, this means that adding one other bystander beside yourself to the situation should decrease significantly your likelihood of responding. If however you were in a group of 49 bystanders, a fiftieth person would have little effect on the chances of your helping.

Social loafing (Latane, William and Harkins)

People tend to work less or decrease one's individual effort as the size of the group in which one is working becomes larger. This is more so, if one's individual performance cannot be identified or if the individual has no particular stake in the outcome of the performance.

Social facilitation and social interference.

1. **Social facilitation** is improved performance due to the presence of others and social interference is impaired performance due to the presence of others. Social facilitation occurs whenever the behaviour under study was simple routine or very well learned.
2. **Social interference** on the other hand tended to occur whenever the behaviour involved was complex or not well practiced.

Zajonc explained that the presence of others increases arousal. When the task at hand is routine or well learned, this arousal facilitates performance. If it is complex or not well learned this arousal impairs performance.

Decision making in groups

1. **Risky shift:** Stoner (1961) found that decisions given by a group were generally much riskier than when the individuals of that group would have to make a decision each on his or her own.
   A move away took place from conservative decisions. This effect can happen in the opposite direction too,
2. **Group polarization:** This is the tendency for members of a group to give more extreme judgments following a discussion than they give initially. It seems that when people in a group compare their attitudes with those of others, some group members feel pressure to catch up with other group members who are more extreme in their position.
3. **Groupthink:** It is a style of thinking of cohesive groups concerned with maintaining agreement to the extent that independent ideas are discouraged. The prime objective of the group is rather to remain in harmony within the group rather than express their different opinions. The result is that differences in opinions are suppressed.

Watching Violence:

Almost all studies reviewed over the past ten year indicate that television increases aggressive behaviour, especially of children. The mechanism is that of direct imitation/desensitization After repeated watching of violence on TV one becomes adapted and more tolerant to the issue of violence. The problem is that many of the films involving violence are cartoon films.

Solution:

1. Restrict overall TV time
2. Encourage some programs and discourage violence
3. Watch TV with children and comment on behaviour. Children tend to imitate what is being rewarded and not to imitate things that are being punished.

Aggression and Violence

DEFINITION:

Aggression

It is a form of behavior directed toward the goal of harming or injuring or inflicting damage upon other individual who motivated to avoid it:

There are different forms of aggression

1. The tendency to be physically assaultive: violence - force
2. Indirect expressed hostility
3. Verbally expressed anger
4. Humor (jokes)
5. Rumors

Violence

- It is the pursuit of aggression by force.
- It is form of destructive behavior that can endanger life or produce adverse effects on victims.

Excitement

It is the increased psychomotor activity and extensive psychiatric activity, often accompanied by automatic hyperactivity.

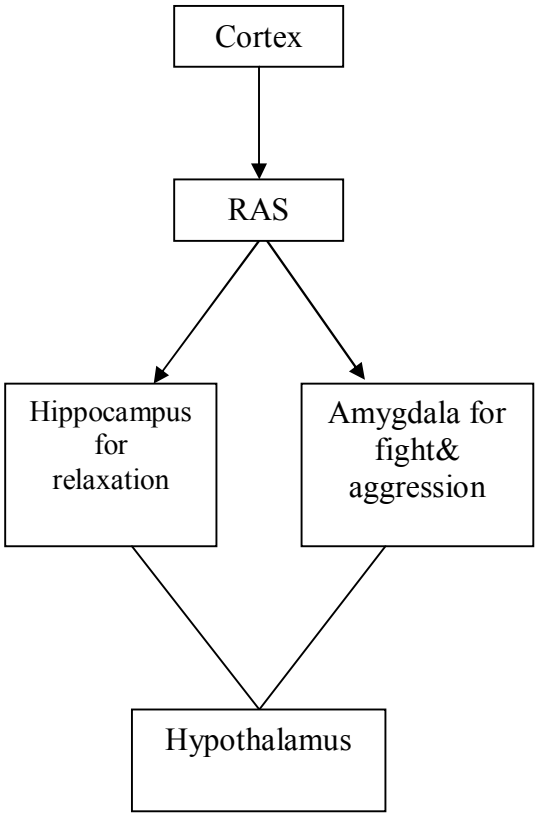
Models and Perspectives of Aggression

1- Biological Model of Aggression

A) Anatomical Basis of Aggression (Neural Substrates):

There are areas in the brain suspected to be involved in aggression and attack behavior.

