COURSE NO : PY- 301 **UNIT - I**

SEMESTER - III **LESSON : 1**

NATURE, ISSUES AND SCOPE OF STUDYING HUMAN DEVELOPMENT STRUCTURE

1.1 Objectives

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1.1 OBJECTIVES

After going through this lesson the student should be able to:-

- Define Developmental Psychology.
- Describe the Nature and Scope of studying Human Development.
- Know the various issues and scope of studying Human Development.

1.2 INTRODUCTION

Development refers to systematic continuities and changes in the individual that occur between conception (when the father's sperm penetrates the mother's ovum, creating a new organism) and death *changes means* as "systematic" we imply that they are orderly, patterned, and relatively enduring, development means the changes an individual experiences from "womb to tomb," the developmental sciences refer to the study of these phenomena and are a multidisciplinary enterprise. Although **developmental psychology** is the largest of these disciplines, many biologists, sociologists, anthropologists, educators, Physicians, and even historians share an interest in developmental continuity and change and have contributed in important ways to our understanding of both human and animal development. Developmental psychology is the scientific study of how and why human beings change over the course of their life. Developmental psychology examines the influences of nature and nurture on the process of human development. A significant proportion of theories within this discipline focus upon development during childhood, as this is period during an individual's life span when the most changes occur both qualitatively and quantitatively. Thus development in its psychological senses refers to the changes that occur in human being. It is defined as the expanding of the capacities of the individual to provide greater facilities in functioning .e.g. the cognitive development of the child from concrete objects to abstract ideas.

1.2.1 What Causes Us to Develop?

To understand the meaning of development, we must understand two important processes that help in changes i.e. **Maturation and learning**.

Maturation refers to the biological unfolding of the individual according to species-typical biological inheritance an individual person's biological inheritance. Just as seeds become mature plants, assuming that they receive adequate moisture and nourishment, human beings grow within the womb of the mother. The human maturational (or species-typical) biological program calls for us to become capable of walking and uttering our first meaningful words at about 1 year of age, to reach sexual maturity between ages 11 and 15, and then to age and die on roughly similar schedules. Maturation is partly responsible for psychological changes such as our increasing ability to concentrate, solve problems, and understand another person's thoughts or feelings. So one reason that we humans are so similar in many important respects is that our common species heredity guides all of us through many of the same developmental changes at about the same points in our lives.

Learning—the process through which our *experiences* produce relatively permanent changes in our feelings, thoughts, and behaviours. We often learn to feel, think, and behave in new ways from our observations of and interactions with parents, teachers, and other important people in our lives, as well as from events that we experience. This means that we change in response to our *environments* particularly in response to the actions and reactions of the people around us. Of course, most developmental changes are the product of *both* maturation and learning

When trying to explain development, it is important to consider the relative contribution of both nature and Nurture. Nature refers to the process of biological maturation inheritance and maturation. Nurture refers to the impact of the environment which involves the process of learning through experience. DNA is a heredity material which play very important role in growth and development of life stages of the human.

Charles Darwin is credited with conducting the first systematic study of developmental psychology. In 1877, he published a short paper detailing the development of innate forms of communication based on scientific observations of his infant son, Daddy. However, the emergence of development psychology as a specific discipline can be traced back to 1882 when Wilhelm Preyer, A German physiologist published a book entitled the *'Mind of the Child'*. In the book *preyer* describes the development of his own daughter from birth to two and a half years.

Importantly, *Preyer* used rigorous scientific procedure throughout studying the many abilities of his daughter. In 1888, Preyer's publications was translated into English, by which time developmental psychology as a discipline was fully established with a further 47 empirical studies from Europe, North America and Britain also published to facilitate the dissemination of knowledge in the field. During the 1900s three key figures have dominated the field with their extensive theories of human development namely Jean Piaget (1896-1980), Vygotsky (1896-1934) and John Bowlby (1907-1990). Now developmental psychology is emerging and expanding branch which deals with all the aspects related to development.

1.3 MEANING OF DEVELOPMENT

The term Development refers to a progressive series of changes that occur as a result of maturation and experience. Development refers to change in structure, form or shape and improvement in functioning. It is emerging and expanding of capacities of the individual to provide greater facility in functioning such as development of motor ability from uncertain manipulation to proficiency in game. This development is achieved through the process of growth. Development refers to interaction of a person with his environmental surroundings whose after product is to increase:-

1. The strength
2. The degree of Differentiation
3. The organization of personality.

Development refers to those effect upon the person's cognitive and emotional systems which strength one or more abilities of the person in the desired manner. Thus development is the qualitative changes in the organism. Environment has very important role to play in the process of development.

1.3.1 A Holistic Approach

Development is not piecemeal but **holistic**—humans are physical, cognitive, and social beings, and each of these components of self depends, in part, on changes

taking place in other areas of development. Many researchers now incorporate this holistic theme into their theories and research. Those who studied *physical growth* and development, including bodily changes and the sequencing of motor skills; those who studied *cognitive* aspects of development, including perception, language, learning, and thinking; and those who concentrated on *psychosocial* aspects of development, including emotions, personality, and the growth of interpersonal relationships. Hence Children reach full developmental potential

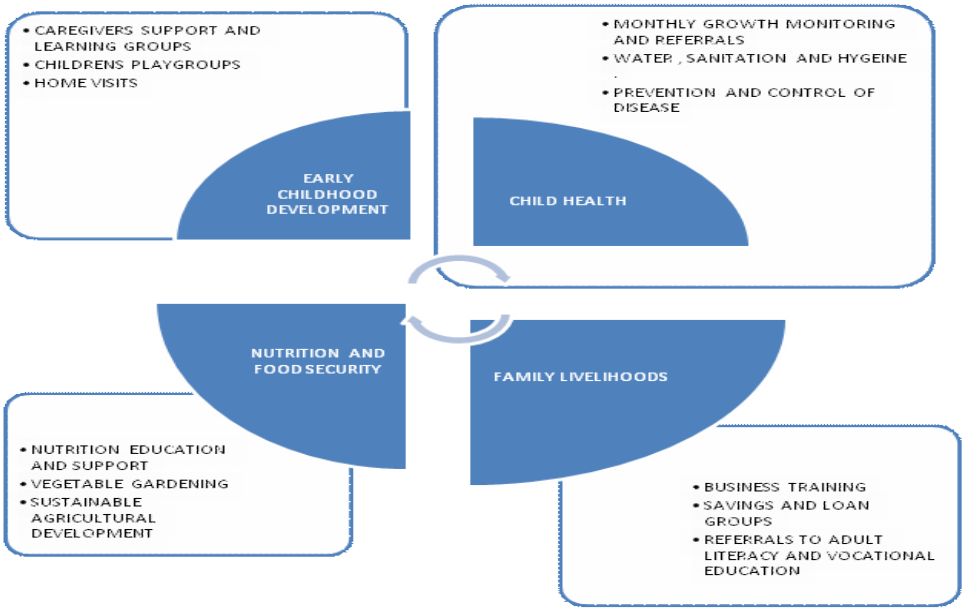

Fig. showing factors affecting growth and development.

1.3.2 Definitions of Development

- "Development refers to the series of changes which an organism undergoes in passing from an embryonic stage to maturity." *Webster*
- "Developmental psychology is the branch of psychology that studies intra-individual changes and inter-individual changes within these intra-individual changes." *Hurlock (1978)*
- "The branches of psychology that studies pattern of growth and change occurring throughout life." *Pikunas (1969)*

- "A branch of psychology elevated to understanding all changes that human being experience throughout the life span." *Jessiloc (1978)*
- According to *E.B. Hurlock :* "Developmental psychology is the branch of psychology that studies the development of the human being from conception to death".

1.3.3 PERIODS OF DEVELOPMENT

- **PRENATAL PERIOD (CONCEPTION TO BIRTH)**
- **INFANCY (BIRTH TO 24 MONTHS)**
- **EARLY CHILDHOOD 2-5 YEARS**
- **MIDDLE AND LATER CHILDHOOD 6-11YEARS**
- **ADOLESCENCE 10-12 TO (18 -21) YEARS**
- **EARLY ADULTHOOD (20-30) YEARS**
- **MIDDLE ADULTHOOD (40 -50) YEARS**
- **LATE ADULTHOOD (60 ONWARD) YEARS**
- **Prenatal period**

  It is the time from conception to birth, roughly a nine-month Period. During this amazing time, a single cell grows into an organism, complete with a brain and behavioural capabilities.

- **Infancy**

  It is the developmental period that extends from birth to about 18 to 24 months of age. Infancy is a time of extreme dependence on adults. Many psychological activities are just beginning—the abilities to speak, to coordinate sensations and physical actions, to think with symbols, and to imitate and learn from others.

- **Early childhood**

  It is the developmental period that extends from the end of infancy to about 5 or 6 years of age; sometimes this period is called the preschool years. During this time, young children learn to become more self-sufficient and to care for themselves, they develop school readiness skills (following instructions, identifying letters), and they spend many hours in play and with peers. First grade typically marks the end of this period.

- **Middle and late childhood**

  It is the developmental period that extends between about 6 and 11 years of age; sometimes this period is referred to as the elementary school years. Children master the fundamental skills of reading, writing, and arithmetic, and they are formally exposed to the larger world and its culture. Achievement becomes a more central theme of the child's world, and self-control increases.

- **Adolescence**

  It is the developmental period of transition from childhood to early adulthood, entered at approximately 10 to 12 years of age and ending at about 18 to 19 years of age. Adolescence begins with rapid physical changes—dramatic gains in height and weight; changes in body contour; and the development of sexual characteristics such as enlargement of the breasts, growth of pubic and facial hair, and deepening of the voice

1.3.4 Principles of Development

1. Development is a product of Interaction:-

Development is a process which is the result of constant interchange of energy within the organism and his environment. Thus hereditary forces interact with environmental forces and the process of development goes further. Environment play very important role in development of the individual

2. Development involves change:-

The life of an individual is dynamic in nature. It is never static from the

movement of conception to the time of death, it undergoes changes. At each stages of human development changes takes place. The aim of such developmental changes is the achievement of the genetics potentials.

3. Development is a life-long process:-

Human Development is a lifelong process which starts with the birth of the child and ends with the death of the individual. Development does not culminate at a particular stage but it covers the whole life span of an individual.

4. Development is a product of both hereditary and environment:-

The process of development is a result of constant interaction between forces of heredity and environment. Heredity sets the limits and environment works within those limits to shape the genetic constitution of the individual.

Each of us life begins life at the moment of the conception. Conception is the moment where the ovum the female reproductive cell is fertilized by the spermatozoon the male reproductive cell. Thus a single cell smaller than a head of a pin later multiplies and develop into fetus.

5. Development follows an orderly sequence:-

The rate of growth and development is different in different individuals depending upon a number of factors but it does follow an orderly sequence in all the individuals.

(a) Cephalocaudal: - Development starts from head and proceed toward heel. The **cephalocaudal trend**, or **cephalocaudal** gradient of growth, refers to the pattern of changing spatial proportions over time during growth. One example of this is the gradual change in head size relative to body size during human **growth**. **cephalocaudal development** describes the general **growth** pattern of organisms to **develop** areas near the main neural area (typically the head) earlier than areas of the body that are more distant

(b) Proximodistal: - Development start from the central part of the body to outside. **Proximodistal** trend is the tendency for more general functions of limbs to

develop before more specific or fine motor skills. It comes from the Latin words proxim- which means "close" and "-dis-" meaning "away from", because the trend essentially describes a path from the center outward. It refers to **growth** and **development** that occurs from the head down. **Proximodistal development example**, an infant can use their arms (gross motor skills) to begin to reach for a toy before they can properly use their fingers (fine motor skills) to pick up the toys.

(c) Locomotion: - Crawling, walking, running, galloping, hopping, and skipping are all human phylogenetic patterns of coordination .Locomotion develops in a sequence in all the individuals belonging to different cultures of the world. The rate of development is different in different infant but he/she may be pass through these stages. The child first start crawling, the walking with the help of others and then independently .thus This strange and funny walk progressively improves so that by the time children reach seven years of age they walk like adults. While locomotors milestones (balancing, sitting, crawling, and walking) develop most rapidly in the first two years of life, the development of locomotors skills never actually stops.

6. Development is individualized process:-

All development in their own way depending upon the genetic characteristics and training received from the environment. Each individual has its own rate of development. Therefore the rate of the development varies from individual to individual. Some child develops rapidly while some develop slowly.

7. Development is cumulative process:-

It is cumulative process because certain changes impress the observer and it looks at these changes are sudden but they are the cumulative effect of all the changes in the individual.

8. Development proceed from general to specific:-

When a new born baby cries, the whole of the body is involved. As the child grows, the crying is limited to vocal organs and the eyes. He uses the word specifically

for his mother. A child response are general in the beginning of his life, But they become specific afterwards. During language development, firstly uses the word mamma in greeting other women, as the child grows the word is specific for his mother.

9. Development is spiral and not linear:-

The child does not proceed in a straight line on the path of development, it proceeds in a spiral order. There are step by step process through which the developmental process takes place

10. Development follows the principal of interrelation

Development in the various dimensions like physical, emotional, Intellectual, social etc. is interrelated and interdependent. This means that the development in any one dimension affects the development of the child in other dimensions.it is due to this principal that the children having good physical development tend to advance in intellectual, social and emotional development.

11. Development is predictable

It is possible for us to predict the future development of a child on the basis of his present development. A knowledge of the present intellectual ability of a child can help in predicting his ultimate intellectual development

1.4 NATURE OF STUDYING HUMAN DEVELOPMENT OR DEVELOPMENTAL PSYCHOLOGY

The life of an individual starts from the very moment of conception in the mother's womb. The birth of the individual is a natural event of life. It enables him to come out of the internal environment where in he has to promote his growth. This growth is continued till death and it has to undergo several changes that occur from time to time. The changes that happen during early years are different from those in later years. The changes are due to internal growth. The internal growth gradually leads to maturity. In the process of growth a time comes when a decline sets in. Thus, in the life of an individual there are two extremes, the starting point from the pre-

natal period to the end.

Development psychology studies the life of man within these two extremities that is from the pre-natal existence to the decline period of life the pre-natal existence to the decline period of life which ends in death. Thus, the study of factors that lead to caption, birth and growth and those which cause decline come within the scope of developmental psychology. Psychology is a positive science of human behavior. As a science, its aim is to describe, predict and control human behavior. Being a branch of psychology, the development psychology shares the nature of its source.

Development is a Co-Construction of Biology, culture and the individual factors working together. For example, the brain shapes culture, but it is also shaped by culture and the experience that individuals have or pursue. In terms of individual factors, we can go beyond what our genetic inheritance and environment gives us. We can author a unique development path by actively choosing from the environment the things that optimize our life/lives. Therefore in order to understand the nature of development psychology, we must examine the nature of science and scientific method.

1.4.1 Essential Elements of Science

The essential elements of science are:-

1. **Scientific Method:-** The first and foremost element of science is scientific method, in other words, nothing is science which are not verifiable.
2. **Factuality: -** Science are based on facts.
3. **Universality: -** The scientific principles are universal.
4. **Validity: -** The scientific methods are universally valid.
5. **Cause and effect relationship: -** The science tries to find out establish the cause and effect relationship in the facts under investigation.

1.5 ISSUES OF STUDYING HUMAN DEVELOPMENT

Development issues deals with all those issues which are in any way related

to development of man from the prenatal period to end of life that is death. All those factors as well as their issues that influence the development such as environment, heredity, maturation and learning etc. come within the scope of development psychology.

DEVELOPMENTAL ISSUES

- **Nature vs. Nurture** Extent to which development is influenced by nature and by nurture
- **Stability vs. change** Degree to which early traits and characteristics persists through life or change
- **Continuity vs. Discontinuity** Extent development involves gradual, cumulative change (continuity) or distinct stage
- **Early vs. Later Experience** The early-later experience issue focuses on the degree to which early experiences (especially in infancy) or later experiences are the key determinants of the child's development.
- **Organismic vs. Mechanistic Child:** Environment and Hereditary effects are studied
- **Nature vs. Nurture: -** The nature and nurture issues revolves around the idea that both nature and nurturing play a role in growth and development of an individual. Some argue the *tabula rasa theory*, that every person's mind is a blank state at birth, while other believe that some traits are inborn. Some researchers place a great deal of emphasis on the nurturing a child receives during his or her formative years, believing the nurturing results in the formation of traits and characteristics in an individual.

  The **nature-nurture issue** involves the debate about whether development

is primarily influenced by nature or by nurture (Goodnow, 2010; Kagan, 2010). *Nature* refers to an organism's biological inheritance, *nurture* to its environmental experiences. Almost no one today argues that development can be explained by nature alone or by nurture alone. But some ("nature" proponents) claim that the most important influence on development is biological inheritance, and others ("nurture" proponents) claim that environmental experiences are the most important influence. By contrast, other psychologists emphasize the importance of nurture, or environmental experiences, to development (Gauvain & Parke, 2010; Grusec, 2011; Kopp, 2011). Experiences run the gamut from the individual's biological environment (nutrition, medical care, drugs, and physical accidents) to the social environment (family, peers, schools, community, media, and culture). For example child's diet can affect how tall the child grows and even how effectively the child can think and solve problems. Despite their genetic wiring, a child born and raised in a poor village in Bangladesh and a child in the suburbs of Denver are likely to have different skills, different ways of thinking about the world, and different ways of relating to people.