I: limbic System:



II : Amygdala :
III : Temporal Lobe :
VI : Hypothalmas
V : Reticular Activity System
IV : Cerebral Cortex (which control and modulate aggressive behavior

EVIDENCES

Clinical Evidences

- Temporal lobe lesion: may be associated with explosive aggressive behavior.
- Temporal lobotomy alleviates aggression.
- Birth trauma, head injury and intra-cerebral infections affecting temporal lobe limbic system lead to aggression.

Experimental Evidences

- Over stimulation of amygdala in temporal lobe leads to aggressive behavior.
- Lesion or removal of amygdala leads to unusual tameness.
- Bilateral lesion of temporal lobes or amygdala decrease aggression (Kluver-Bucy) syndrome
  The animal becomes hypersexual, apathetic, and over eating behavior).
- Sham-rage reaction: loss of inhibition on amygdala.

Pharmacological Evidences

- Antiepleptic drugs may be used in aggression.

B) Chromosomal Abnormalities and genetics:

Twin Studies:

Concordance rates for monozygotic twins is higher than dizygotic as regards aggressive behavior.

Pedigree Studies:

Some studies showed that persons from families with history of aggression are prone to violent behavior.

Chromosomal Influence:

Most researchers concentrated on XYY syndrome in which the individual is tall, below average intelligence, more likely to be engaged in criminal behavior.

Some certain genetic inborn error metabolic disorders :

It is reported to be associated with aggression. e.g. Sanphillipos syndrome, Lish Nyhan Syndrome, Vogt Syndrome and phenyl ketonuria .

Genetically Determined diseases

Of 5HT transporter lead to serotonin deficiency and aggression.

C) Biochemical and hormonal substrate of aggression:

Neurotransmitters:

Different neurotransmitters are involved in aggression.

Neurotransmitters	Role in Aggression
5HT	Impulsive behavior
NE	Arousal
DA	Psychomotor agitation
GABA	Disinhibition

Neuroendocrinal

Hormone:

Hormone	Role in Aggression
Estrogen	Decrease aggression in the receptive period
Progesterone & LH	Increase aggression
Prolactin	Increase aggression (in birds)
ACTH	Modulate aggressive behavior
Testosterone & Anabolic Steroid	Increase aggressive behavior
Thyroid Hormones	Increase aggression

2) Psychological Models of Aggression

Aggression as an instinctive behavior:

A) Psychoanalytical Theories:

I- Freudian

1- Aggression is an inborn behavioral pattern of human being who is constitutionally programmed for such behavior. So aggression is an innate drive for destruction (thanatos) Freud believed that human behavior stemmed from complex interplay between two basic instincts (Eros life, sex, reproduction) and (thanatos, death, aggression, destruction).

2. Aggression is developed:

- During the oral stage when the pleasure of biting (aggressive drive) is added to that of sucking.
- Aggression may arise due to inhibition of the expression of the instinct e.g.:
  Fixation on the oral stage of psychosexual development may lead to sadistic personality development, due to attempts of the mother to enforce toilet training by severe and punitive repression of the pleasure giving impulses.

3. Aggression may be due to impaired development of superego.

4. Aggression may be secondary to defensive mechanisms e.g.

a. Projection

- Aggressive feelings are projected to protect the ego from being disorganized by the effect of aggression, hate or guilt.
- A person who believes that he is persecuted may use this belief as a justification for attacking others.
- He feels pleasure without feeling guilty because his aggressiveness is justified.

b. Narcissism: The narcissistic person is at continuous threat to his narcissistic ego so he may react to this threat by violence against imagined humiliation.

c. Repression: a complex is a group of associated ideas with affective accompaniments. There are sudden emotional outbursts and aggressive behavior with slight stimulus. There is marked disproportion between the stimulus and the behavioral reaction.

d. Introjection: of love hate feelings towards a desire for the ego may lead to violence

e. Displacement: violent emotions are transferred from the original object to a different one.

5. Aggression: due to impaired mother-child or parent-child relationship

Children of punitive parents are described by their peers as being more aggressive than children of non - punitive parents.

- There is also significant sex differences regarding aggression in children being more in boys.
- Even socio - economic status can influence in a complex way both the child's aggression and the parents' punitiveness or permissiveness.