- **Early and Later Experience**

  The **early-later experience issue** focuses on the degree to which early experiences (especially in infancy) or later experiences are the key determinants of the child's development. That is, if infants experience harmful circumstances, can those experiences be overcome by later, positive ones? Or are the early experiences so critical—possibly because they are the infant's first, prototypical experiences—that they cannot be overridden by a later, better environment? To those who emphasize early experiences, life is an unbroken trail on which a psychological quality can be traced back to its origin (Kagan, 1992, 2000). In contrast, to those who emphasize later experiences, development is like a river, continually ebbing and flowing.The early-later experience issue has a long history and continues to be hotly debated among developmentalists (Kagan, 2010; McElwain, 2009). Plato was sure

that infants who were rocked frequently became better athletes. Nineteenth century New England ministers told parents in Sunday afternoon sermons that the way they handled their infants would determine their children's later character warm, nurturing care, their development will never quite be optimal (Finger &others, 2009).

In contrast, later-experience advocates argue that children are malleable throughout development and that later sensitive caregiving is just as important as earlier sensitive caregiving. A number of developmentalists stress that too little attention has been given to later experiences in development (Baltes & Smith, 2008; Schaie, 2010, 2011; Scheibe and Carstensen, 2010; Staudinger & Gluck, 2011). They accept that early experiences are important contributors to development, but assert that they are no more important than later experiences. Jerome Kagan (2000, 2010) points out that even children who show the qualities of an inhibited temperament, which is linked to heredity, have the capacity to change their behaviour. In his research, almost one-third of a group of children who had an inhibited temperament at 2 years of age were not unusually.

- **Continuity and Discontinuity**:-

The continuity and Discontinuity issue involves the gradual verses distinct changes that occur over hire in an individual. The idea of continuity revolves around continual development that take place in an extended period of hire, such as a child learning to speak for the first time or abrupt? Think about your own development for a moment. Did you become the person you are gradually? Or did you experience sudden, distinct changes in your growth? For the most part, developmentalists who emphasize nurture describe development as a gradual, continuous process. Those who emphasize nature often describe development as a series of distinct stages.

The **continuity-discontinuity issue** focuses on the degree to which development involves either gradual, cumulative change (continuity) or distinct stages (discontinuity).In terms of continuity, as the oak grows from seedling to giant

oak, it becomes more of an oak—its development is continuous .Similarly, a child's first word, though seemingly an abrupt, discontinuous event, is actually the result of weeks and months of growth and practice. Puberty might seem abrupt, but it is a gradual process that occurs over several years. In terms of discontinuity, as an insect grows from a caterpillar to a chrysalis to a butterfly, it passes through a sequence of stages in which change is qualitatively rather than quantitatively different. Similarly, at some point a child moves from not being able to think abstractly about the world to being able to. This is a qualitative, discontinuous change in development rather than a quantitative, continuous change.The idea of discontinuity revolves around the sudden and abrupt changes, in distinct stage, that occur during an individual's life such as child growing the ability to think abstractly. The **continuity-discontinuity issue** focuses on the extent to which development involves gradual, cumulative change (continuity) or distinct stages (discontinuity).viewed in terms of discontinuity, each person is described as passing through a sequence of stages in which change is qualitatively rather than quantitatively different .As the caterpillar changes to a butterfly, it does not become more caterpillar but a different kind of organism—its development is discontinuous. Similarly, at some point a child moves from not being able to think abstractly about the world to being able to do so. This change is a qualitative, discontinuous change in development, not a quantitative, continuous change.

- **Organismic vs. Mechanistic Child:-**

Organismic theories assume that changes is stimulated from within the organism more specifically that the psychological structures exist inside the child that underlie and control development. In contrast, mechanistic theories focus on relationship between environmental inputs and behavior output. The approach is called mechanistic because child development is compared to the machine.

1.6 SCOPE OF HUMAN DEVELOPMENT IN PSYCHOLOGY

Three major goals of the developmental sciences are to describe, to explain, and to optimize development (Baltes, Reese & Lipsitt, 1980). In pursuing the goal of

description, human developmentalists carefully observe the behaviour of people of different ages, seeking to specify how people change over time. Although there are typical pathways of development that virtually all people follow, no two persons are exactly alike. Even when raised in the same home, children often display very different interests, values, abilities, and behaviours

Many believe that such *optimization* goals will increasingly influence research agendas in the 21st century (Fabes et al., 2000; Lerner, Fisher, & Weinberg, 2000) as developmentalists show greater interest in solving real problems and communicating the practical implications of their findings to the public and policymakers (APA Presidential Task Force on Evidence-Based Practice, 2006; Kratochwill, 2007; McCall & Groark, 2000;Schoenwald, Chapman, Kelleher, Hoagwood, Landsverk, & Stevens et al., 2008). Yet, this heavier focus on *applied* issues in no way implies that traditional descriptive and explanatory goals are any less important, because optimization goals often cannot be achieved until researchers have adequately described and explained normal and idiopathic pathways of development (Schwebel, Plumert, & Pick, 2000).pursue, let's consider some of the conclusions they have drawn about the character of development. . Thus, to adequately describe development, it is necessary to focus both on typical patterns of change (or **normative development**) and on individual variations in patterns of change (or **ideographic development**). So, developmentalists seek to understand the important that developing humans resemble each other and how they are likely to differ as they proceed through life. Adequate description provides us with the "facts about development, but it is only the starting point. Developmentalists next seek to explain the changes they have observed. In pursuing this goal of *explanation,* developmentalists hope to determine *why* people develop as they typically do and *why* some people develop differently" than others. Explanation centres both on normative changes *within* individuals and variations in development *between* individuals.

1. Physical growth and development:-

Physical growth means strengthening of body and muscles with better proficiency and coordination of motor organs. If a person is able to do anything with accuracy in lesser time that means he/she is physically fit physical development also

include increase in height and weight and various body proportions i.e. head, neck, trunk tec. The changes in external organs also lead to increase in internal functioning i.e. respiration, circulation, creation etc. Physical growth is very rapid in infancy and later childhood. It is again fast in the start of adolescence.

Dimensions of physical growth

- Height
- Weight
- Body proportions
- Internal organs

Physical growth is curvilinear not steady or regular. Rapid growth is followed by slow growth and then again rapid growth may be there. Different parts of the body has its unique way of development. Whatever changes we see in hands and legs cannot be seen in heart or lungs. Physical growth and development is affected by climatic conditions. E.g. cold countries have more favorable conditions of growth and development than hot or humid countries.

2. **Social growth and Development:-**

Social development means improvement and refinement of behavior of an individual in social situations. Human baby is the only organism in the world which takes maximum and longer time to be socially and economically self-dependent. This dependence of the child on others helps him to learn how to interact with others in diverse conditions. The social growth of the person is satisfactory if the person is fully adjustable and acceptable to the society accepting social customs and norms. Social development starts with the process of socialization, a process through which a child acquire his social status according to his age.it is the process of socialization through which the child learn Social traditions, customs and culture. Social development means to share joy and sorrow with others, to work as a member of group, to cooperate with others and to develop social perception for the purpose of

developing belonging with the rest of the society. The end point of the social development is social maturity, i.e. to adapt successfully to the social environment without frustration. A socially mature person is one who is fair in his dealing, courteous in his behavior and honest in his character. He confirms what is acceptable to others and denies what is antagonistic to him. It includes

- Co-operation
- Tolerance.
- Sympathy.
- Competition.
- Group loyalties'.
- Social Acceptance.
- Belongingness.

Emotional growth and development: -

Emotional development means controlling of emotions. It refers to the accuracy of responses that an individual will exhibited under the influence in his emotions.re Emotion is strong feeling that is so strong that it can be observed overtly. There are four qualities of the emotional experiences.

- Every emotional experience involves feeling
- Every emotional experience is accompanied by marked physiological changes.
- An emotional experience includes an impulse towards some kind of the action i.e. overt response is seen.
- Emotion involves awareness or perception of what it is or what it might be that cause these impulses and feelings.

Emotions start immediately after birth. For example an infant shows fear, anger, love etc. through his emotions are not clear at this age. Children emotions are

intense as compared to adults, as they grow they begin to exercise restraint over their emotions. They learn to modify and hide their emotions also .Emotional development is also determined by the socioeconomic background of the child. If a child belongs to a cultured family, he will show more emotional maturity. E.g. .if a person gets angry at his insult but he fully controls his anger that means he/she is emotionally matured.

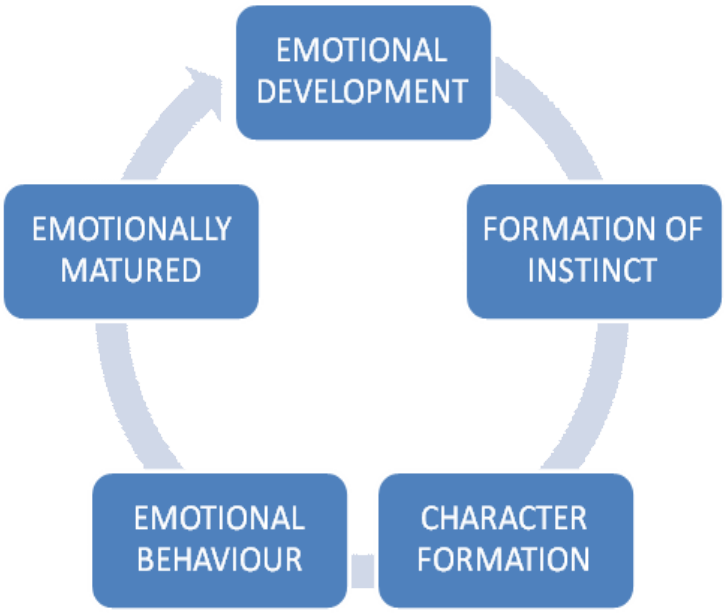

Fig. process of emotional development

Intellectual Growth and Development:-

Intellectual development include attending, perceiving, observing, thinking, recalling, analyzing, evaluating, problem solving and the development of the language and concepts. These aspects of the mind grow and change with age. It is the ability to draw out conclusion from jumbled information's and to apply the inferences to real life situations in order to make the life happy and meaningful. If a person is able to solve his/her problems according to the situation that means he/she is intellectually strong. Intellectual growth and development depends upon both heredity and environment which play very important role in the intellectual development of the individual. Important features of the intellectual development are as follows.

Mental development is continuous but steady process and all activities of the mind are interrelated also.as long as the experience of the child increases, his mental horizon expands, he learn not only to differentiate but to integrate different elements of the physical as well as Meta physical world. Maturation and learning are the factors affecting learning.

Language Development: -

language is actually the verbalization of the concept which is learnt by imitation. Language is a tool of communication language is a means of expressing thinking and action without language we are not able to interact with each other and our social existence was not possible. Language may be of both verbal and non – verbal. Human being use both types of language i.e. verbal and non-verbal. Thus language development refers to the ability of a person to convince the people what he thinks right. Language is the tool through which the communication takes place. Language is the tool used in acquiring knowledge. When knowledge increases vocabulary also increases. Language development starts with mere names of the objects or events and when it reaches as its peak it develops ideas into universal concepts. Growth and maturity of the speech is an important aspect of the language development.

Pattern and process of change: -

Development incorporates change over time . We all change as we mature some of those changes due to experience and other to our physiology. Development psychology is concerned with the pattern and processes of change throughout our lifetime. The ultimate aim of development psychology is to explain how those changes come about.

Variety of Influences: -

The development psychologists examine a variety of influences including changes in the brain, influence of parents, the effect of a child's interaction with siblings and peers and the role of culture.

Intra-uterine Development: -

It is divided into 3 steps. Typical prenatal development begins with fertilization

and ends with birth, lasting between 266 and 280 days (from 38 to 40 weeks). It can be divided into three periods: **germinal, embryonic, and foetal**.

- **The Germinal Period**

  The **germinal period** is the period of prenatal development that takes place in the first two weeks after conception. It includes the creation of the fertilized egg, called a zygote, followed by cell division and attachment of the zygote to the uterine wall.

  Rapid cell division by the zygote continues throughout the germinal period. Cell division occurs through a process called *mitosis)*. By approximately one week after conception, the differentiation of these cells—their specialization for different tasks—has already begun. At this stage, the group of cells, now called the **blastocyst ,** consists of an inner mass of cells that will eventually develop into the embryo, and the **trophoblast ,** an outer layer of cells that later provides nutrition and support for the embryo. *Implantation*, the attachment of the zygote to the uterine wall, takes place about 11 to 15 days after conception.

- **The Embryonic Period**

  The **embryonic period** is the period of prenatal development that occurs from two to eight weeks after conception. During the embryonic period, the rate of cell differentiation intensifies, support systems for cells form, and organs appear. This period begins as the blastocyst attaches to the uterine wall. The mass of cells is now called an *embryo*, and three layers of cells form.

- **The Foetal Period**

  The **foetal period,** lasting about seven months, is the prenatal period between two months after conception and birth in typical pregnancies. Growth and development continue their dramatic course during this time. Three months after conception, the foetus is about 3 inches long and weighs about 3 ounces. It has become active, moving its arms and legs, opening and closing its mouth,

and moving its head. The face, forehead, eyelids, nose, and chin are distinguishable, as are the upper arms, lower arms, hands, and lower limbs. In most cases, the genitals can be identified as male or female. By the end of the fourth month of pregnancy, the foetus has grown to 6 inches in length and weighs 4 to 7 ounces. At this time, a growth spurt occurs in the body's lower parts. For the first time, the mother can feel arm and leg movements. By the end of the fifth month, the foetus is about 12 inches long and weighs close to a pound. Structures of the skin have formed—toenails and fingernails, for example. The foetus is more active, showing a preference for a particular position in the womb. By the end of the sixth month, the foetus is about 14 inches long and has gained another half-pound to a pound. The eyes and eyelids are completely formed, and a fi ne layer of hair covers the head. A grasping reflex is present and irregular breathing movements occur. As early as six months of pregnancy (about 24 to 25 weeks after conception), the foetus for the first time has a chance of surviving outside of the womb—that is, it is *viable.* Infants who are born early, or between 24 and 37 weeks of pregnancy, usually need help breathing because their lungs are not yet fully mature. By the end of the seventh month, the foetus is about 16 inches long and weighs about 3 pounds. During the last two months of prenatal development, fatty tissues develop, and the functioning of various organ systems—heart and kidneys,

Development psychologists are also interested in explaining individual differences in behavior, how the individuals differ in size, shape, colour etc. one from each other.

1.7 LET US SUM UP/ SUMMARY /CONCLUSION

Development psychology is the branch of psychology which deals with the human development as human being passes from one stage to another. It studies the attitudes, interests and various changes and influences of person one upon each other.Development psychology studies the scope by lying focus upon physical, intellectual, social language, emotional development of the individual step by step. It tries to analyze their different and causes the nature of development psychology is scientific. Development psychology deals with all those issues which are in any way

related to the development of man from prenatal stage to end of life. **Maturation and learning** play very important role in development process

Maturation refers to the biological unfolding of the individual according to species-typical biological inheritance an individual person's biological inheritance. Just as seeds become mature plants, assuming that they receive adequate moisture and nourishment, human beings grow within the womb of the mother. **Learning—**the process through which our *experiences* produce relatively permanent changes in our feelings, thoughts, and behaviours. We often learn to feel, think, and behave in new ways from our observations of and interactions with parents, teachers, and other important people in our lives, as well as from events that we experience.

1.8 GLOSSARY

Developmental Psychology:

Development psychology is the branch of psychology that deals or studies the development of human being from conception to death.

Behavior: - The observable action of a person.

Science: - Scientific investigation of study.

Validity: - Validity is the extent to which a concept, conclusion or measurement is well founded and corresponds accurately to the real world.

Universality: - The quality of being true in all situations.

Pre-natal:- Before birth.

Childhood: - Period of being a child or school going stage.

Adolescence: - Grow to maturity.

Adulthood: - The condition of being fully grown or mature.

1.9 SELF-ASSESSMENT QUESTIONS

Q.1. What do you mean by Development?

Q.2. What is difference between Growth and Development?

Q.3. Name the different stages of Development?

1.10 LESSON END EXERCISE

Q.1. What do you understand by Developmental psychology?

Q.2. What are the issues of studying human Development?

Q.3. What are the stages of Human Development?

Q.4. What is the scope of Studying Human Development?

Q.5. Define Development. Discuss its nature?

1.11 SUGGESTED READINGS

- Sharma , A……., & Bakshi ,A (2008) Textbook of vDevelopment and Abnormal Psychology Jammu: N. R. Books International.
- Morgan, T.C & King, R.A, Weize, J.R & Schopler. J Introduction to Psychology. New Delhi. Tata Mc GRAW HILL Edition.
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7. Gupta, R. (2003). *Development Psychology*, Ramesh Publications New Delhi.

8. Koul, L. (2004). *Methodology of Education Research,* New Delhi-Vikas Publishing House Pvt. Ltd.

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10. *Zimbardo Psychology and Life,* Malor Press.

1.13 MODEL TEST PAPER.

Long Answer Type Questions :-

Q.1. What do you understand by Developmental Psychology? Discuss its Scope also.

Q.2. Discuss the Nature, issues and scope of Studying Human Development.

Short Answer Type Questions :-

Q.1. What are the scope of studying Human Development.

Q.2. What is the nature of studying Human Development.

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COURSE NO. : PY- 301 **UNIT - I**

SEMESTER - III **LESSON : 2**

LONGITUDINAL CROSS-SECTIONAL AND SEQUENTIAL DESIGNS

2.1 Objectives

2.2 Introduction

2.3 Longitudinal

2.4 Cross-sectional

2.5 Sequential Design

2.6 Let us Sum Up

2.7 Glossary

2.8 Self-Assessment Questions

2.9 Lesson End Exercise

2.10 Suggested Reading

2.11 References

1.12 Model Test Paper

2.1 OBJECTIVES

- To study the developmental designs.
- To study the longitudinal design, cross-sectional design and sequential design.
- To evaluate and compare the various methods of studying developmental processes.