Comment

- Freud believed that the discharge of the destructive energy of thanatos may be through (catharsis), which is an expression of aggression related emotions.
- Freud had a gloom pessimistic view because he considered aggression as innate, inevitable, not to be avoided, lead to self or others destruction.

II- Lorenz's view:

Aggression springs from a (fighting instinct) which developed during evolution and served important functions to protect human territory.

He viewed aggression as a useful goal to direct behavior leading to creativity and environmental mastery, so he considered that civilization was reached through aggressive behavior.

Comment

His view is an optimistic one because he believed that individual could rechallenged his aggressive feeling to non injurious acts. Also love, friendship may block aggression.

III- Adller's view:

Aggression is due to the striving for superiority and perfection

VI- Mc Dougall's view:

He stated that aggression is an instinct. The civilized man modifies these motives and usually replaces physical aggression and destruction with sarcastic smiles, polished insulting words. Only when these methods fail, may the individual regress to the primitive and childish ways of behavior.

B) Humanistic theory

Basic concept: (aggression is a drive)

i- **Aggression:** is an elicited drive depends on external factors (e.g. pain, humiliation, loss of faith etc.). These various external condition lead to arousal of a strong motive to engage in harm producing behavior and over assault of others.

ii- **Aggression:** is a drive arise from deprivation from basic human needs (Abraham Maslow)

Control of aggression provide individual with accepting environment, fulfill his basic needs, let him express himself without being humiliated.

Aggression is evitable through satisfaction of human needs.

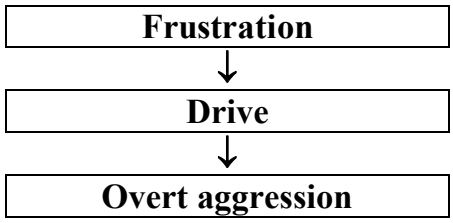
iii- **Aggression:** is product of frustration

(Frustration – Aggression theory):

Frustration is the result of blocking or interfering with ongoing goal directed behavior.

Frustration leads to arousal of drive whose primary goal is harming some person or objects.

External stimulus



Comment

1- Aggression may result from direct or external frustration but from combination of other responses such as ambivalence. Aggression need not to be even intentional.
2- Aggression is not only influenced by frustration and the individual's own psychopathology but also by social factors.
3- Frustration may lead to other behaviors such as, apathy, depression, stereotype, not only aggression.

Control of aggression

Aggression is inevitable because external sources are impossible to be avoided.

C) Social Learning Theory

Basic concept: Aggression is a learnt social behavior (can be learned, acquired and maintained).

Albert Bandura's View:

Persons are engaged in aggression because:

1. They acquired aggressive responses through past experiences as aggression is learned if associated with reinforcement.
2. They receive, anticipate or observe others receiving rewards for performing aggressive behavior. (Direct, indirect reinforcement).

3. Aggression is not attributed to a small number of potential causes but result from a wide range of external social and situational stimuli.
4. Human beings are not born with a large repertoire of aggressive responses but it must be acquired like any complex behavior and reinforced by rewards.

Control of aggression

1- Optimistic view

- It is evitable (if not learned) or
- Behavioral therapy for extinction of the unrequired behavior (If discontinued).

2- Pessimistic view

- Learning of aggression could be
  - i- **Observational** learning (watching others, TV etc)
  - ii- **Disinhibition** restraints are weakened as a result of observing others engaged in aggression behavior.
  - iii- **Desensitization** individual responsivity to aggressive actions are reduced if they are consequent (little emotional arousal as a result of such stimulus).

D) Cognitive theory

According to Piaget aggression is due to a cognitive process, which involves perception, thinking and memory.

Control of aggression Is possible by cognitive psychotherapy

Determinants of Aggression

A) Social determinants

1. Frustration
2. Direct provocation from others (physical abuse or verbal insults) serve as powerful determinant of aggressive action; once it begins, it shows an unsettling pattern of escalation.
3. Exposure to aggressive models:
   A link between aggression and exposure to aggressive models e.g. cinema or TV aggression.
   Mechanisms that viewers acquire the aggressive behavior will be through observational learning, disinhibition and desensitization.
4. Lack of social skills such
   - Inability to communicate or negotiate may lead to aggression e.g. those with low IQ. are aggressive
5. Peer influence
   - In Mob psychology: Aggression due to
     - Heightened arousal
     - Deindividuation
     - Displaced aggression

N.B. *Individual who is exposed to aggressive assaults or who watch models of aggression will be aggressive.*

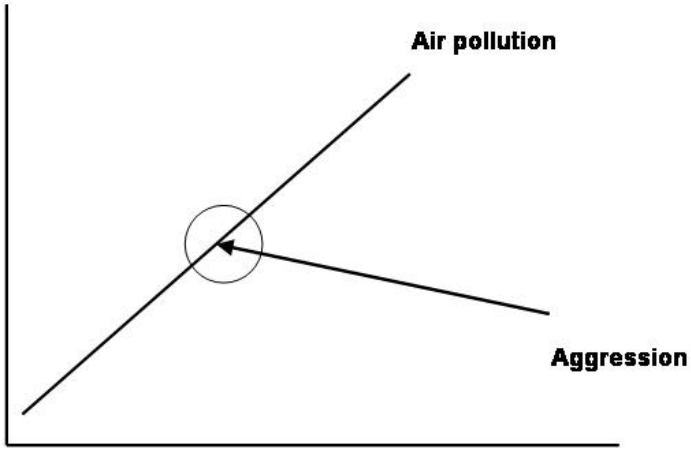
B) Environmental determinants

Aggression is influenced by physical environmental factors:

1- Air pollution

Exposure to noxious odours, fumes, cigarette smoke produce irritability and aggression.

Up to a certain limit, when the odour becomes foul the aggression tend to decrease because of escaping from the unpleasant environment.

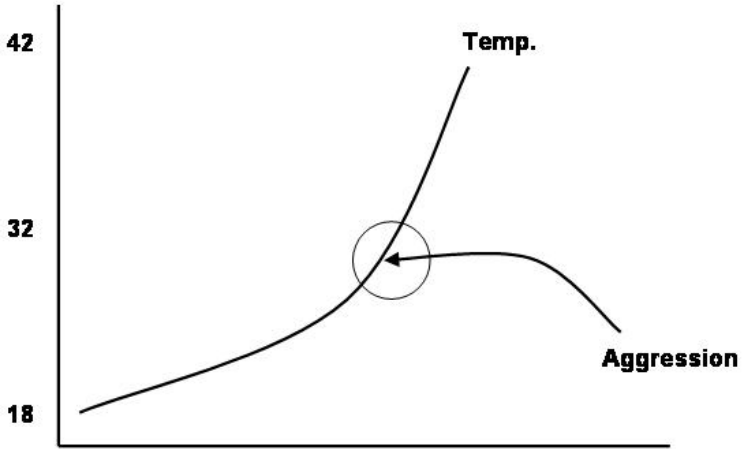


2- Noise

Exposure to loud: irritating voice will increase aggression

3- Crowding

Over crowding may produce elevated levels of aggression.



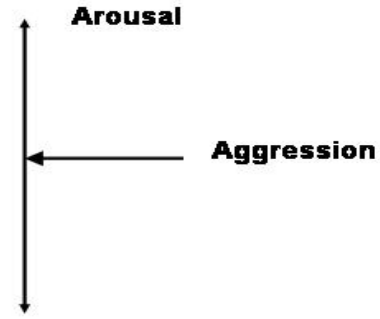
4- Heat

Increased temperatures (>32c°) facilitate aggression (long hot summer) but if too much it will not induce aggression

C) Situational Determinants (physiological)

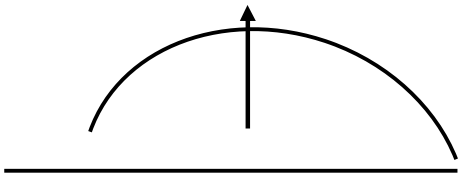
1- Heightened physiological arousal due to

- Stress producing situation
- States of anxiety
- Participation in competitive activities
- Vigorous exercise
- Exposure to films or matches that produce arousal



2- Sexual arousal

Relationship between degree of sexual arousal and strength of physical aggression takes a U shaped form with minimal level of aggression occurring in presence of mild sexual stimulation and stronger levels with higher degree of stimulation.