2.2 INTRODUCTION

Development psychology uses scientific research methods to study the change that occur in human beings over the course of their lives like all other sciences psychology also aims at the examination cause – effect relationship and the discovery of principles and laws which can form the basis for predictions concerning human behavior methods of studying human development should be objective, organized, systematic and real. They should be able to provide an analysis of behavior based on well-defined terms for only then can the conclusions be valid.

2.2.1 The Scientific Method

Modern developmental psychology is appropriately labelled a scientific enterprise because those who study development have adopted the **scientific method,** which guides their attempts at understanding. There is nothing mysterious about the scientific method. It refers to the use of objective and replicable methods to gather data for the purpose of testing a theory or hypothesis. By *objective* we mean that everyone who examines the data will come to the same conclusions, that is, it is not a subjective opinion. By *replicable* we mean that every time the method is used, it results in the same data and conclusions. Thus, the scientific method dictates that, above all, investigators must be *objective* and must allow their data to decide the merits of their thinking. In earlier eras, people assumed that great minds always had great insights. Expert have common beliefs guided child-rearing practices (for example, "spare the rod, spoil the child," "children should be seen and not heard," and "never pick up a crying baby"). Very few individuals questioned the word of well-known scholars and common knowledge because the scientific method was not yet a widely

accepted criterion for evaluating knowledge. The intent here is not to criticize the early developmentalists and parents. However, great minds may on occasion produce miserable ideas that can do a great deal of harm if those ideas are uncritically accepted and influence the way people are treated. The scientific method, then, is a valuable safeguard that helps to protect the scientific community and society at large against flawed reasoning (Machado & Silva, 2007). Protection is provided by the practice of evaluating the merits of various theoretical pronouncements against the objective record, rather than simply relying on the academic, political, or social credibility of the theorist. Of course, this also means that the theorist whose ideas are being evaluated must be equally objective and willing to discard pet notions when there is sufficient evidence against them. Today, developmentalists use the scientific method to draw conclusions about development. This doesn't magically resolve differences of opinion, however. For example, for every "expert" who believes that psychological differences between males and females are largely biological in origin, there is likely to be another "expert" who just as firmly insists that boys and girls differ because they are raised differently. Stewart, 2007, for a modern example of such a controversy.) Who are we to believe? It is in the spirit of the scientific method to believe the data—such as research findings regarding the effects of sexist and non-sexist learning experiences on the interests, activities, and

Personality traits of girls and boys. The scientific method involves a process of generating ideas and testing them by making research observations. Development studies are not concerned with the changes take place in the children but also important for the educators to have valuable information about physiological, intellectual and emotional growth of the children at various ages. Such types of information are useful for taking decision about the type of curriculum, text books and teaching methods. Development psychology is that the person conducting the study should be able to establish close and intimate relationship with the subject and also adjust his technique in such a manner that he should have minimum difficulty in obtaining the subject's reaction. Experts should be required to undergo sufficient mental acuity to be able to get this information even without the child's direct assistance.

The different method for studying developmental processes are;-

(1) Longitudinal

(2) Cross-sectional

(3) Sequential

2.3 LONGITUDINAL METHOD

Longitudinal study follow the same subject, group or institution. The purpose of the longitudinal approach is to find out of the development tendency by making an intensive study of the child.

In a **longitudinal design,** the same participants are observed repeatedly over a period of time. The time period may be relatively brief—6 months to a year—or it may be very long, spanning a lifetime. Researchers may be studying one particular aspect of development, such as intelligence, or many. By repeatedly testing the same participants, investigators can assess the *stability* (or continuity) of various attributes for each person in the sample. They can also identify normative developmental trends and processes by looking for commonalities, such as the point(s) at which most children undergo various changes and the experiences, if any, that children seem to share prior to reaching these milestones. Finally, the tracking of several participants over time will help investigators to understand *individual differences* in development, particularly if they are able to establish that different kinds of earlier experiences lead to different outcomes. Several very noteworthy longitudinal projects have followed children for decades and have assessed many aspects of development (see, for example, Kagan & Moss, 1962; Newman et al., 1997). However, most longitudinal studies are much more modest in direction and scope. For example, Carolee Howes and Catherine Matheson (1992) conducted a study in which the pretend play activities of a group of 1- to 2-year-olds were repeatedly observed at 6-month intervals over 3 years. Using a classification scheme that assessed the cognitive complexity of play, Howes and Matheson sought to **determine:**

(1) Whether play did reliably become more complex with age,

(2) Whether children reliably differed in the complexity of their play, and

(3) Whether the complexity of a child's play reliably forecasted his or her later social competencies with peers.

Not surprisingly, all children displayed increases in the complexity of their play over the 3-year period, although there were reliable individual differences in play complexity at each observation point. In addition, there was a clear relationship between the complexity of a child's play and later social competence with peers: Children who engaged in more complex forms of play at any given age were the ones who were rated as most outgoing and least aggressive at the next observation period 6 months later. So this longitudinal study shows that complexity of pretend play not only increases with age but is also a reliable predictor of children's future social competencies with peers.

2.3.1 Merits/Advantages/Pros of Longitudinal Research or method

- **Observational:-**

  Longitudinal studies are a type of research study or survey that is primarily observational. This means that a longitudinal study does not involve interference with the subject of the study in any form.

- **Unique:-**

  Longitudinal study is unique due to fact that it has a time line that is completely dependent on respondents. Longitudinal studies are primarily used by psychologist that are looking to determine or measure the impact therapy can have one time.

- **Large sample**:

  Longitudinal studies are helpful in determining pattern because it involves using and collecting data from long periods of time. Longitudinal studies are high in validity and are great for picking up long term change.

- **Need of experts:**

  Expert are required to carry in this type of research. They can provide high

accuracy when observing changes with their quality of being the perfect method to conduct research on development trends, these studies can make observation of changes more accurate.

- **Highly Flexible**: -

Longitudinal research / studies are often observed to allow flexibility to occur. This means that the focus they use can be shifted while researches are collecting data.it is very effective in doing research on development trends. These studies are often used in psychology to conduct research on development trends across life spans.

- **Not a Snapshot: -**

Longitudinal study is not a snapshot –shows changes in attitude /behavior over time. It can give qualitative and quantitative data helps in producing such information. Longitudinal studies are more powerful than cross- sectional studies as they utilize the observation method without manipulating the state of world.

2.3.2 DRAWBACKS OF LONGITUDINAL DESIGNS

Although we have portrayed the longitudinal design in a very favourable manner, this approach has several potential drawbacks which are as under:

- **Costly and Time-Consuming**

Longitudinal projects can be very *costly* and *time-consuming.* These points are especially important in that the focus of theory and research in the developmental sciences is constantly changing, and longitudinal questions that seem exciting at the beginning of a 10- or 20-year project may seem rather trivial by the time the project ends.

- **Practice effects**

Practice effect can also threaten the validity of longitudinal studies: Participants who are repeatedly interviewed or tested may become test-wise

or increasingly familiar with the content of the test itself, showing performance improvements that are unrelated to normal patterns of development

- **Selective Attrition**

  Longitudinal researchers may also have a problem with **selective attrition.** Children may move away or become bored with participating, or they may have parents who, for one reason or another, will not allow them to continue in the study.

- **Conclusion**

  The end result is a smaller and potentially **non representative sample** that not only provides less information about the developmental issues in question but also may limit the conclusions of the study to those children who do not move away and who remain cooperative over the long run.

- **Cross-generational problem**

  There is another shortcoming of long-term longitudinal studies that students often see right away—the **cross-generational problem.** Children in a longitudinal project are typically drawn from one cohort and are likely to have very different kinds of experiences than children from other eras.

- **Panel Attrition**

  One of the biggest disadvantages of the longitudinal study is Panel attrition. This mean that of researches are only relying upon the same group of subject for a research that take place at certain point in time in years, then there is the possibility that some of the subject would no longer be able to participate because of various reasons, such as changes in contact details, refusal, incapacity and even death Which cut down the usable data to be drawn to formulate the conclusion .

- **Risk Gathering Data**

  Data is collected at multiple points in this method of conducting research.

The respondents would unknowingly change their qualitative responses over time to better suit. What they see as the objection of the observer.

- **Biased**

  Longitudinal samples tend to be biased, those who stay with the study tend to have higher than average so economic status and intelligence and those who drop out.

- **Applicability**

  It is also one of the disadvantage of the longitudinal study that study done on one cohort may not apply to another.

- **Practice effect**

  The result can be affected by repeated testing, people tend to do better in late test because of familiarity with test procedure and practice effect. Issues and concepts in longitudinal study may change over time it takes to do research

For example, how the times have changed since the 1930s and 1940s, when children in some of the early long-term longitudinal studies were growing up. Today, in this age of dual-career families, more children are attending day-care centres and nursery schools than ever before. Modern families are smaller than in the past, meaning that children now have fewer brothers and sisters. Families also move more frequently than they did in the 1930s and 1940s, so that many children from the modern era are exposed to a wider variety of people and places than was typical in the past. And no matter where they may be living, today's children grow up in front of televisions, video games, and computers—influences that were not available during the 1930s and 1940s. So children of earlier eras lived in a very different world, and we cannot be certain that those children developed in precisely the same way as today's children. In sum, cross-generational changes in the environment may limit the conclusions of a longitudinal project to those participants who were growing up while the study was in progress. We have seen that the cross-sectional and the longitudinal designs each have distinct advantages and disadvantages.

Thus, in longitudinal study, the same child is studied intensively at various stages of his growth through separate observations from time to time. Various development characters such as weight, height vocabulary, social, maturity intelligence, emotional control also taken into consideration. In longitudinal study, comparative picture will be available to us and we may be understand whether the child is growing satisfactory or not. In this manner, we become acquainted with the total picture of his total tendencies

2.3.4 Procedure or steps;-

E.g. Geeta examined the motor intellectual and personality development of 25 children from birth to the age of 5 years.

- **EXAMINING EVERYDAY**

  In the first week, the children were examined every day in the hospital

- **EXAMINING ALTERNATE DAYS**

  During the 2nd week, the children were examined on alternate days.

- **EXAMINING WEEKLY**

  After this, for the entire first year, the children were examined at their homes at intervals of a week in the 2nd year.

- **EXAMINING MONTHLY**

  During this entire period, the reactions of the children were carefully noted, both by description and by qualitative analysis Mothers of the various infants also gave their own accounts of the children‘s behavior.

- **RESULT**

  Conclusions reached on the basis of this data collected. This longitudinal research has continued over much longer periods of time depending upon the study you undertaken.

Types of Longitudinal Studies

Panel : A panel longitudinal study involves using the subjects that are chosen randomly.

Cohort : It involves selecting subject based on the similar trait or factor.

Retrospective : It involves the use of historical data among population of subjects.

2.4 CROSS – SECTIONAL STUDY /METHOD /DESIGN

2.4.1. Introduction

Developmentalists are not merely interested in examining people's progress at one particular phase of life. Cross-sectional studies determines how people's feelings, thoughts, abilities, and behaviours *develop* or *change* over time. In a **cross-sectional design,** people who *differ in age* are studied at *the same point in time.* In cross-sectional research, participants at each age level are *different* people. That is, they come from different cohorts, where a **cohort** is defined as a group of people of the same age who are exposed to similar cultural environments and historical events as they are growing up. By comparing participants in the different age groups, investigators can often identify age-related changes in whatever aspect of development they happen to be studying. An experiment by Brian Coates and Willard Hartup (1969) is an excellent example of a cross-sectional experimental design. Coates and Hartup were interested in determining why preschool children are less proficient than first- or second-graders at learning new responses displayed by an adult model. Their hypothesis was that younger children don't spontaneously *describe* what they are observing, whereas older children produce verbal descriptions of the modelled sequence. When asked to perform the actions they have witnessed, the pre-schoolers are at a distinct disadvantage because they have no verbal "learning aids" that would help them to recall the model's behaviour. To test these hypotheses, Coates and Hartup designed an interesting cross-sectional experiment. Children from two age groups—4- to 5-year-olds and 7- to 8-year-old watched a short film in which an adult model displayed 20 novel responses, such as throwing a beanbag between his legs, lassoing an inflatable toy with a hula hoop, and so on. Some of the children from each age group were instructed to describe the model's actions, and they did so as they watched the fi lm (induced-verbalization condition).Other children were not required to

describe the model's actions as they observed them (passive-observation condition). When the show ended, each child was taken to a room that contained the same toys seen in the fi lm and was asked to demonstrate what the model had done with these toys.

First, the 4- to 5-year-olds who were *not* told to describe what they had seen (that is, the passive observers) reproduced *fewer* of the model's responses than the 4- to 5-year olds who described the model's behaviour (the induced verbalizers) or the 7- to 8-year olds in either experimental condition. This finding suggests that 4- to 5-year-old children may not produce the verbal descriptions that would help them to learn unless they are explicitly instructed to do so. Second, the performance of younger and older children in the induced-verbalization condition was comparable. So younger children can learn as much as older children by observing a social model *if the younger children are told to describe what they are observing.* Finally 7- to 8-year-olds in the passive-observation condition reproduced about the same number of behaviours as 7- to 8-year-olds in the induced-verbalization condition. This finding suggests that instructions to describe the model's actions had little effect on 7- to 8-year-olds, who will apparently describe what they have seen, even when not told to do so. Taken together, the results imply that 4- to 5-year-olds may often learn less from social models because they, unlike older children, do not spontaneously produce the verbal descriptions that would help them to remember what they have observed. In cross – sectional study, people of different age are assessed on one time or occasions this kind of study provide information about differences in development among different age group , rather than change with age in the3 same person. The people of different age are examined at the same time usually done with cohorts, so that researches can examine how people of different age perform, behave, or respond to a particular function. A cross sectional study involves looking at people who differ on one key characteristics such s age at one specific point in time. The data is collocated at the same time from people who are sander. On other character tics but different on a key factor of interest such as age, income levels and geographic locations. Particular are usually separated into group known as cohorts. This type of study uses different groups of people who differ in the valuable of interest but who share other characteristics such as sex, educational background. Cross sectional studies are often

used in development psychology, but that method is also utilized in many other area including social science and education.

For Example: - Researches studying development psychology might select group of people who are remarkably similar in most areas but differ only in age. By doing this difference between groups can presumably by attributed to age differences rather than to other variables.

2.4.2 ADVANTAGES OF CROSS-SECTIONAL DESIGN

- **Different Age Group Sample**

  An important advantage of the cross-sectional design is that the investigator can collect data from children of different ages over a short time. For example, Coates and Hartup did not have to wait 3 years for their 4- to 5-year-olds to become 7- to 8-year-olds in order to test their developmental hypotheses. They merely sampled from two age groups and tested both samples simultaneously. Yet there are two important limitations of cross-sectional research.

- **Cohort Effects**

  Recall as we noted above that in cross-sectional research, participants at each age level are *different* people. That is, they come from different cohorts. The fact that

  Cross-sectional comparisons always involve different cohort's presents us with a thorny interpretive problem—for any age differences that are found in the study may not always be due to age or development but, rather, may reflect other cultural or historical factors that distinguish members of different cohorts. Stated another way, cross-sectional comparisons *confound age and cohort effects*.

- **Quick and Easy**

  It has the advantage of being quick and easy; we can go out this year, sample individuals of different ages, and be done with it.Data can be gathered fairly and quickly from large number of people. It is less time consuming than the longitudinal designs.

- **Not Costly**

  Cross sectional study is not costly to perform. It is cheaper and more manageable than longitudinal studies. Cross- sectional study help us to study various groups of children with a shorter period of time. The investigator need not to wait for next stage of development.

- **Easy to do**

  Cross- sectional study is so much easier to do the proportion of research denoted to longitudinal studies especially short term one is increasing. Cross- sectional study contains multiple variable at the time of the data snapshot. The cross sectional study data can be used for various type of research.

- **Findings**

  Many findings and out comes can be analyzed to create new theories/ studies/ or in depth research.

- **Careful sampling**

  Cross Sectional designs require careful sampling of participants to be sure that the groups at different at levels are reasonably comparable. Cross sectional study provide good, quick picture of prevalence of exposure and outcomes. Cross sectional study are often based on a questionnaire survey.

- **Follow up**

  There will be no loss to follow up because participate are interviewed only once.This design is likely to yield valid conclusions when there is little reason to believe that the cohorts being studied have had widely different experiences while growing up. So if we compared 4- to 5-year-olds with 7- to 8-year-olds, as Coates and Hartup did, we might feel reasonably confident that history or the prevailing culture had not changed in any major way in the 3 years that separate these two cohorts.

2.4.3 Disadvantages/Demerits or cons of cross sectional study:-

- **Analyzing behavior**

  Cross sectional study cannot be used to analyze behavior over a period of time. The finding of the cross sectional study can be flawed or skewed if there is a conflict of interest with the finding sources. Cross sectional studies may face some challenges putting together the sampling pool based on the variables of the population studies.

- **Cause-effect relationship**

  Cross Sectional study does not help to determine cause and effect. It is mainly in studies that attempt to make inferences about development over a span of many years that cohort effects present a serious problem.

- **Not fixed time limit**

  The timing of the snapshot is not guaranteed to be representative. Cross sectional study face difficulty to determine temporal relationship between exposure and outcome (lack time element).

- **Biases**

  Another limitations of cross sectional studies is that the chance difference between samples may seriously bias the result.

- **Variability**

  In cross Sectional studies, the measurement taken of individuals at each age tend may not be comparable because the group may differ on variable other than age.

2.5 THE SEQUENTIAL DESIGN

2.5.1. Introduction:-

Sequential designs combine the best features of cross-sectional and longitudinal studies by selecting participants of different ages and following each of these cohorts

over time. To illustrate, imagine that we wished to study the development of children's logical reasoning abilities between the ages of 6 and 12. We might begin in 2010 by testing the logical reasoning of a sample of 6-yearolds (the 2004 birth cohort) and a sample of 8-year-olds (the 2002birth cohort). We could then retest the reasoning abilities of both groups in 2012 and 2014. Notice that the design calls for us to follow the 2004 cohort from ages 6 through 10 and the 2002 cohort from ages 8 through 12. There are three major strengths of this sequential design. First, it allows us to determine whether cohort effects are influencing our results by comparing the logical reasoning of same-aged children who were born in different years. As shown in the figure, cohort effects are assessed by comparing the logical reasoning of the two samples when each is aged 8 and 10. If the samples do not differ, we can assume that cohort effects are not operating .It allows us to make both longitudinal and cross-sectional comparisons in the same study. If the age trends in logical reasoning are similar in both the longitudinal and the cross-sectional comparisons, we can be quite confident that they represent true developmental changes in logical reasoning abilities. Finally, sequential designs are often more efficient than standard longitudinal designs. In our example, we could trace the development of logical reasoning over a 6-year age range, even though our study would take only 4 years to conduct. A standard longitudinal comparison that initially sampled 6-year-old participants would take 6 years to provide similar information. Clearly, this combination of the cross-sectional and longitudinal designs is a rather versatile alternative to either of those approaches.Cross – section research/ method involves using different group of people who differ in variable of interests but share other characteristics, such as Sex, education background and ethnicity.

E.g. if you wanted to know the percentage of women diagnosed with cancer increase with age how would you go about answering the question. In order to find the answer, you look at 3 different group of women who are similar but of different ages. Let's say three age groups are 20-35 yrs., 35-50yrs, 51-65yrs. You can then calculate the percentage of women in each group that have been diagnosed with breast cancer

Sequential design is a research methods that combines both a longitudinal design and cross- sectional design. It aims to correct for some of the problem inherent

in the cross sectional and longitudinal design. It uses both method by following several differently aged cohorts over time with longitudinal we look at one group over a long time with cross-sectional ,we look at a whole bunches of group right now with sequential, we look at a whole bunches of group over time.

Some researches combine both approaches in a sequential/age cohort design. Whit Bourne (1991) used such a design in a study of personality in young and middle adulthood. In 1996 and in 1976, she swayed college senior an aspects of their self-image social relationship and values. She repeated this study in1984 and 1990, with new group of college senior, she also re surveyed those subjects studied earlier. Each of these age group was considered an age cohort the earlier age cohort has now been studied four times that group can be analyzed for age differences in the same fashion as a longitudinal design how did these individual change as they from college students in the late 1960's to shorting their careers or marriages in the mid-1970.

Such a combined design is almost essential in the study of adulthood in order to separate the effect of chronological age from the effect of the particular historical period. the psychological reality of college students or of the parents of college students may differ depending on whether that person is living in the midst of conflict over civil lights and the Vietnam was in the late 1960's or amidst reviewed civil rights issues and the strong patriotism of the Persian gulf war of 1991.

The procedures permits researches to separate age related changes from cohort effect. Another sequential design consist of sequence of overlapping longitudinal studies, running an currently but starting one after the s another. The design follows researches to compare individual differences as well as development change. A combination of both method can provide a more complete picture of development that would be possible with both researches.

2.5.2 Merits/ Advantages:-

- **Cohort effect**

  We can find out whether cohort effects are overlapping by comparing children of the same age.

- **Uses of both method**

  Sequential method is the combination of both longitudinal and cross-sectional method. If outcomes are similar, then we can confident about the accuracy our findings.

- **Efficient**

  Sequential design is efficient because we can find out change over a 4 years period by following each cohort for just 2 years.

- **Avoid drawbacks**

  Sequential design avoid the drawbacks of both the longitudinal and cross sectional designs.

- **Complete picture**

  Sequential design is combination of both longitudinal and cross sectional design which can provide a more complete picture of development that would be the one of the main advantages of this method.

- **Study changes**

  Sequential studies to more accurately measure change than other type of studies by controlling creatural differences and time. **Sequential design** results clear distinction between changes that can be attributed to individual or historical environment and changes that are truly universal.

2.5.3 Disadvantages/ Demerits:-

- **Time consuming and Expensive**

  Sequential design is required more time for the collection and analysis of large amount of data. It is very costly method.

- **Difficult to do**

  Sequential study is difficult to do because it is combination of both methods

which affect the result of the study. Sequential study require large number of participants

- **High degree of Sophistication**

  Sequential study requires high degree of sophistication while inter predating their finding and conclusions.

- **Effort and complexity**

  The major drawback of sequential design involves effort and complexity.Age trends may reflect extraneous differences between cohorts rather than true developmental Change. It provides no data on the development of individuals because each participant is observed at only one point in time.

- **Selective attrition**

  Selective attrition may yield non representative sample that limits the generalizability of one's and the longitudinal approaches by observing different cohorts repeatedly over time. Children are observed extensively over a limited time period when a developmental change is thought to occur.

Differentiate between Cross Sectional, Longitudinal and Sequential Designs

Cross Sectional Design	Definition	Advantages	Disadvantages
Cross Sectional Design	Examines relationship between exposure and outcome prevalence in a defined population at a single point in time.	1. Less time consuming. 2. Inexpensive. 3. Easy to do. 4. Good, quick picture of prevalence of exposure and outcome.	1. Difficult to determine temporal relationship between exposure and outcome lack time element. 2. May have excess prevalence from long duration cases.
Longitudinal Design	It is a type of study which study the same group of participants repeatedly over a long period of time.	1. Observational. 2. Flexible. 3. Unique. 4. High in validity. 5. Very effective. 6.Determine patterns.	1. Expensive. 2. Difficult to do. 3.Time consuming. 4. Selective Sampling. 5. Selective drop out of participants.
Sequential Design	It is the combination of both methods i.e. longitudinal and cross sectional study collecting data on them at the same point in time.	1. Observational. 2. Flexible. 3. Unique. 4. High in validity. 5. Very effective. 6.Determine patterns.	1. Expensive. 2. Difficult to do. 3. Time consuming.

2.6 LET US SUM UP

There are various methods of studying Human Development Longitudinal method is a type of study which involves the study of same group of individual over a period of time. It has various benefits. It is objective , flexible effective and valid But it has also various demerits which are costly, require expects, difficulty to do , Retest effect, time consuming and selective drop out of participants etc.

Cross sectional study is a method of studying development in which a sample of individuals of one age are observed and compared with one or more sample of individuals of other ages.

Sequential Design is a combination of both cross sectional and longitudinal researches design in which individual of both or several different ages are observed repeatedly over an extended period of time.

2.7 GLOSSARY

Cohort: - A group of people with a shared characteristics.

Objective: - Which are not influenced by personal feeling or opinion.

Flexibility:- Capable of bending , easily or modified easily to altered Circumstances.

Effective: - successful in producing a desired result.

Snapshot: - An informal photograph taken quickly.

Retrospective: - Looking back or dealing with past event or situations.

2.8 SELF-ASSESSMENT QUESTIONS

Q.1. What do you understand by Designs?

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Q.2. What are the different types of Designs?

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Q.3. What is the scope of these design in research process?

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2.9 LESSON AND EXERCISES

Q.1. What do you mean by Longitudinal Design. Discuss its merits and Demerits.

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Q.2. What are the different types of Longitudinal study.

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Q.3. What do you understand by cross-sectional method. Discuss its merits and Demerits.

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Q.4. What is sequential method. Explain its merits and Demerits.

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Q.5. What are the differences between Longitudinal, Cross – sectional and Sequential method.

_____

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2.12 MODEL TEST PAPER

Long Answer Type Questions:-

Q.1. What is longitudinal Design? Explain it merits and Demerits also.

Q.2. What do you understand by cross-sectional designs? Discuss its merits and demerits.

Q.3. What do you understand by Sequential designs? Discuss its Merits and Demerits.

Short Answer Type Questions:-

Q.1. What is longitudinal Design.

Q.2. What are difference between longitudinal, Cross-sectional and sequential design.

Q.3. What is Cross-sectional design.

Q.4. What do you mean by sequential design study.

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HEREDITY : BASIS OF GENETICS, GENETIC DISORDERS, HEREDITY AND ENVIRONMENT

STRUCTURE

3.1 Objectives

3.2 Introduction

3.3 Basics of Genetics

3.4 Genetic Disorder

3.5 Heredity and Environment

3.6 Let Us Sum Up

3.7 References

3.1 OBJECTIVES

After going through this lesson, the student should be able to

- Understand the meaning of term heredity
- Know how transmission of genetic traits from parents to child take place
- Understand how human characteristics are influenced by heredity
- Know the genetic disorders passed on from parents to children

3.2 INTRODUCTION

The course of human life begins when a cell from father and a cell from mother unite deep within the mother's body. At that time, the inheritance of a new individual is established. The fertilized cell, or Zygote contains all the instructions for a unique physical appearance and a disposition towards certain personality characteristics and mental abilities. Fertilization or conception is a process by which a sperm and an ovum join to form a single new cell, called zygote.

Genes are the basic unit of genetic information. These are composed of sequences of DNA molecules, and they determine the nature of every cell in the body and how it will function. Genes may be considered as the biological equivalent of "software" that programs the future development of all parts of the body " hardware".

3.3 THE BASICS OF GENETICS

The mixing and matching of heredity, the color of hair or short height are some of the characteristics which are passed on from parents to child. The genetic material relating to both parents is present in the offspring, even though it can- not be seen. The genetic information is known as the organism's genotype. Genotype is the underlying combination of genetic material present in an organism. In contrast a phenotype is the observable trait, the trait that actually is seen.

Parents transmit genetic information to their off springs via the chromosomes. If the offspring receives similar genes, the organism is said to be homozygous for the trait. If the offspring receives different forms of gene from its parents, it is said to be heterozygous. In case of the heterozygous alleles, the dominant character is expressed. However, if child happens to receive a recessive allele from each of its parents lacks a dominant characteristics, it will display the recessive characteristics. Genetic transmission can be easily understood based on the example of single gene dependent characteristics. Single-gene trait may also be co-dominant, so that either allele may express itself, depending upon environmental conditions. Most of the human traits are polygenic i.e several genes are required to produce the trait. Some-times all the genes have an equal and cumulative effect and some genes in combination have more influences than others on the phenotype. One pair of chromosomes is different from

all the rest. This pair called the sex chromosomes, is unique because its member do not have matching alleles ACL normal ova carry the female chromosome(x), but normal sperm may carry either the female chromosome(x) or the male chromosome(Y). When ovum and sperm join, the zygote will be either female (xx) or male (XY), depending on which type of sperm fertilizes the egg. The influence of sex chromosomes goes beyond determining whether the zygote will develop into a boy or a girl. The large X chromosomes carries more genes, but the small Y chromosome carries only a few. This means that a boy gets more genes from his mother than from his father, a situation that sometimes has serious consequences. There is no corresponding allele for many genes on the X chromosome, the male zygote has no protection against potentially harmful resolve genes carried by mother e.g hemophilia, colorblindness are rare in girls, appearing only if both X chromosomes carry the related gene.

3.4 GENETIC DISORDER

Genetic disorder may be a result of genes getting physically damaged. For instance, genes may break down due to wear and tear or chance events occurring during the cell division processes of meiosis and mitosis. Sometimes genes may spontaneously change their form for no known reason. Certain environmental factors, such as exposure to X-rays, may produce a malformation of genetic material. When such damaged genes are passed on to a child, the result can be disastrous in terms of future physical and cognitive development .Genes exert their influence throughout the life span. A recessive gene responsible for a disorder may be passed on unknowingly from one generation to the next, revealing itself only when, by chance, it is paired with another recessive gene. It is only when two recessive genes will express itself and a child will inherit the genetic disorder.

Many disorder appear to be transmitted through the operation of dominant and recessive genes.

GENETIC AND CHROMOSOMAL ABNORMALITIES

Babies born with serious birth defects are at high risk of dying at or shortly after birth or during infancy or childhood. Although most birth disorders are fairly rare. Many defects are hereditary, affected people risk passing them on to their children.

This increased risk may be one reason that men and women with birth defects are less likely than others to have children. It is in genetic defects and diseases that one sees most clearly the operation of dominant and recessive transmission, and also of a variation, sex linked inheritance. Some defects are due to abnormalities in genes or chromosomes, which may result from mutations: permanent alterations in genetic material that may produce harmful characteristics.

Not all genetic or chromosomal abnormalities show up at birth. Symptoms of Tay Sachs disease and sickle cell anemia may not appear until at least 6 months of age; cystic fibrous, in which excess mucus accumulates in the lungs and digestive track , not until age 4; and glaucoma and Huntington's disease usually not until middle age.

DEFECTS TRANSMITTED BY DOMINANT OR RECESSIVE INHERITANCE

When one parent has a dominant abnormal gene and one recessive normal gene and the other parent has two recessive normal genes, each of their children has a 50-50 chance of inheriting the dominant abnormal gene. Among the 1,800 disorders known to be transmitted by dominant inheritance are achondroplasia and Huntington's disease.

Defects transmitted by recessive inheritance are more likely to be lethal at an early age than those transmitted by dominant inheritance. If a dominantly transmitted defect killed before the age of reproduction, it could not be passed on to the next generation and therefore would soon disappear. A recessive defect can be transmitted by carriers who do not have the disorder and thus may live to reproduce.

DEFECTS TRANSMITTED BY SEX-LINKED INHERITANCE

In sex linked inheritance certain recessive disorders linked to genes on the sex chromosomes show up differently in male and female children. Red-green color blindness is one of these sex-linked conditions. Another is hemophilia, a disorder in which blood does not clot when it should. Sex-linked recessive traits are carried on one of the X chromosomes of an unaffected mother. The mother is a carrier; she does not have the disorder but can pass on gene for it to her children. Sex linked disorders

always appear only in male children; in females, a normal dominant gene on the X chromosome from the father generally overrides the defective gene on the X chromosome from the mother. Boys are more vulnerable to these disorders because there is no opposite dominant gene on the shorter Y chromosome from the father to override a defect on the X chromosome from the mother.

CHROMOSOMAL ABNORMALITIES

About 1 in every 156 children born in western countries is estimated to have a chromosomal abnormality. Some of these abnormalities are inherited; others result from accidents during prenatal development.

Some chromosomal disorders, such as Klinefelter syndrome, are caused by an extra sex chromosome, shown by the pattern XXY. Others, such as Turner syndrome, result from a missing sex chromosome XO. Other chromosomal abnormalities occur in the autosomes. Down syndrome, the most common of these, is responsible for about one-third of all cases of moderate to severe mental retardation. The condition also called trisomy-21, is usually caused by an extra twenty-first chromosome or the translocation of part of the twenty-first chromosome onto another chromosome. A bout 1 in every 700 babies born alive has Down syndrome. The risk is greater with older parents.

3.5 HEREDITY AND ENVIRONMENT

While certain rare physical disorders are virtually 100 percent inherited, phenotypes for most complex normal traits, such as those having to do with health, intelligence, and prosperity are subject to a complex array of heredity and environmental forces

STUDYING HEREDITY AND ENVIRONMENT

One approach to the study of heredity and environment is quantitative: it seeks to measure how much heredity and environment influence particular traits. This is the traditional goal of the science of **behavioral genetics.**

Measuring Heritability: Heritability is a statistical estimate of how great a

contribution, heredity makes toward individual differences in a specific observed trait at a certain time within a given population. Heritability does not refer to the relative influence of heredity and environment in a particular individual; those influences may be virtually impossible to separate. Nor does heritability tell us how traits develop. It merely indicates the statistical extend to which genes contribute to a trait. Heritability is expressed as a number ranging from 0.0 to 1.0; the greater the number, the greater the heritability of a trait, with 1.0 meaning that genes are 100 percent responsible for individual differences in the trait.

Effects of the prenatal Environment

The studies on environmental influences in the womb allow researchers to look at the nature and timing of non-genetic influences in utero. Co-twin control studies compare the prenatal development and experiences of one monozygotic twin with those of the other, who serves as a one-person 'control group'. Chorion control studies focus on prenatal influences by comparing two types of monozygotic twins—(1) mono-chorionic twins, who develop within the same fluid-filled sac and thus have same prenatal environment and(2) dichorionic twins, who grow within separate sacs.

Mono-chorionic twins normally share blood and have similar hormonal levels, which affect brain development. They also share exposure to any infectious agents that come from the mother's body. Because di-chorionic twins are attached to different parts of the uterine wall, one twin may be better nourished than the other and better protected against infection. Twin studies that do not take account of these factors may either underestimate or overestimate genetic influences.

HOW HEREDITY AND ENVIRONMENT WORK TOGETHER

The research in cognitive neuroscience and molecular biology increasingly underlines the complexity of development, many developmental scientists have come to regard a solely quantitative approach to the study of heredity and environment. These two forces are fundamentally intertwined and inseparable. Instead of looking at Genes and experience as operating directly on an organism, the researchers see these two factors as part of a complex developmental system. From conception on,

throughout life, a combination of constitutional factors and social, economic and cultural factors help shape development.

There are several ways in which inheritance and experience work together.

Reaction Range and Canalization

Many characteristics vary, within limits, under varying hereditary or environmental conditions.

Reaction Range refers to a range of potential expressions of a heredity trait. It refers to potential variability, depending on environmental conditions, in the hereditary trait. Body size, for example, depends largely on biological processes, which are genetically regulated. Heredity can influence whether a reaction range is wide or narrow. For example, a child born with a defect producing mild retardation is more able to respond to a favorable environment than a child born with more severe limitations. Likewise, a child with a greater native intelligence is likely to benefit more from an enriched home and school environment than a child with normal ability.