3- Pain

Physical pain may arouse aggressive drive but up to limits as severe pain may hinder aggression.

Prevention and Control of Aggression

Aggression stems from different sources so control of it needs a comprehensive global approach.

1- Punishment

Impact of punishment in aggression is complex

- Sometimes may be an effective deterrent to overt aggression if it is delivered immediately after aggression.
- The recipient of punishment may respond to punishment by more aggression.
- If the punishment delays it will not be associated with decrease of the aggressive punished behavior.
- Persons who administers punishment may serve as an aggressive model.
- Punishment may create a vaccum space which lead to further aggression.

2- Catharsis

Providing an angry persons with opportunities to engage in expressive but non injurious behaviors will reduce their tension, arousal and weakness and their tendency to engage in overt acts of aggression, but does not usually work.

Catharsis in **Aristotle view** exposure to emotion provoking stage drama could produce reduction of aggression e.g. psychodrama
Lorenz's view (see before)

3- Social skill training

It is based on the assumption that aggressive behavior arise from

- Lack of communication skills
- Lack of social skills
- Lack of sensitivity to emotional state of others

Social skill training will improve interpersonal communication and help in reduction of aggression.

4- Induction of incompatible behavior

Any behavior serving to induce response or emotional state among aggressors that are incompatible with anger or overt aggression will be highly effective in reduction of such behavior.

1- Empathy

Exposure to signs of pain or discomfort on the part of victim was found to decrease further aggression, but not always effective.

2- Humor

Will diminish aggression but should not be provocative.

3- Mild sexual arousal

If a female is going to be raped if she claimed acceptance the aggressor will be calm.

4- Feeling of guilt

5- Cognitive tasks

Participation in cognitive tasks will absorb aggression

6- Biological measures

A- Pharmacotherapy

1. Drugs promote serotonin (decrease impulsivity as antidepressants).
2. Drugs block dopamine (diminish drive and motivation for aggression) (antipsychotics)
3. Antiepileptic (to reduce kindling)
4. Mood stabilizer (lithium) to reduce bouts of aggression.
5. Beta adrenergic blockers (to reduce adrenergic activity (arousal)
6. Hormonal treatment (estrogen, antiandrogen)

B- Psychosurgery

- Amygdalectomy
- Cingulotomy
- Temporal lobectomy

Psychology of Terrorism

No country or community is untouched by violence and terrorism……

It is a universal scourge that tears at the fabric of communities and threatens the life, health and happiness of us all…….

A) Prevalence:
Worldwide problem

In the 20th century Estimates of terrorism related death:

- 500,000 killed by terrorists, guerillas, and other non-state groups.
- 170 million people killed by government.
- Ratio 1: 260

Despite the preeminence of state terror in relation to non-state terror, terrorism today is usually understood to mean anti-state terrorism.

Terrorism
Definition

- A form of aggressive violent behaviour against civilians causing actual or threatened death or serious injury, or eliciting intense fear and horror. This is usually due to political aim.

Types of terrorism
1- State terrorism:

- Terroristic actions undertaken by the authority towards civilians of the same country e.g Genocide (authority seeks to wipe out minority group in its territory

2- International Terrorism

- Violence in another countries by action
- e.g Nuclear bombs Hiroshima & Nagasaki
  - Bombing civilians in
    - Serbia, Iraq, Palestine

3- Non-state terrorism

a) Anti-state terrorism:

- Terroristic actions undertaken by a group against civilians of a state, usually for political reasons. Most anti-state terrorists see themselves as revolutionaries or freedom fighters.

b) Intra-state terrorism

- Terroristic actions undertaken by a group against another group of civilians, usually taken the form of organized crime, etc

Patterns of Terrorism

- Bombing [suicide & non-suicide (e.g. bomb implants, (letter bombs)]
- Bio-terrorism
- Assassination and direct killing
- Hostage taking
- Sky Jacking

The Victims of Terrorism

- **Primary Victims:** those who are directly victimized.
- **Secondary victims:** those who are indirectly victimized.
    - Bereaved
    - Recovery workers who respond.
    - Public.
    - Society.

Psychopathology behind terrorism

Thirty years of terrorism research has found psychopathology and personality disorder no more likely among terrorists than among non-terrorists from the same background.

This was based on Interviews & case studies of captured or retired terrorist. Best evidence came from the German studies of the Baader-Meinhof Gang, and CIA studies.