The metaphor of **canalization** illustrates how heredity restricts the range of development for some traits. Canalization is the limitation on variants of expression of certain inherited characteristics. Certain behaviours also develop along genetically dug channels , it takes an extreme change in environment to alter their course .

Genotype – Environment Interaction

Genotype Eenvironment Interaction usually refers to the effects of similar environmental conditions on genetically different individuals. To take a familiar example , many people are exposed to pollen and dust , but people with a genetic predisposition are more likely to develop allergic reactions. But interactions can work the other way as well : genetically similar children often develop differently depending on their home environment . a child born with a difficult temperament may develop adjustment problems in one family and thrive in another , depending largely on parental handling. Thus certain outcomes depend on the interaction of heredity and environment .

Characteristics influenced by heredity and environment :

(1) Physical and physiological traits :

The falling physical and physiological traits are inherited

(a) Physical appearance is determined by genes

(b) Blood pressure, rate of breathing , perspiration and pulse

(c) Obesity or extreme over weight is a multi factorial condition

(d) Height and weight

(e) Age of first mensturation and sexual maturity

(f) Process of growing old and death

(g) Intelligence : The home environment and genetic factors both influence intelligence .

(2) Psychological disorders influenced by heredity and environment:

(a) **Alcoholism :** has a genetic base and runs in families, high risk results from interaction of heredity and environment factors .

(b) Schizophrenia : many studies show the role of genetic factor in schizophrenia. twin studies, family studies all indicate the predisposition is transmitted genetically which makes people vulnerable to this disorder in stressful life situations.

(c) **Infantile antism :** It is inherited through recessive genes. The child does not communicate with or respond to other people

(d) **Depression :** it has a strong genetic basis. It is 2-3 times higher in close relatives of depressed people than in general population .

3.6 LET US SUM UP

A genotype is the underline combination of genetic material present in an organism but invisible; a fenotype is the visible trait, the expression of genotype.

there are three main mechanisms of inheritance ; single gene – pair inheritance , sex linked inheritance and polygenic inheritance .

Genes for specific disease can cause a variety of disorders at conception. many of the inherited and genetic disorder are due to damaged or mutated genes .

Development is shaped by interaction of heredity and environment . the complex interaction between genetic and environmental effects maybe seen in the active genotype – environment effects of children . genetic influences have identified in physical and physiological traits , intelligence and psychological disorders .

CHECK YOUR PROGRESS EXERCISE

Note : Use the space given below for your answers

Use separate sheet if space is not sufficient

Q1. What are the important causes of genetic disorders?

_____

_____

Q2. Briefly describe the various genetic disorders.

_____

_____

Q. 3. Explain two genes linked abnormalities.

_____

_____

Q. 4. Enumerate the methods of studying the gene and environment influences.

_____

_____

Q. 5. What physiological disorders are influenced by heredity and environment.

_____

_____

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COURSE NO. : PY- 301 **UNIT - II**

SEMESTER - II **LESSON : 4**

STAGES OF PRENATAL DEVELOPMENT AND FACTORS INFLUENCING PRENATAL DEVELOPMENT

STRUCTURE

4.1 Objectives

4.2 Introduction

4.3 Stages of Prenatal Development

4.4 Factors influencing Prenatal Development

4.5 Let Us Ssum Uup

4.6 References

4.1 OBJECTIVES

After going through this lesson the student should be able to:

- Understand the fetal development
- Know the three subdivisions of prenatal period.
- Know the outstanding characteristic of subdivisions of pre-natal period.
- Know the factors influencing pre-natal development.

4.2 INTRODUCTION

As soon as sperm and egg unite, development begins and progresses at a rapid pace. The product of conception, a Zygote, works its way down the fallopian tube. The course of prenatal development falls into roughly three periods. During the first two weeks after conception, called the germinal period, the Zygote is primarily engaged in cell division. During the embryonic period, which covers the next six weeks, the organism (embryo) begins to take shape, and it's various organ systems begin to form. Thereafter, from approximately eight weeks after conception to birth the developing organism is called fetus. The total gestation period usually lasts about 266 days from conception or 280 days from beginning of the mother's last normal menstruation, however, gestation age is a more accurate measure of fetal development.

While one might think of child development as something that begins during infancy, the prenatal period is also considered an important part of the developmental process. Prenatal development is a time of remarkable change that helps set the stage for future child development. Perhaps that is why in China the birthday's are celebrated on their estimated date of conception rather than their date of birth. The Chinese custom recognizes the importance of the period of development between conception and birth Let's take a closer look at the major stages and events that take place during the prenatal period of development.

4.3 THE STAGES OF PRENATAL DEVELOPMENT

The process of prenatal development occurs in three main stages: germinal, embryonic, and fetal.

The first two weeks after conception are known as the germinal stage; the third through the eighth week are known as the embryonic period, and the time from the ninth week until birth is known as the foetal period. During these stages of gestation, the zygote grows into an embryo and then a foetus. In both pre-natal and post-natal period, development proceeds according to two fundamental principles: The **cephalocaudal principle**-principle that development proceeds in a head-to-tail direction; that is, the upper parts of the body develop before lower parts and the **proximodistal principle —** principle that development proceeds from within to

without; that is, that parts of the body near the center develop before the extremities. The embryo's head and trunk develop before the libs, and the arms and legs before the fingers and toes.

The Germinal Stage

The germinal stage begins at conception when the sperm and egg cell unite in one of the two fallopian tubes. The fertilized egg, known as a zygote, then moves toward the uterus, a journey that can take up to a week to complete. Cell division begins approximately 24 to 36 hours after conception.

Within just a few hours after conception, the single-celled zygote begins making a journey down the fallopian tube to the uterus where it will begin the process of cell division and growth. The zygote first divides into two cells, then into four, eight, sixteen, and so on.

Once the eight cell point has been reached, the cells begin to differentiate and take on certain characteristics that will determine the type of cells they will eventually become.

As the cells multiply, they will also separate into two distinctive masses: the outer cells will eventually become the placenta while the inner cells will form the embryo.

Cell division continues at a rapid rate and the cells then develop into what is known as a **blastocyst**. The blastocyst is made up of three layers:

1. The **ectoderm** (which will become the skin and nervous system)
2. The **endoderm** (which will become the digestive and respiratory systems)
3. The **mesoderm** (which will become the muscle and skeletal systems).

Finally, the blastocyst arrives at the uterus and attach to the uterine wall, a process known as **implantation**.

Implantation occurs when the cells nestle into the uterine lining and rupture tiny blood vessels. The connective web of blood vessels and membranes that form

between them will provide nourishment for the developing being for the next nine months. Implantation is not always an automatic and sure-fire process.

Researchers estimate that approximately 60 percent of all natural conceptions never become properly implanted in the uterus, which results in the new life ending before the mother is ever aware she is pregnant.

When implantation is successful, hormonal changes halt a woman's normal menstrual cycle and cause a whole host of physical changes. For some women, activities they previously enjoyed such as smoking and drinking alcohol or coffee may become less palatable, possibly part of nature's way of protecting the growing life inside her.

The Embryonic Stage

The mass of cells is now known as an e**mbryo**. The beginning of the third week after conception marks the start of the embryonic period, a time when the mass of cells becomes distinct as a human. The embryo begins to divide into three layers each of which will become an important body system. Approximately 22 days after conception, the neural tube forms. This tube will later develop into the central nervous system including the spinal cord and brain.

Around the fourth week, the head begins to form quickly followed by the eyes, nose, ears, and mouth. The cardiovascular system is where the earliest activity begins as the blood vessel that will become the heart start to pulse. During the fifth week, buds that will form the arms and legs appear.

By the time the eighth week of development has been reached, the embryo has all of the basic organs and parts except those of the sex organs. It even has knees and elbows! At this point, the embryo weighs just one gram and is about one inch in length.

The Foetal Stage

Once cell differentiation is mostly complete, the embryo enters the next stage and become known as a **foetus**. This period of develop begins during the ninth week

and lasts until birth. The early body systems and structures established in the embryonic stage continue to develop. The neural tube develops into the brain and spinal cord and neurons form. Sex organs begin to appear during the third month of gestation. The foetus continues to grow in both weight and length, although the majority of the physical growth occurs in the later stages of pregnancy.

This stage of prenatal development lasts the longest and is marked by amazing change and growth. During the third month of gestation, the sex organs begin to differentiate and by the end of the month, all parts of the body will be formed. At this point, the foetus weight around three ounces.

The end of the third month also marks the end of the first trimester of pregnancy. During the second trimester, or months four through six, the heartbeat grows stronger and other body systems become further developed. Fingernails, hair, eyelashes and toe nails form. Perhaps most noticeably, the fetus increases quite dramatically in size, increasing about six times in size.

The brain and central nervous system also become responsive during the second trimester. Around 28 weeks, the brain starts to mature faster with activity that greatly resembles that of a sleeping newborn.

During the period from seven months until birth, the foetus continues to develop, put on weight, and prepare for life outside the womb. The lungs begin to expand and contract, preparing the muscles for breathing.

While prenatal development usually follows this normal pattern, there are times when problems or deviations occur. Learn more about some of the problems with prenatal development.

4.4 FACTORS AFFECTING PRENATAL DEVELOPMENT

(1) Chromosome-Based Disorders and Gene-Based Disorders

Sperm and egg each contribute 23 chromosomes. Each chromosome contains up to 20,000 genes. Genes determine most individual characteristics. Chromosomes and genes typically remain unaltered during prenatal development. 15-50% of

pregnancies end as a result of spontaneous abortion. Most are a result of chromosomal abnormalities. Down syndrome is the most common and occurs in about 1 out of 1,000 births. A few other rare chromosome-linked disorders are Patau's syndrome and Edward's syndrome. There is little knowledge or research on these rare disorders .The chromosome disorder is another factor affecting prenatal development. It is one of the major causes behind mal-development of the fetus. Because of this the child is—

- Usually born premature
- Has slower growth rate
- Smaller facial features
- Has poor eyesight
- Has Short arms/legs and Poor balance
- Heart defects are common
- There is limited intellectual functioning
- There is overall slower development including motor development

  Early identification and intervention are key to improving development capabilitiesrs.

(2) Gene-Based Disorders

Multiple factors are involved in genetic defects. Severity depends on autosomal or sex-linked, single gene or its mate. Autosomal recessive usually causes more problems with development than autosomal dominant. Common autosomal mutations include talipes(clubfoot), sickle cell disease, Tay-Sachs disease, PKU, and spina bifida. Early diagnosis and intervention improves prognosis.

- Sickle Cell is an inherited blood disease that is more common in African-Americans(1 in 12 carry the gene) . It's Effects can include anemia, pain, organ damage, and early death; Growth and motor development are also affected. It also causes shortness of breath due to abnormal shaped red blood cells.

- Tay-Sachs disease is more common among people of Jewish descent and people of French-Canadian descent. There is 1 in 4 chance that the child will develop or carry Tay-Sachs if both parents carry the gene. It is 100% fatal and there is no known cure. It initially appears in infancy with increasing problems until death occurs by age 5. It can be diagnosed before birth.
- PKU or Phenylketonuria is a metabolic disorder that is treatable if detected early. Results in inability to produce an enzyme that is vital to digestion of many foods, especially dairy. It if left untreated will cause severe mental-retardation.
- Spina Bifida is a spinal column defect-1 in 2,000 infants is born with Spina Bifida. It appears to run in families but has no rule of occurrence. Consuming recommended amounts of folic acid may decrease like incidence of spina bifida

(3) Prenatal Malnutrition

Mother's malnutrition is a havoc on the normal development of the fetus. Nutritional and Chemical Factors may result from 3 different factors

- Placental-problems with supply of nutrients between placenta and fetus
- Fetus is unable to use the nutrients it is provided with; It usually results from metabolism issues of the fetus
- Maternal Malnutrition - when the mother is not receiving adequate nutritional intake; this can impact the fetus even before a pregnancy has occurred.

(4) Chemical Factors

Exposure to chemicals are more likely to disturb the prenatal development. Chemicals and other hazards, are responsible for the increasing numbers of birth defects and miscarriages. The potential damage to the fetus may be caused by the mothers working conditions and exposures to chemicals. The women working at hospitals, labs, parlours and factories are more vulnerable to such hazards.

(5) Effects of Drugs and Alcohol on the Unborn Child-

Every drug, legal or not, has the potential to affect a fetus. Several factors can influence the impact of a drug on an unborn child including time of pregnancy, dosage of drug, length of time drug is taken, genetic predisposition of fetus, and the combination of all these factors. Drugs can impair development in various ways-Reduced flow of oxygen/nutrients, decreased liver function and development, resulting in jaundice and even kernicterus(causes brain damage).Expecting mothers should be aware of the effects of necessary drugs on the developing fetus and take necessary precautions.

(6) High Risk Pregnancy

Maternal disease such as Asthma, Cancer, Diabetes, Hypertension, Heart Disease, Kidney Disease, Liver Disease is the contributing factor which affect prenatal development.

(7) Maternal Stress

Prolonged and severe emotional stress and Anxiety during pregnancy may lead to damage to the fetus. Expectant mothers experience some symptoms of anxiety and stress during their pregnancy. This leads to changes in maternal body chemistry and there are differences and fluctuation in the hormonal levels and other secretions in the mother's body which in turn affect the fetus.

(8) Age (<16, >35) Teenage pregnancies

The safest time to bear a child appears to be from age 18 to 35. The reproductive system of very young teenage mothers may not be physically mature to sustain a fetus. Over half a million teen mothers give birth each year There Infants are at higher risk for low-birth weight and being born young-for-date. Other risk factors in teenage pregnancies include socioeconomic difficulties, maternal drug/ alcohol abuse, poor medical care, and inadequate parenting. similarly for mothers over 40, complications during pregnancy and delivery are higher.

(9) Effects of Illicit Drugs on Fetal Development - involves an expecting mother who has a condition either before or during pregnancy that increases the likelihood

her child will have problems before or after birth.1 in 28 babies born in the US have a birth defect of some form. Birth defects include heart defects and skeletal deformities as well as chemical imbalances. An estimated 5% of infants are born to mothers who used illicit drugs during pregnancy. Increased risk of miscarriages, stillbirths, and low birth weight can affect gross and fine motor development

(10) Effects of Alcohol on Fetal Development

Fetus is affected twice as fast as the mother by her alcohol consumption with the same concentration it's danger was recognized as early as the Greek era, it's effects were first documented in the 1890's. Fetal Alcohol Syndrome was discovered in 1970.Characteristics of FAS include stunted growth before and after birth, smaller head and length to weight ratio; deformities of the eyes and face, heart and skeletal defects, motor development issues, abnormal behaviour and moderate mental retardation. It is one of the most common causes of birth defects almost 50,00 infants are affected by alcohol consumption every year, as many as 12,000 are born with FAS. The Fetus is unable to oxidize alcohol and absorbs it directly into its system.

(11) Effects of Smoking on Fetal Development

13% of pregnant women smoke during pregnancy. It causes-Increased risk of preterm delivery and low-birth weight. Cleft palate and mental retardation also are linked to smoking during pregnant. Excessive smoking has hazardus effect on the fetus growth and development. It also effects the fetal heart and circulatory system as well as on brain and other organs. It also has long term effects on children's intelligence. Excessive smoking during the pre-natal period may be an important contributor to the hyperkinetic syndrome.

(12) Radiation and Chemical Pollutants-

Excessive radiation is linked to microcephaly, or a small head and brain as well as mental-retardation. Exposure to X-rays during pregnancy may put the fetus at an increased risk for chromosomal defects and damage. There is little evidence to suggest direct link between chemical pollutants and abnormalities in fetal development. Lead and Mercury have been shown to have a negative effect on the fetus.

(13) Diseases and Infections

STD's (Sexually Transmitted Diseases) can potentially infect a child before birth, during delivery, or through breast milk. Syphilis can infect the unborn child, Gonorrhea, chlamydia, and genital herpes can infect an infant during childbirth. HIV can be transmitted in utero, delivery, or breast milk-known as perinatal HIV infection. Effects of STD infection on new born can include severe illness, brain/nervous system damage, pneumonia, eye infections/blindness, fever and weight loss, ectopic pregnancies, and even death. Bacterial infections can be treated if detected early. CMV is a viral infection that causes blindness, deafness, and mental retardation, including difficulties with motor development. 95% of infants with CMV show no symptoms. Rubella is a viral infection that causes blindness, deafness, or mental retardation to infants if the mother is infected during the 1st trimester; vaccination has almost completely eliminated incidents of birth defects from this virus

(14) Chemical Imbalances and Rh Incompatibility

Infants of mothers with thyroid issues can have congenital hypothyroidism and cretinism, or stunted physical and mental growth. Diabetes in the expecting mother can be deadly to infants as well as cause a number of other issues such as mental retardation and circulatory and respiratory issues. Rh incompatibility is a result of incompatible blood types between mother and infant. Some blood from mother can seep through to infant in later stages of pregnancy. It will not affect 1st child but may have a negative effect on later children. Antibodies developed by the mother will destroy the fetal red blood cells, causing anemia and jaundice. It occurs only if father is Rh positive and mother is Rh negative. Rhogam injection after pregnancy will prevent formation of antibodies

(15) Toxoplasmos

Toxoplasmosis infects around 1 in 1,000 infants. Protozoan infection is traced back to mice and cats. Infants are unable to make antibodies and suffer brain damage and other sensory and motor disabilities

- Prenatal Diagnosis and Treatment

- Vigorous Activity During Pregnancy
- Birth Process Factors
- Prenatal Diagnosis and Treatment
- Techniques to diagnose fetal development abnormalities : Include amniocentesis, chorionic villus sampling (CVS), ultrasound, and fetoscopy
- Amniocentesis involves a hollow needle being inserted into the abdomen to withdraw a sample of amniotic fluid to analyze fetal cells
- CVS is similar to amniocentesis but chorionic villi fragments are removed instead and procedure can be done earlier in pregnancy
- Ultrasound is used to determine size, structure, and position of the fetus
- Fetoscopy involves insertion of a scope into the uterus observe fetal development; used rarely due to high risk

(16) Vigorous Activity During Pregnancy

Exercise can be beneficial during pregnancy if closely monitored. Benefits include improved cardiovascular fitness, limited weight gain, lower fat retention, easier labor, and lower stress levels. Fetus can also benefit with lower fat levels and higher stress tolerance; may also be leaner during childhood.Sedentary mothers should do no more than 30 minutes of walking or other light physical activity in short bouts. Active mothers can maintain pre-pregnancy activity levels without harm.