It was proposed that the characteristics of the terrorist may differ whether being a leader or a follower.

	leaders	**Followers**
Are generally thought to be	Influential	Easily Suggestible
	Charismatic	Less intelligent
	Intelligent.	Influenced by leader's ideology and personality
Personality traits	Psychopathic traits	Impulsivity
	Narcissistic traits	Submissiveness
	Idealistic / pseudo-idealistic	
	Paranoid traits	
Personality disorders	Antisocial PD	Borderline personality disorder
	Narcissistic personality disorder	Antisocial personality disorder
	Paranoid personality disorder	Dependant personality disorder
		Passive aggressive
Psychiatric disorders	Delusional disorder	Shared delusions
	Paranoid Schizophrenia	Depression
		Bipolar disorder
Types of aggression	Instrumental aggression	Emotional aggression
Motive	They think of what they want to accomplish	Hurting those who hurt them
Reward	Long term political advantage	Assurance of ascendance to paradise
		Death = animmatal honor

Critique to the presence of specific psychopathology in terrorists

1) Individuals suffering from serious psychopathology are unlikely to be able to plan and implement a successful attack.

2) Psychopath's moral blindness can not take the form of self-sacrifice.

3) Impulsive, reckless and irresponsible behaviors are not seen in attackers .

Indeed terrorism would be a trivial problem if only those with some kind of psychopathology could be terrorists. Rather we have to face the fact that normal people can be terrorists. Therefore what studying factors that may help in the genesis of terrorism is much more important.

Factors related to the genesis of the terrorist

a) Psychological factors:

i) Analytic theory:

Terrorism is a type of aggression
in leaders = directed towards others
in follows = aggression directed towards self and others

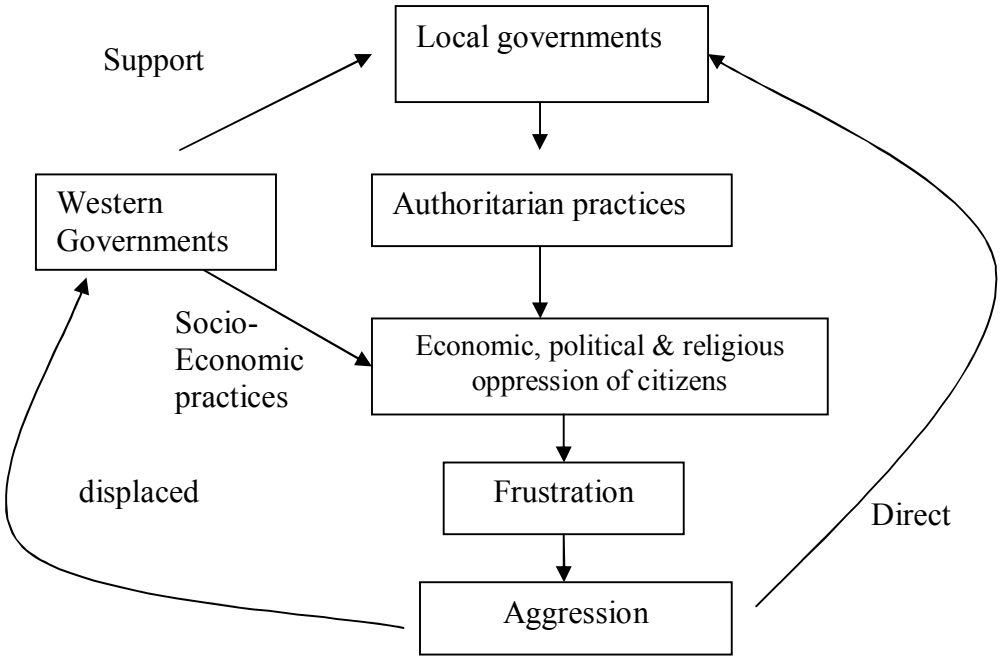
ii) Frustration-aggression theory:

Aristotle said: "The angry man wants the object of his anger to suffer in return; hatred wishes its object not to exist."

Frustration my result from:

- Political oppression,
- Racial or ethnic discrimination or prejudice
- Poor socioeconomic status

In the World Economic Forum, Friedman, (2002) hypothesized that:



iii) Social learning theory:

Attitudes and aggression may be learned through:

1. Classical conditioning:

- Terrorist leaders may use advertisements pairing enemy with unpleasant responses and terrorsitic acts with a positive evaluative response.

2. Operant conditioning:

- Through direct reinforcement as financial rewards, fame, etc.

3. Observational learning:

- Identification with martyrs, and terrorist who may be seen as heroes or freedom fighters.
- Absence of successful models.

b) Socio-economic factors

- Family.
- Parent family.
- Single.
- Intrafamily violence.
- Lack of closeness.
- Exposure to abuse or neglect.
- Poor role functioning of parents.
- Rearing pattern (family discipline & attitudes).
- Minority groups.
- Low social economic status.
- Peer pressure, influence.
- Freedom for family supervision.

Research on terrorists showed that most terrorists are young, males, poor socioeconomic status, from low or middle classes. Some terrorist acts may be done for money.

d) Religion & culture:

- Poor interpretation of religion.

e) Political factors:

- Terrorism may be seen as a defense to balance powers.

Conclusion

Terrorism

Is the result of interaction between:

- Nurture
  - Driven by political ideology.
- Nature
  - Driven by biological makeup

Terrorism

- Is shaped by social, economic and political forces:
- Is influenced by family and mass media
- Is reinforced by innate predisposition.
- Thus combating terrorism needs multidisciplinary approach

Frustration & Defensive Mechanisms

Frustration

Is unpleasant emotional state that results from blocking of motive satisfaction or goal achievement

Reactions to Frustration:

Frustration whether it is the result of environmental obstacles, personal limitations, or conflict, has a number of possible consequences.

1. Aggression:

a. *Direct aggression.* Aggression is expressed directly against the individual or object that is the source of frustration.

b. *Displaced Aggression.* Aggression is displaced against innocent person or subject (scape goating)

2- Apathy: Although a common response to frustration is active aggression, another response is its opposite, apathy, indifference, withdrawal. We don't know why one person reacts with aggression and another with apathy to the same situation, but it seems likely that learning is an important factor, reactions to frustration can be learnt in much the same manner as other behaviors.

3- Fantasy: When problems become too much for us, we sometimes seek a solution of escape into a dream world. A solution based on fantasy rather than reality.

4- Stereotype: This is a tendency to exhibit repetitive, aimless behavior.

5- Regression: Regression is defined as return to more primitive modes of behavior.

6- Anxiety: Is unpleasant emotion characterized by "worry", "apprehension" and "dread" that we all experience at times in varying degrees.

Coping with Anxiety:

If a motive or a need does not reach its goal, it is said to be frustrated. Frustration leads to tension and anxiety because anxiety is a very uncomfortable emotion that threatens our well being, it cannot be tolerated for long. We are strongly motivated to do something to alleviate the discomfort.

Direct coping: Sometimes we attempt to deal directly with the anxiety producing the situation, by evaluating the situation and thereby doing something to change or avoid it.

Defensive coping: Is a method focus on defending us against anxious feelings without trying to deal with the anxiety producing situation. They include various ways of changing one's perception to the situation to make it less threatening This could be achieved by certain mental mechanisms "defensive mechanisms" the mind can decrease the effect of frustration and so decrease the tension left and allow person to solve his problem.

Defense Mechanisms

Defense mechanisms are used by everybody, whether healthy individuals, neurotic individuals or individuals with severe mental disorders.

- They are unconscious mechanisms, necessary for every day life.
- Important to deal with frustration.
    - Alleviate anxiety.
    - Induce balance and preserve inner harmony.
    - Solve emotional difficulties.

- Their outcome leads to
  - Healthy adjustment
  - Symptom formation or maladaptation

Recent classification of defense mechanisms as follows:

1- Narcissistic defenses:

- Children and psychotics

2- Immature defenses:

- Adolescents
- Depression
- Obsessions
- Compulsions

3- Neurotic defenses:

- Adults under stress
- Obsessive compulsive
- Hysterical persons

4- Mature defenses

- Normal adult adaptive mechanisms

N.B. *Overlapping of defenses may occur.*

Nature of defenses

1- Narcissistic	2- Immature	3- Neurotic	4- Mature
Denial	Acting out	Controlling	Altruism
Distortion	Blocking	Displacement	Anticipation
Primitive	Hypochondriasis	Dissociation	Asceticism
Idealization	Identification	Externalization	Humor
Projection	Introjection	Inhibition	Sublimation
Projective	Passive	Intellectualization	Suppression
Identification	aggression	Isolation	(conscious)
Splitting	Projection	Rationalization	
	Regression	Reaction	
	Schizoid fantasy	formation	
	Somatization.	Repression	
	Turning against	Sexualization	
	self	Undoing	

A. Narcissistic Defenses

1. Denial: Avoids becoming aware of some painful aspects of reality. In neurosis it acts as a service for neurotic or adaptive objectives. In psychosis it is a denial of the external reality.