(17) Birth Process Factors

Average Intrauterine life is 279 days. Beginning of labour is marked by ruptured amniotic sac and onset of labour pains. The 3 stages of labour- First stage involves dilation of the cervix to 4cm; lasts anywhere from 1-24 hours; usually longer with 1st child. 2nd stage (Expulsion) marked by dilation to 10cm; baby is forced

down towards birth canal. This stage lasts 90 min for first child and half that time for the next pregnancies. 3rd stage involves baby emerging, along with umbilical cord and placenta

(18) Obstetrical Medication

Medication during childbirth is a controversial issue. General and local anesthetics are often used during pre-delivery and delivery. Oxytocics are used to induce and augment labour.Analgesics used to relieve pain. Sedatives used to relieve anxiety and slow labour process. Appropriate drug dosages and use of prostaglandins decrease likelihood of problems and complications during delivery.

(19) Birth Entry

Mal-presentation, use of forceps, and C-section put infant at increased risk for complications**.** Anoxia is a condition associated with mal-presentation and umbilical cord issues and is a major cause of perinatal death and is also implicated as cause of cerebral palsy, learning disabilities, and mental retardation**.** Forceps are used only in emergency situations to extract baby from birth canal.

(20) Exposure to certain medications, pollutants, viruses, radiation, etc.

(21) Contraction of diseases such as Hepatitis or HIV

(22) Birth defects, cerebral palsy, hypertension

(23) Increased susceptibility to infection

(24) Underweight/Overweight

(25) Previous miscarriage

(26) Hereditary predispositions

4.5 LET US SUM UP

Prenatal development occurs in three stages

- Germinal stage
- Embryonic stage and
- Fetal stage

During the Germinal stage, Zygote is primarily engaged in cell division and gets implanted. This period extends upto 14 weeks. During the Embryonic period, the organ system is being formed. The fetal stage extends from week 9 to 38 and during this the growth and organ refinement continues. The fetus is responsive of stimulus and appears to learn in womb.

Among the physical and psychological hazards of the pre-natal period, certain diseases, Drugs, alcohol, Smoking, mal-nutrition, over-work, exposure to chemicals, prolonged stress and age of the mother play a great role in determining the proper growth and development of fetus.

CHECK YOUR PROGRESS EXERCISE

Note - Use the space given below for your answer. Use separate sheet if space is not sufficient.

Q. 1. Outline the Germinal, Embryonic and Fetal stages of pre-natal development.

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Q. 2. What are the chief characteristics of these period

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3. List the risk associated with various disease during pre-natal period.

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4. What are the Potential adverse effects of smoking, Drinking and Drugs on prenatal development.

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_____

5. Enumerate the Threats to the Fetal Environment.

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4.6 REFERENCES

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COURSE NO. : PY- 301 **UNIT - III**

SEMESTER - III **LESSON : 5 (A)**

FREUD'S PSYCHOSEXUAL THEORY

STRUCTURE

5.0 Objectives

5.1 Introduction

5.2 Psychodynamic- behavioral processes

5.3 Structure of the psyche or mind

5.4 The division of personality:

5.5 Defense mechanisms: reactions to anxiety

5.6 Infantile sexuality and psycho sexual stages

5.7 Psychoanalysis as a therapy

5.8 Criticism of Freud's system of psychoanalysis

5.9 Reflections on Freud's theory

5.10 Glossary

5.11 Check Your Progress

5.12 Lesson End Exercise

5.13 Suggested Readings

5.14 References

5.0 OBJECTIVES

The students will be able to understand

- Psychodynamics- behavioral processes
- Structure of the psyche or mind
- The concept of id, ego and superego
- Defense mechanisms
- Infantile sexuality and psycho sexual development
- Psychoanalysis as a therapy

5.1 INTRODUCTION

Psychoanalysis as a system or school of psychology was the brainchild of Sigmund Freud (1856-939), a Viennese physician. This school put forward altogether different views, quite contrary to structuralism, functionalism, behaviorism or Gestaltism to explain human behavior. For the first time, this system presented a beautiful blend of theory and practice. On the theoretical side it presented a theory to understand and explain the human psyche and on the practical side it provides a method known as psychoanalysis for study of human behavior, and also as a therapy for treating the mentally ill. Let us first discuss some of the major concepts and ideas basic to the development of psychoanalytic theory and then discuss the application of theory through psychoanalytic method of studying behavior as a therapy for treating the mentally ill.

5.2 PSYCHODYNAMIC- BEHAVIOURAL PROCESSES

How does the psyche system develop and operate in a n individual for shaping his personality and determining his behavior? This question can be answered through the following concepts and views expressed by Freud.

LIFE AND DEATH INSTINCTS: Freud believed in the role of instinct in driving human behavior. He postulated two main instincts namely the life instinct and death instinct as the source of all psyche energy available in man.

- **LIFE INSTINCT:** One's life instinct is engaged in the service of one's life and its main aims are survival and propagation of the species. It is manifested through love and sex. Freud gave the name libido to the driving force of the life instinct and libido believes in the pleasure principle.

- **DEATH INSTINCT:** The concept of other instinct, called the death instinct, relates to the impulse of destruction. It is manifested through acts of aggression, cruelty and even suicide. Freud held that when one's life instinct is not allowed to function or to govern one's behavior, the death instinct comes onto the picture for operating behavior.

5.3 STRUCTURE OF THE PSYCHE OR MIND

Freud, while explaining the structure of the mind, divided it into three layers as the pre-conscious, conscious and unconscious. Let's try to understand these terms.

- **THE CONSCIOUSNESS:** It refers to those ideas and sensations of which we are aware. It operates on the surface of personality and play a relatively small role in personality development and functioning. Freud believed that even relatively mature people are governed, to a greater degree by unconscious needs and conflicts. But consciousness includes only our current thoughts, whatever we are thinking about or experiencing at a given moment.

- **THE PRECONSCIOUS MIND:** According to Freud the preconscious mind is a level of the mind where all the information, events, concerns and thoughts that a person is not aware at that moment are kept. These bits and pieces of the mind can be easily brought into conscious awareness, however, when the need arises. E.g., you may forget the food you had for lunch yesterday, but you could probably recall them readily if you were asked to do so. The preconscious exists just beneath the surface of awareness.

- **THE UNCONSCIOUSNESS:** It forms the bulk of the human mind and consists of thoughts, desires and impulses of which we remain largely unaware. The unconscious immoral urges, selfish needs, irrational wishes etc. operate on the deepest level of personality. Freud believed that much of

this had once been conscious but has been actively repressed, driven from consciousness because it was too painful and anxiety provoking. Unconscious ideas, memories and experiences may continually interfere with conscious and rational behavior; even though we are not aware of unconscious material.

5.4 THE DIVISION OF PERSONALITY

Freud also believed, based on his observations of his patients, that personality itself could be divided into three parts. The way these parts of personality develop and interact with one another became the heart of his theory.

- **Id or desire:** The first and most primitive part of the personality, present in the infant, is the id. **Id** is a Latin word that means **"it"**. The id consists of all our primitive, innate urges. This includes various bodily needs, sexual desire and aggressive impulses. According to Freud id is totally unconscious and operates in accordance with what he termed as **pleasure principle**: it demands immediate, total gratification and is not capable of considering the potential costs of seeking the goal. There is no consideration of the norms and conventions of the society. The pleasure principle maintains that people always strive to maximize pleasure and minimize pain.

- **Ego:** Ego acts as a police man to check the unlawful activity of the id. In other words ego task is to hold the id in check until condition allow for the satisfaction of impulses. The ego operates in accordance with **reality principle**: takes into account external conditions and consequences of various actions and directs behavior so as to maximize pleasure and minimize pain. The ego is partly conscious not entirely so; thus, some of its actions- for example, its external struggle with the id- are outside our conscious knowledge or understanding.

- **Super ego:** It is the final aspect of personality. It too seeks to control satisfaction of id impulses; but, in contrast to the ego, it is concerned with **morality**- with whether various ways that potentially satisfy id impulses are right or wrong. The super ego permits us to gratify such impulses only when it is morally correct to do so-not simply when it is safe or feasible, as required by the ego.

Table No. 1

Aspects of personality	Levels of consciousness	Description
EGO	Mostly conscious	Mediates between id impulses and super ego inhabitions : reality principle, rational
SUPEREGO	All levels but mostly pre-conscious	Ideals and morals; conscience; incorporated from parents
ID	Unconscious	Pleasure principle; irrational and immediate gratification

5.5 DEFENSE MECHANISMS : REACTIONS TO ANXIETY

Freud believed that when the ego feels it may be unable to control impulses from the id, it experiences anxiety. To reduce such feelings, the ego uses various defense mechanisms such as those described here:

Table No. 2

Defence Mechanism	Its Basic Nature	Example
Repression	Forgetting or pushing from consciousness into unconsciousness unacceptable thoughts or impulses	A woman fails to recognize her attraction to her handsome new son-in-law
Rationalization	Forgetting or pushing from consciousness into unconsciousness unacceptable thoughts or impulses	A woman fails to recognize her attraction to her handsome new son-in-law
Displacement	Redirecting an emotional response from a dangerous object to a safe one.	A man redirects his anger from boss to his child.
Projection	Transferring unacceptable motives or impulses to others.	A man who feels strong hostility towards a neighbour perceives the neighbour as being hostile to him.
Regression	Responding to a threatning situation in a way appropriate to an earlier age or level of development.	A student asks a professor to raise his grade, when she refuses the student throw a temper tantrum.

5.6 INFANTILE SEXUALITY AND PSYCHO SEXUAL STAGES

According to Freud, sex is the life urge or fundamental motive in life. All physical pleasures arising from any of the organs or any of the functions are ultimately sexual in nature. Sexuality is not the characteristics only of the adults. Children fromthe very beginning have sexual desires also. This, he termed as infantile sexuality. A child passes through the following different stages with respect to his psycho-sexual development:

1. **ORAL STAGE (0-2):** According to Freud, as we grow and develop, different parts of body serve as the focus of our quest for pleasure. In the initial oral stage, lasting until we are about eighteen months old, we seek pleasure mainly through the mouth. If too much or too little gratification results in a personality that is overly dependent on others; too much, especially after the child has developed some teeth results in a personality that is excessively hostile, especially through verbal sarcasm.

2. **ANAL STAGE (2-3):** The next stage occurs in response to efforts by parents to toilet train their children. During the anal stage, the process of elimination becomes the primary focus of pleasure. Fixation at this stage, stemming from overly harsh toilet-training experiences, may result in individuals who are excessively orderly or compulsive-they can't leave any job unfinished and strive for perfection and neatness in everything they do. In contrast, fixation stemming from very relaxed toilet training may result in people who are undisciplined, impulsive and excessively generous.

3. **PHALLIC STAGE (3-7):** In this stage the child observes the difference between male and female and experiences what Freud called the Oedipus complex. This occurs at about five years of age. Freud proposed that children develop a desire for the opposite sex parent and wish to displace the same sex parent. This kind of attraction leads to serious conflict, which he termed as Oedipus and Electra complexes in boys and girls, respectively. The fear of punishment brings about resolution of the complexes and identification with the same sex parent. In other words, boys give up sexual feelings for their mothers and begin to see their father's as models rather than as rivals; girls give up their sexual desires for their father and identify with their mother.

4. **LATENCY STAGE (7-11):** This stage follows the phallic stage, there is very little explicit or overt concern with sexuality. The child represses his memories of infantile sexuality and forbidden sexual activity. Since the time of Freud's, many feminist psychoanalysts have argued that Freud's ideas on development of girls reflect a male-oriented perspective. Instead,

some of them have framed theories that chart the emotional growth of young girls across a model of continuity as opposed to rivalry with the mother.

5. **GENITAL STAGE (11-adult):** During this stage the person attains maturity in psychosexual development. The person becomes capable of genuine love for other people and can achieve adult sexual satisfaction. He or she may relate to others in a heterosexual fashion. However, if journey towards this stage is marked by excessive stress or over indulgence, it may cause fixation to an earlier stage of development.

5.7 PSYCHO-ANALYSIS AS A THERAPY

Besides providing a method of studying behavior in the name of psychoanalytic method, Freud's theory of psycho-analysis has also contributed a therapy, i.e the practical technique of treating mental illness. This therapy involves the following main steps:

- **ESTABLISHING RAPPORT:** Attempts are made to establish a reciprocal emotional bond of mutual trust and faith between the analyst and the patient. Freud named this type of rapport as transference. When it is established, the patient begins to identify himself completely with the analyst by respecting and having full faith in him. The analyst also in turn becomes capable and generous enough to help him.

- **ANALYSIS:** This step is meant to find out the causes of the patient's problem. According to Freud, the behavioral problem or mental illness is the result of repressed wishes and desires dumped into unconscious. For treatment, this unconscious needs to be explored. Freud suggested techniques like free association, dream analysis and analysis of daily psycho pathology for this exploration.

- **FREE ASSOCIATION:** In this technique, the affected individual is made to lie on a soft couch and say anything that comes into his or her mind no matter how trivial it may seem.

- **DREAM ANALYSIS:** According to Freud, the dream is essentially a disguised satisfaction of desires that have been repressed during the waking life. These repressed desires or experiences are released symbolically in dreams. The analysis of these dreams can reveal the unconscious mind and thus lead to the root of abnormalities.
- **ANALYSIS OF PSYCHOPATHOLOGY:** The repressed desires or experiences lying in the unconscious can also be revealed through day to day psycho pathology in terms of slips of tongue and slips of pen, forgotten names and forgotten appointments.
- **SYNTHESIS:** After discovering the reasons or roots attempts are made to restructure and restore the balance of psyche. This requires the whole story to be put before the patient. The patient is made to come out of the trouble by accepting the exposure of the contents of the unconscious and having synthesized in a realistic way with the help of suggestions put forward by analyst.
- **BREAKING THE RAPPORT:** Finally, the rapport formed during the course of the treatment is broken to enable the patient to face the realities of life without the support of the analyst.

5.8 CRITICISM OF FREUD'S SYSTEM OF PSYCHOANALYSIS

- His system reflects his medical background and consequently he has tried to emphasize man only as a natural or biological and not as a cultural entity.
- Freud, in his study of human behavior, has not been sufficiently scientific and objective. Many times he has concluded and generalized on the basis of a single study or case of mental illness and for that reason, many of his views and findings lack general applicability.
- The most severe criticism suffered by Freud's system is concerned with his overemphasis of the role of sex in human life. Freud seems to overgeneralize everything in terms of sex as he declares that "the world revolves round the sexes, not around the axis".

- Freud laid too much emphasis on the role of early childhood experiences in the determination of course of one's life as well as one's overall personality.

5.9 REFLECTIONS ON FREUD'S THEORY

Freud's system of psychoanalysis has had a phenomenal impact on theory and practice in psychology and psychiatry, on our image of human nature, and on our understanding of personality. His influence has been felt in the general culture as well. Freud's concepts, including the role of unconscious, the importance of childhood experiences in shaping adult behavior and the operations of defense mechanisms generate a great deal of research.

5.10 GLOSSARY

- Id : a pleasure principle
- Ego : works on reality principle
- Super ego : works on morality
- Projection : Transferring unacceptable motives or impulses to others

5.11 CHECK YOUR PROGRESS

1. Define briefly the division of mind as per Freud?
2. Briefly explain the structure of personality of Freud's theory?

5.12 LESSON END EXERCISE

NOTE: Use the space below for your answer. Use separate sheet if required:

Q1. Discuss the structure of personality?

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_____

Q2. What are the different defense mechanism used by human beings and why they are used?

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Q3. Explain the various stages proposed by the Freud?

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5.13 SUGGESTED READINGS

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COURSE NO. : PY- 301 **UNIT - III**
SEMESTER - III **LESSON : 5 (B)**

ERICKSON'S PSYCHO-SOCIAL THEORY

STRUCTURE

5.2.0 Objective

5.2.1 Similarity and difference of this theory from Freud's psycho sexual theory

5.2.2 Introduction

5.2.3 Stages of human development

5.2.4 Basic weakness

5.2.5 Let Us Sum Up

5.2.6 Glossary

5.2.7 Check your progress

5.2.8 Suggested Readings

5.2.9 References

5.2.0 OBJECTIVE

Student will be able to understand

- Points of similarity and difference with the Freud theory

- Erikson stages of human development and developmental task involved during each stage
- Basic weaknesses of the theory

5.2.1 SIMILARITY AND DIFFERENCE OF THIS THEORY FROM FREUD'S PSYCHO SEXUAL THEORY

Erikson and Freud's theory of life span development:

Inspired heavily by the Freud psychoanalytical views and drawn heavily from Freud's work departs from it in important ways:

- Erikson downplays the importance of sexuality and importance of conflicts involving id, ego and superego in determining personality and mental health instead Erikson emphasized the importance of child's social environment and hence his theory is known as psychosocial rather than psychosexual.
- Erikson theory in contrast from Freud's theory emphasis on the role of ego rather than superego. Hence this is more positively oriented with the development of healthy ego (identity) in Erikson terms rather than with resolution of powerful internal conflicts.
- Erikson concerned with the healthy personality in contract to the pathology or clinical picture of man portrayed by Freud is the third point of departure/ difference between his and Freud's work.

5.2.2 INTRODUCTION

Erik Erickson, the famous psychoanalyst, is credited with developing the theory of psycho-social development which covers normal development over the entire life span of human beings. Erickson postulated that the development of an individual is the result of his interaction with his social environment. Right from his birth, his social development puts him under specific pressures and conflicts by making specific demands at different ages or developmental stages of life. The individual tries to meet these specific demands or resolve the crisis by reacting psychologically in his own way, depending upon his circumstances. The complexity

of the demands from society or social environment goes on increasing as the child faces a new crisis, i.e. an issue that needs to be resolved at that particular stage of development. The way in which the crisis of each stage is resolved has a major bearing on the development of one's behavior. Erickson discovered eight such issues of life arising at different ages or periods of one's development and linked them with the eight stages of one's psycho social development covering one's entire life span as outlined in the table.

Table No. 1

STG	AGE	CRISIS	ADEQUATE RESOLUTION	INADEQUATE RESOLUTION	QUALITY
1.	0-1½ yrs.	Trust v/s mistrust	Basic sense of safety, security	Insecurity, anxiety	Hope
2.	1½ -3 yrs.	Autonomy vs. shame and doubt	Perception of self as agent; capable of controlling one's own body and making things happen	Feeling if inadequancy about self-control, control of events	Will power
3.	3-6 yrs.	Initiative vs. guilt	Confidence in oneself as being able to initiate, create	Feelingof lack of self-worth	Purpose
4.	6 yrs. puberty	Industry vs. inferiority	Adequancy in basic, social and intellectual skills; acceptance by peers	Lack of confi-dence, feeling of faliour	Compe-tence
5.	Adoles-cence	Identity vs. confusion	Comfortable sense of self as a person both unique and socially accepted	sense of self as fragmented, shifting unclear sense of self	Fidelity
6.	Early adulthood	Intimacy vs. Isolation	Capacity for closeness and commitment to others	Feeling of aloneness, loneli-ness, separation. denial of intimacy needs	Love

7.	Middle adulthood	Generativity vs. stagnation	Focus of concern beyond oneself, to family, society, future, generations	Self-indulgent concerns, lack of future orientation	Care
8.	Late adulthood	Integrity vs. Despair	Sense of whole-ness basic satis-faction with life	Feeling of futility disappointment	Wisdom

5.2.3 STAGES OF ERIKSON'S THEORY

Erikson stage has specific demands and poses specific crisis that is faced and needs to be adequately resolved. The more successful people resolve these crises, the healthier their development becomes.

1. **Trust v/s mistrust (0-1 ½ years):** In the first one and a half years of life, the infant is confronted with crisis termed trust vs. mistrust. During this period the baby is completely dependent upon his mother or care taker for the satisfaction of his needs. The way it is nourished, handled, protected and kept safe at this stage may provide the baby with a sense of security or insecurity, a feeling of trust or mistrust in the mother or caretakers and ultimately in its surroundings.

   Success in this stage will lead to the virtue of **hope**. By developing a sense of trust, the infant can have hope that as new crises arise, there is a real possibility that other people will be there as a source of support. Failing to acquire the virtue of hope will lead to the development of fear.

2. **Autonomy vs. Shame and doubt: 1 ½ to 3 years**): In the second and third years of life, the child now passes through the second stage of psycho-social development. With the newly developed motor and physical skills and language ability, the child now engages in exploring his environment and experimenting with his strengths and limitations for achieving a sense of autonomy and independence. Children who are denied the opportunity to develop a sense of independence by over protective, harsh or restrictive parents begin to doubt their ability and

ultimately begin to feel embarrassed and ashamed in the presence of others. However, the development of the sense of doubt and shame within reasonable limits is not harmful. A healthy sense of doubts helps him to set his own limits and the development of shame helps him to develop a sense of right and wrong. Therefore at this stage of psycho social development, the child needs to be helped in striking a balance between the conflicting needs of his social environment to acquire a sense of autonomy and develop a sense of doubt and shame for the adequate development of his personality. Success in this stage will lead to the virtue of **will**.

3. **Initiative vs. guilt (3-6yrs.):** The third stage of psycho social development between three to six years of age as characterized by the crisis of initiative vs. guilt is similar to the phallic stage in Freud's system. Motor and mental abilities are continuing to develop, and children can accomplish more on their own. They express a strong desire to take the initiative in many activities. Initiative may also develop in the form of fantasies, manifested in the desire to possess the parent of opposite sex and in rivalry with the parent of the same sex. If they punish the child and otherwise inhibit these displays of initiative, the child will develop persistent guilt feelings that will affect self-directed activities throughout his or her life.

   In the oedipal relationship, the child inevitably fails, but if the parents' guide this situation with love and understanding, then the child will acquire an awareness of what is permissible behavior and what is not**.** The basic strength called **purpose** arises from initiative. Purpose involves the courage to envision and pursue goals.

4. **Industry vs. Inferiority:** Industry versus inferiority is the fourth stage of Erik Erikson's theory of psychosocial development. The stage occurs during childhood between the ages of six and twelve. Children are at the stage where they will be learning to read and write, to do sums, to do things on their own. Teachers begin to take an important role in the child's life as they teach the child specific skills.

It is at this stage that the child's peer group will gain greater significance and will become a major source of the child's self-esteem. The child now feels the need to win approval by demonstrating specific competencies that are valued by society and begin to develop a sense of pride in their accomplishments.

If children are encouraged and reinforced for their initiative, they begin to feel industrious and feel confident in their ability to achieve goals. If this initiative is not encouraged, if it is restricted by parents or teacher, then the child begins to feel inferior, doubting his own abilities and therefore may not reach his or her potential.

If the child cannot develop the specific skill they feel society is demanding (e.g. being athletic) then they may develop a sense of inferiority. Some failure may be necessary so that the child can develop some modesty. Again, a balance between competence and modesty is necessary. Success in this stage will lead to the virtue of **competence**.

5. **Identity vs. Role confusion:** Adolescence, between ages 12 and 18, is the stage at which we must meet and resolve crisis of our basic ego identity. This is when we form our self-image, the integration of our ideas about ourselves and about what others think of us. If this process is resolved satisfactorily, the result is a consistent and congruent picture. Adolescents experiment with different roles and ideologies, trying to determine the most compatible fit. Erikson suggested that adolescence was a hiatus between childhood and adulthood, a necessary psychological moratorium to give the person time and energy to play different roles and live with different self-images.

   People who emerge from this stage with a strong sense of self identity are equipped to face adulthood with certainty and confidence. Those who fail to achieve a cohesive identity- who experiences an identity crisis-will exhibit a confusion of roles. They do not seem to know who or what they are, where they belong or where they want to go. Erikson noted the potentially strong

impact of peer groups on the development of ego identity in adolescence.

The basic strength that should develop during adolescence is **fidelity**, which emerges from a cohesive ego identity. Fidelity encompasses sincerity, genuineness, and a sense of duty in our relationship with other.

6. **Intimacy vs. isolation:** Erikson considered young adulthood to be a longer stage rather than the previous ones, extending from the end of adolescence to about age 35. During this period we establish our independence our independence from parents and quasi-parental institutions, such as college, and begin to function as mature, responsible adults. We undertake some form of productive work and establish intimate relationships- close friendships and sexual unions. In Erikson's view, intimacy was not restricted to sexual relationships but also encompassed feelings of caring and commitment.'

   People who are unable to establish such intimacies in young adulthood will develop feeling of isolation. They avoid social contacts and reject other people, and may even become aggressive toward them. They prefer to be alone because they fear intimacy as a threat to their ego identity.

   The basic strength that emerges from the intimacy of the young adult years is **love**, which Erikson considered to be the greatest human virtue.

7. **Generativity vs. stagnation:** in middle adulthood, persons who have found intimacy can now focus outward on others. Erikson saw this as parenting the next generation and helping them through their crises, a process he called generativity. Educators, supervisors, health care professors, doctors and community volunteers might be examples of positions that allow person to be generative. Those who are unable to focus outward but still dealing with issues of intimacy or even identity are said to be stagnated. People who frequently hand care of their children over to grandparents or other relatives so that they can go out and have fun may be unable to focus on anyone else's needs but their own.

Care is the basic strength that emerges from generativity in adulthood. Erikson defined care as a broad concern for others and believed it was manifested in the need to teach, not only to help others but also to fulfill one's identity.

8. **Ego integrity vs. despair:** As a person's life enters the stage known as late adulthood, the reality of one's eventual death becomes harder and harder to ignore. Erikson believed that at this time, people look back on the life they have lived in a process called life review. In the life review people must deal with mistakes, regrets and unfinished business. If people can look back and feel that their lives were relatively full and come to terms with regrets and losses, then a feeling of integrity results. Integrity is the final completion of the identity, or ego. If people have many regrets and lots of unfinished business, they feel despair, a sense of deep regret over things that will never be accomplished because time has run out.

   The basic strength associated with this final developmental stage is **wisdom**. Deriving from ego integrity, wisdom is expressed in a detached concern with the whole of life.

5.2.4 BASIC WEAKNESSES

Similarly to the way basic strengths arises at each stage of psychosocial development, so may basic weaknesses. We noted earlier that the adaptive and maladaptive ways of coping with the crisis at each stage are incorporated in the ego identity on a kind of creative balance. Although the ego should consist primarily of the adaptive attitude, it will also contain a share of the negative attitude.

In an unbalanced development, the ego consists solely of one attitude, either the adaptive or the maladaptive one. Erikson labeled this condition mal-development. When only the positive, adaptive, tendency is present in the ego, the condition is said to be **"maladaptive"**. When only negative tendency is present, the condition is called **"malignant"**. **Mal-adaptations** can lead to **neuroses**; **malignancies** can lead to **psychoses.**

Erikson expected that both the conditions could be corrected through psychotherapy**.**

5.2.5 CONCLUSION

Erikson's psychosocial theory of development brings out eight stages spread over the whole span of human life. These are trust vs. mistrust (birth-1 ½ yrs.), autonomy vs. shame and doubt (1-3 yrs.), initiative vs. guilt (3-6 yrs.), industry vs. inferiority (6-12 yrs.), identity vs. role confusion (12-19 yrs.), intimacy vs. isolation (20 – 45 yrs.), generativity vs. stagnation (45-65 yrs.) and ego integrity vs. despair (65yrs.- onwards). Each of these stages is associated with a distinctive crisis of life faced by the individual at that particular stage. How well one will be developed and acquire positive or negative aspects of behavior depends upon the manner in which these crises of life are resolved by him.

5.2.6 GLOSSARY

1. **Generativity:** Having the power of generating.
2. **Stagnation:** Being without circulation, inactivity

5.2.7 CHECK YOUR PROGRESS

NOTE: Use the space below for your answer. Use separate sheet if required:

Q1. How the theory of Freud is different from the theory of Erikson?

_____

_____

_____

Q2. Discuss the various stages of Erikson theory?

_____

_____

_____

5.2.8 SUGGESTED READINGS

- Baron. R.A. (2001). *Psychology* (Fifth Edition), Pearson Prentice Hall.
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COURSE NO. : PY- 301 **UNIT - III**

SEMESTER - III **LESSON : 6 (A)**

SOCIAL LEARNING THEORY BY BANDURA

STRUCTURE

6.0 Objectives

6.1 Introduction

6.2 Modeling: the basis of observational learning

6.3 Bobo doll studies

6.4 Characteristics of the modeling situation

6.5 The four elements of observational learning

6.6 Conclusion

6.7 Glossary

6.8 Check Your Progress

6.9 Suggested Readings

6.10 References

6.0 OBJECTIVES

After going through this lesson the student will be able to understand

- Meaning of social learning

- Modeling: the basis of observational learning
- Characteristics of the modeling situation
- Four elements of observational learning

6.1 INTRODUCTION

Bandura agrees with skinner that behavior is learned, but with that point their similarity ends. Bandura criticized skinners emphasis on individual animal subjects rather than on human research participants interacting one another. Bandura's approach is a social learning theory that investigates behavior as it is formed and modified in a social context. He argues that we cannot expect data from experiments that involve no social interaction to be relevant to everyday world, because few people truly function in social isolation.

Although Bandura, like skinner recognizes that much learning takes place as a result of reinforcement, he also stresses that virtually all forms of behavior can be learned without directly experiencing any reinforcement. Bandura's approach is also called observational learning, indicating the importance in the learning process of observing other people's behaviors. Rather than experiencing reinforcement ourselves for each of our actions, we learn through vicarious reinforcement by observing the behavior of other people and consequences of that behavior. This focus on learning by observation or example, rather than always by direct reinforcement, is a distinctive feature of Bandura's theory.

Bandura presents a less extreme form of behaviorism than skinner. He emphasizes the observation of others as a means of learning, and he considers learning to be mediated by cognitive processes.

6.2 MODELING : THE BASIS OF OBSERVATIONAL LEARNING

Bandura's basic idea is that learning can occur through observation or example rather than solely by direct reinforcement. Bandura does not deny the importance of direct reinforcement as a way to influence behavior, but he challenges the notion that behavior can be learned or changed only through direct reinforcement. He argues that

operant conditioning, in which trial-and-error behavior continues until the person happens upon the correct response, is an inefficient and potentially dangerous way to learn skills such as swimming or driving. To Bandura, most human behavior is learned through example, either intentionally or accidently. We learn by observing other people and patterning our behavior after theirs.

6.3 BOBO DOLL STUDIES

In order to understand the nature of observational learning we may refer to the studies of Bandura. In one of his well-known experimental study Bandura showed a film of five minutes duration to children. The film shows that in a large room there were numerous toys including a large sized Bobo doll. Now a grown up boys enters the room and looks around. The boy start showing aggressive behavior towards the toys in general and Bobo doll in particular. He hits the doll, throws it on the floor, kicking it and sitting on it. After this the film had three versions. In one version a group of children saw the boy (model) being rewarded and praised by an adult for being aggressive to the doll. In the second version another group of children saw the boy being punished for his aggressive behavior. In the third version the third group of children was not shown the boy being rewarded or punished.

After viewing a specific version of the film all the three groups of children were place in an experimental room in which similar toys were placed around. The children were allowed to play with the toys. These groups we secretly observed and their behaviors noted. It was found that these children having seen aggressive behavior being rewarded were more aggressive; viewers who had seen the aggressive model being punished were least aggressive. It may be noted that all the three groups had acquired the knowledge of aggressive behavior and could produce the models a aggressive behaviors. Thus in observational learning observer acquires knowledge by observing models behavior, but performance is influenced by model's behavior being rewarded or punished.

OTHER MODELING STUDIES

In additional research on the impact of modeling on learning, Bandura compared behavior of parents of two groups of children. One group consisted of

highly aggressive children, the other of more inhibited children. According to Bandura's theory, the children's behavior should reflect their parents' behavior. The research showed that the parents of the inhibited children were inhibited and the parents of aggressive children were aggressive.

6.4 CHARACTERISTICS OF THE MODELING SITUATION

Bandura and his associates investigated three factors found to influence modeling:

1. The characteristics of the models
2. The characteristics of the observers
3. The reward consequences associated with the behaviors.

- **Characteristics of the models**: The characteristics of the models affect our tendency to imitate them. In real life, we may be more influenced by someone who appears to be similar to us than by someone who differs from us in obvious and significant ways.

  Other characteristics of model that affect imitation are age and sex. We are more likely to model our behavior after a person of same sex than a person of the opposite sex. Also we are more likely to be influenced by models of our own age. Peers who appear to have successfully solved the problems we are facing are highly influenced models.

  Status and prestige are also important factors. Television commercials make effective use of high status, high prestige models with athletes, rock stars, or movie stars who claim to make use a particular product. The expectation is that consumer will imitate their behavior and buy the advertised product.

- **Characteristics of the observers:** The attributes of the observers also determine the effectiveness of observational learning. People who are low self-confidence and self-esteem are much more likely to imitate a model's behavior than are people high in self-confidence and self-esteem. A person who has been reinforced for imitating a behavior – for example, a child rewarded for behaving like an older sibling-is more susceptible to the influence of models.

- **The reward consequences associated with the behaviors:** The reward consequences linked to a particular behavior can affect the extent of the modeling and even override the impact of the models' and observers' characteristics. A high status model may lead us to imitate a certain behavior, but if the rewards are not meaningful to us, we will discontinue the behavior and be less likely to be influenced by that model in future. Seeing a model receiving reward or punishment for displaying a particular behavior affects imitation.

6.5 THE FOUR ELEMENTS OF OBSERVATIONAL LEARNING

Bandura 1989 concluded from these studies and others that observational learning required the presence of four elements.

(1) Attention: In order to learn through observation you must direct your attention to appropriate models i.e. to other person performing an activity. Model cannot be chosen at random but focus most attention on people who are attractive to you, people whose behavior seems relevant to your own needs and goals.

(2) Remember: one must be able to remember what the person have said or done. Only if you remember some representation of their actions in memory can you perform similar actions at later times or acquire useful information from them.

(3) Production process: at this point you have to translate to images or description into actual behavior. So you have the ability to reproduce the behavior in first place

(4) Motivation: motivation plays an important role. One often acquires information through observational learning but don't put it into use in our own behavior. One is motivated to imitate i.e. until you have some reason for doing it. Bandura mentioned few motives.

(a) Past reinforcement, Via traditional behavior

(b) Promised reinforcement incentives that we can imagine

(c) Vicarious reinforcement: seeing and recalling the model being reinforced. These are, traditionally, considered to be the things that "cause" learning. Bandura is saying that they don't so much cause learning as cause us to demonstrate what we have learned. That is, he sees them as motives. Of course, the negative motivations are there as well, giving you reasons not to imitate someone.