2. Distortion: This is reshaping of external reality to suit inner needs e.g.: Unrealistic beliefs - hallucinations - wish fulfilling delusions.

3. Primitive idealization: External objects are viewed "all good and ideal".

4. Projection: Reacting to unacceptable inner impulses as out side the self, so it is ascribing the unconscious motives to other people, it leads to the development of delusions.

5. Projective identification: Unwanted aspects of the self are deposited into another person.

6. Splitting: External objects are "all good" or "all bad" and shift from one extreme to the other.

B. Immature defenses:

1- Acting out: Direct expression of an unconscious wish or impulse to avoid the accompanying affect. This is gratifying for the impulse more than stopping it.

2- Blocking: Temporary inhibition in addition to a component of tension. (Unlike repression which involves no tension).

3- Hypochondriasis: Transformation of tension to wording of other complaints e.g. pain- somatic illness. It serves the avoidance of responsibility and reduces guilt of instinctual needs.

4- Identification:

- The person behaves as he is another person.

- Identification may be with different objects.
- Identification with a love object serves the reduction of pain and anxiety of separation.
- Identification with source of guilt serves to reduce the symptoms and behaviour after loss
- Identification with aggressor.

C. Neurotic Defenses

1- Controlling: The excessive attempt to manage or regulate events or objects in the environment in the interest of minimizing anxiety and solving internal conflicts.

2- Displacement: A purposeful, unconscious shifting from one object to another in the interest of solving a conflict.

3- Dissociation: Temporary but drastic modification of character or sense of personal identity to avoid emotional distress; it includes fugue states, hysterical, conversion reactions.

4- Externalization: The tendency to perceive in the external world and in external objects components of one's own personality, including instinctual impulses, conflicts, attitudes and styles of thinking.

5- Inhibition: The unconsciously determined limitation of specific ego functions to avoid anxiety arising out of conflict with instinctual impulses, superego or environmental forces.

6- Intellectualization: The control of affects and impulses by way of thinking about them instead of experiencing them to defend against anxiety, caused by unacceptable impulses.

7- Isolation: Separation of affect from a repressed idea.

8 - Rationalization: The invention of a convincing false explanation for one's behaviour or feelings.

9 - Reaction formation: Expression of the reverse of one's real impulse. i.e. unconscious drive is converted to its conscious opposite.

10 Repression: The expelling and withholding of an idea or feeling from conscious awareness.

11- Sexualization: The endowing of an object or function with sexual significance to reduce anxiety connected with prohibited impulses.

12- Undoing: A person symbolically acts out in reverse something unacceptable that has already been done, a form of magical action.

D. Mature Defenses:

1- Altruism: Constructive and instinctually gratifying service to others.

2- Anticipation: Overly concerned planning, worrying and anticipation of desire and the possible dreadful outcomes.

3- Humor: The overt expression of feelings without personal discomfort or immobilization and without unpleasant effects on others.

4- Sublimation: Change of aim from a socially objectionable one to a socially valued one.

5- Introjection: The introjection of a loved object involves the internalization of characteristics of the object with the goal of establishing closeness to and constant presence of the object.

6- Passive-aggressive behavior: Aggression toward an object expressed indirectly and ineffectively through passivity, masochism, turning against the self.

7- Schizoid fantasy: The tendency to use fantasy and to indulge in autistic retreat for the purpose of conflict resolution and gratification.

8- Somatization: The defensive conversion of psychic derivatives into bodily symptoms; tendency to react with somatic, rather than psychic, manifestations.

9- Turning against the self: Changing an unacceptable impulse that is aimed at others by redirecting it against oneself, and reacting to unacceptable inner impulses as outside the self.

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