(d) Past punishment

(e) Promised punishment (threats)

(f) Vicarious punishment

Like most traditional behaviorists, Bandura says that punishment in whatever form doesn't work as well as reinforcement and has the tendency to backfires on us.

6.6 CONCLUSION

Behavior can be learned through vicarious reinforcement by observing behavior of others and anticipating the rewards for behaving in the same way. Cognitive processes are the mediating mechanisms between stimulus and response and bring about control of behavior through self-regulation and self- reinforcement. In the classic Bobo doll study, children patterned their behavior on the model's aggressive behavior whether the model was observed live, on television, or in a cartoon. Three factors that influence modeling are the model's characteristics, the observer's characteristics, and the behavior's reward consequences. Observational learning is governed by attention, retention, production and incentive and motivational processes.

6.7 GLOSSARY

1. **Reinforcement:** the application or removal of stimulus to increase the strength of a specific behavior.
2. **Punishment**: A procedure by which the application or removal of a stimulus decrease the strength of a behavior

6.8 CHECK YOUR PROGRESS

NOTE :- Use the space below for your answer. Use separate sheet if required:

Q1. Discuss the experiment done by bandura in social learning theory?

_____

_____

_____

Q2. What are the certain steps in the modeling process?

_____

_____

_____

6.9 SUGGESTED READINGS

- Morgan,C.T. king, R.A Weisz, J.R & Schopler, J (2005). *Introduction to Psychology*, Tata Mc-Graw Hill Edition.

6.10 REFERENCES

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COURSE NO. : PY- 301 **UNIT - III**

SEMESTER - III **LESSON : 6 (B)**

JEAN PIAGET'S COGNITIVE DEVELOPMENTAL THEORY

STRUCTURE

6.2.0 Objectives

6.2.1 Introduction

6.2.2 Cognitive functioning

6.2.3 Stages of cognitive development

- 6.2.3.1 Sensory motor stage
- 6.2.3.2 Pre operational stage
- 6.2.3.3 Concrete operational stage
- 6.2.3.4 Formal operational stage

6.2.4 Criticism of Piaget theory

6.2.5 Let us sum up

6.2.6 Check your progress

6.2.7 Glossary

6.2.8 Suggested Readings

6.2.9 References

6.2.0 OBJECTIVES

After going through this lesson, the student should be able to

- Understand cognitive development.
- Know the cognitive development stages as given by Piaget.
- Know the cognitive developmental sub stages during the sensory period.
- Understand cognitive development during pre-operational stage.
- Understand development of decentering ability and concept of reversibility during concrete operational stage.
- Understand how adolescents develop the ability to think abstractly.

6.2.1 INTRODUCTION

Cognitive development pattern implies the development of mental abilities and capacities which help the learner to adjust his behavior to the ever changing environmental conditions. No theory of cognitive development has more impact than that of Swiss psychologists' Jean Piaget. Much of what we know about how children think is due to the Swiss theoretian Jean Piaget. Piaget argued that children's thinking is qualitatively different from adults and that it changes over time. Piaget was particularly concerned with the way thinking develops in children from birth till they become young adults. To understand the nature of this development, Piaget carefully observed the behavior of his own three kids. He used to present problems to them, observe their responses, slightly alter the situations, and again observe their responses. Piaget called this method of exploring development clinical interview.

Piaget believed that like plants and other animals humans also adapt to their physical and social environments they live.

6.2.2 COGNITIVE FUNCTIONING

Piaget suggested that human thinking is arranged into schemas, organized patterns that represent behaviors and actions. In infants, such schemas represent

concrete behavior a schema for sucking, for reaching and for separate behavior. In older children, the schemas become more sophisticated and abstract.

Piaget proposed three process to explain how children get from built in schemas such as looking and teaching to the complex mental schemas used in childhood, adolescence and adulthood. The process includes:

- **ASSIMILATION:** It refers to the process by which new object and events are grasped or incorporated within the scope of existing schemas or structure. It is an attempt to fit new information into existing cognitive structure. E.g. an infant who tries to suck on any toy in the same way is assimilating the objects to his existing sucking schema.
- **ACCOMMODATION:** It is the process through which the existing schema or structure is modified to meet the resistance to straight forward grasping or assimilation of new object or event. It is a change in existing structure to cope with information e.g. when a baby requires somewhat different tongue and mouth movements from that used to suck breast, they accommodate by modifying the old schema.
- **EQUILIBRATION:** It is the process of balancing and accommodation to create schemas that fit the environment. The need for equilibration leads a child to shift from assimilation to accommodation.

6.2.3 STAGES OF COGNITIVE DEVELOPMENT

Piaget suggested that there are four distinct stages of cognitive development that occur from infancy to adolescence (Table No.)

Age	Stages	Cognitive Development
Birth to 2 years	Sensorimotor	Children explore the world using their senses and ability to move. They develop object permanence and the understanding that concepts and mental images represent objects, people and events.
2-7 years	Pre-operational	Child begins to represent the world with the help of words and images. Thinking is ego centric.
7-12 years	Concrete operational	The child can reason logically about concrete objects and events and classify objects into different sets. Conservation is achieved.
12 years +	Formal operational	The child manipulates abstract ideas, develop capacities forlogical and systematic thought as well as reflective thinking.

Piaget held that all children progress through these stages in the same sequence, although one child may take longer to pass through a given stage than another.

6.2.3.1 Sensory Motor Stage

It is the initial major stages of cognitive development. It involves coming to know world through one's senses and actions. The dominant cognitive structures are behavioral schemas pattern of actions that evolve as infants begin to coordinate sensory inputs and motor responses.

- **Sub stages (i) Simple reflexes**

Age : First month of life: During this period the various reflexes that determine the infants interactions with the world are at the center of its cognitive life. The sucking reflexes cause the infant to suck at anything places in its life.

- **Sub stage (ii) First habits and primary circular reactions**

Age 1-4 months : At this stage infants begin to coordinate what were separate actions in to single integrated activities.

- **Sub stage (iii) Secondary circular reaction**

Age (4-8 months) in this stage infants take major strides in shifting their cognitive horizons beyond themselves and begin to act outside world.

- **Sub stage (iv) Co-ordination of secondary circular reaction**

Age (8-12 months): In this stage infants begin to use more calculated approaches to produce events coordinating several schemas to generate a single act.

- **Sub stage (v): Tertiary circular reaction**

Age (12-18 months) infants develop what Piaget regards as the deliberate narrations of actions that bring desirable consequences balance.

- **Sub stage (vi) Beginning of thoughts**

Age (18-2 years) the major achievement of this stage is the capacity for mental representation.

6.2.3.2 Pre-operational Stage

In Piaget's theory an operation refers to the activities which are carried out mentally rather than physically. Some of the important characteristics of mental operations are that they must be reversible, are organized and occur in a whole structure. This stage is called per operational because the children have not yet mastered the ability to perform mental operations. Children's thinking during this stage is governed by what is seen rather than by logical principles.

During this stage the cognitive development is marked by:

- **Symbolic functions:** The ability to use mental symbol, a word or an object to stand for or represent something that is not physically present.
- **Concentrating**: It is the process of concentrating on one limited aspects of stimulus and ignoring other aspects.
- **Ego- centrism:** It is the inability to take other's perspective.

- **Emergence of intuitive thoughts:** Intuitive thoughts refer pre-scholar use of primitive reasoning and their avid acquisition of knowledge about the world
- **Conservation:** Knowledge that quantity is unrelated to the arrangement and physical appearance of objects.

6.2.3.3 Concrete Operational Stage

This stage spreads between 7-12 years of age. During this stage a child can think of only those objects and events that are physically present before them and those that they can manipulate in the immediate context (concrete objects). A child is not able to reason about hypothetical, abstract concepts that involve the coordination many factors simultaneously.

An important characteristic of this stage is that children can perform the operation of reversibility. Conservation is another ability that children during this stage attain. They also develop the abilities of seriation and classification. In short children develop the abilities of rational thinking but their thinking is tied to concrete objects.

6.2.3.4 Formal Operational Stage

At about the age of 12, Piaget suggested, most children enters the final stage of cognitive development during this period, major features of adult thought make their appearance. In this stage children can think abstractly, they can't deal only with the real or concrete but with possibilities events or a relationship that doesn't exist, but can be imagine. During third final stage children become capable of what Piaget termed hypothetic-deductive reasoning. This involves the ability to generate hypothesis and to think logically about symbols, ideas and propositions. Children at this stage also became capable of engaging in inter propositional thinking in which they seek to test the validity of several propositions.

There are three stages which develop with operational thinking:

1. The ability to think all possible alternatives aid in problem solving.
2. Reflection on mental activity.

3. Systematic thinking, reflection on thought process and generation of possibilities are three parts of what Piaget has hypothetic deductive reasoning.

(a) The ability to think all possible alternatives aid in problem solving: This is done in problem where the result is given and the question asks has the result occurred as in arithmetic. Similarly, this technique is used in problems where there are several causes and question I what are the possible results.

(b) Reflection on mental activity: Reflection on mental activity is another problem-solving ability. Using symbols in algebra is one example of this ability. Instead of sing operations like addition or multiplication to deal with concrete objects, he uses symbols to make them objects of thoughts.

(c) Hypothetic deductive reasoning: A hypothesis is a possible explanation for any event. The deductive process involves systematic use of facts to list the hypothesis and determine its or falsity. To learn new experience the nervous system must reach maturity and should have opportunities to interact with his environment. Without both of these factors, formal mental operations will not necessarily occur.

6.2.4 Criticism of Piaget's Theory

- Piaget suggests that cognitive development proceeds in universal, step like advances that occur at particular stage. If he were correct, a person ought to perform uniformly well once he or she reaches a given stage but it doesn't so.
- The stage theory implies that cognitive growth is typified by relatively rapid shifts from one stage to the next. In contrast many develop argue that cognitive development precedes in a more continuous fashion, increasing not so much in qualitative leaps forward as in quantitative accumulations.
- Critics suggest that Piaget underestimated the age at which certain capabilities emerge but now it is widely accepted that infants and children are more sophisticated at an early age.

These criticisms of Piaget approach to cognitive development have considerable

merit. However, Piaget made a momentous contribution to our understanding of cognitive development and his work remains highly influential.

6.2.5 LET US SUM UP

Jean Piaget cognitive development theory is a strict stage theory in which mind is described as undergoing a series of evolutionary determines reorganizations. According to this theory, infants progress through six substances of sensori- motor stage by perceiving and acting on the world. In the second stage children make many uses of their symbolic capacity but are limited by their dependence on appearances, lack of logical mental operations and ego-centrism. They fail to grasp the concept of conservation because they engage in centration, irreversible thinking. School aged children enter the shape of tasks: they can think about relations and transitivity. Adolescents often show the first sign of formal operation at 11 or 12 years and develop hypothetical deductive thinking.

6.2.6 CHECK YOUR PROGRESS

Q1. Explain the term schema in reference to the Piaget theory of cognitive development?

_____

_____

_____

Q2. Explain the following term :

(a) Assimilation (b) Accommodation (c) Equilibration

Q3. Write in brief the sub stages of sensory motor period?

_____

_____

_____

Q4. Discuss the pre-operational stage of Piaget theory?

_____

_____

Q5. How do children develop cognitively during the age of 7 to 12 years?

_____

_____

_____

Q6. In what ways cognitive development proceed during adolescence?

_____

_____

_____

6.2.7 GLOSSARY

- **Accommodation:** In the theory , the modification of existing knowledge as a result of exposure to new information
- **Assimilation:** Incorporation of new information into existing mental schemas
- **Conservation:** the knowledge that quantity is unrelated to the arrangement and physical appearance of objects.
- **Schemas:** Cognitive frame work representing our knowledge.

6.2.8 SUGGESTED READINGS

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6.2.9 REFERENCES

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COURSE NO. : PY- 301 **UNIT - III**

SEMESTER - III **LESSON : 6 (C)**

VYGOTSKY'S SOCIO CULTURAL APPROACH

STRUCTURE

6.3.0 Objectives

6.3.1 Introduction

6.3.2 Basic idea of Vygotsky's theory

6.3.2 Basic idea of Vygotsky's theory

- Concept of culture
- Role of language in human development
- Zone of proximal development

6.3.3 Let us sum up

6.3.4 Evaluation of theories

6.3.5 Check your progress

6.3.6 Glossary

6.3.7 References

6.3.0 OBJECTIVES

After going through this lesson the student will be able to understand

- How Vygotsky's theory differ from Piaget's theory
- Basic ideas of human development
- Concept of culture
- Role of language in human development
- Contribution and criticism of cognitive theories

6.3.1 INTRODUCTION

Lev Vygotsky made some of the most significant contributions to theories of child development, especially in the area of cognitive development. Vygotsky's theory of cognitive development centered on the ideas that social interaction and imaginative play are large contributors to the process of cognitive development in children. He believed that the social interactions that children engaged in helped them to both discover and create meaning from the things that they discover.

Vygotsky theory differs from that of Piaget

- Vygotsky assumes cognitive development varies across cultures, whereas Piaget states cognitive development across cultures.
- Vygotsky states cognitive development stems from social interactions. Piaget maintains that cognitive development stems largely from independent explorations.
- Which he refers to as to as higher mental functions.
- Adults transmit their culture of intellectual development that children internalize. In contrast Piaget emphasizes the importance of peers as peer interaction promotes social perspective taking.

6.3.2 BASIC CONCEPTS OF VYGOTSKY'S THEORY OF HUMAN DEVELOPMENT

Unlike ethnologists and sociologists emphasis on importance of biological contributions to development, in cont.……ecological approaches emphasis on the importance of individuals content and hence on the importance of environment. Especially the social environment has been highlighted by the ecological perspective. Vygotsky's clear and most important ideas provide a strong link between social factors especially historical and cultural factors and individual development. The three underlying themes through Vygotsky's theory are:

- One has to do with centrally the culture in human development.
- Functions of language in human development
- Developing child's relationship with the environment.

6.3.2.1 Concept of Culture :

According to Vygotsky, the human development is fundamentally different from animal development because of human being capacity to use tools and symbols and as a result creating culture cultivates have the life of their own they grow and change and exert a very powerful influence on their members. It shapes human mental functioning and an important tool for doing so in language.

Role of culture in human development is most evident in the distinction Vygotsky makes between elementary mental functions and higher mental functions (which are exclusively human) filamentary functions. In time, elementary capacities are gradually transformed into higher mental functions to more sophisticated behaviors. This transformation is absolutely fundamental to human development, is possible through language. Vygotsky refers to elementary mental functions

(a) Attention (b) Sensation (c) Perception (d) Memory

Eventually through interaction with in the socio cultural environment, these are developed into more sophisticated and effective mental processes.

6.3.2.2 Role of Language in Human Development :

In Vygotsky theory language development has immense importance it makes thinking possible. Thought is dependent on inner speech. Vygotsky has described the role of language at different stages of life till age 3, social external speech controls the behaviors of others, expresses simple thought and emotions. From age 3 to 7, speech is egocentric. It acts as a bridge between external and inner speech, serves to control one's own behavior, spoken out aloud. From 7 onwards the speech is more self-talk. The direction of thinking and our behavior is involved in all higher level mental functioning.

6.3.2.3 Zone of Proximal Development :

Vygotsky described something known as the "Zone of proximal development which is the key feature of his theory.

Vygotsky suggested that cognitive growth occurs in an interpersonal, social context in which children are moved beyond their level of actual development (what they are capable of doing unassisted) and toward their level of potential development (what they are capable of achieving with assistance from older-and wiser- tutors). Vygotsky termed the difference between these two levels the Zone of proximal development. The assistance provided by others has been termed as scaffolding. It is the support for learning and problem solving that encourages independence and growth. Vygotsky argues that scaffolding not only promote the solution of specific problems, it also aids in the development of overall cognitive abilities.

6.3.3 LET US SUM UP

To sum up, Vygotsky's development theory underscores the role of culture, especially its most important convention, language. The zone of proximal development, is a label for development potential expressed by Vygotsky belief in interdependence between the process of child development and resources that- culture provides

6.3.4 EVALUATION OF COGNITIVE THEORIES

Whereas psychoanalytic theories stress the importance of children's

unconscious thoughts, cognitive theories emphasize their conscious thoughts. Two important cognitive theories are Piaget's cognitive development theory and Vygotsky's socio cultural cognitive theory.

The contributions of cognitive theories include the following :

- The cognitive theories present a positive view of development, emphasizing conscious thinking.
- The cognitive theories (especially Piaget's and Vygotsky's) emphasize the individual's active construction of understanding.
- Piaget's and Vygotsky's theories underscore the importance of examining developmental changes in children's thinking.

The criticism of cognitive theories include the following:

- Piaget's stages don't accurately portray children's cognitive development. Children's thinking at a particular age is more varied than Piaget proposed and the timing of the stages is different than Piaget envisioned.
- The cognitive theories don't give adequate attention to individual variations in cognitive development.
- Psychoanalytic theorists argue that the cognitive theories do not give enough credit to unconscious thought.

6.3.5 CHECK YOUR PROGRESS

NOTE : Use the space below for your answer. Use separate sheet if required.

Q1. How Vygotsky's theory differ from Piaget theory?

_____

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Q2. Write a short note on the importance of culture in human development?

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Q3. Discuss the terms zone of proximal development and more knowledgeable others?

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Q4. What is the role and importance of language?

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6.3.6 GLOSSARY

- **More knowledgeable others :** Person having more ability level than the learner.
- **Zone of proximal development :** Skills learn with the help of other.

6.3.7 REFERENCES

- Baron. R.A. (2001) *Psychology* (fifth edition). Pearson Prentice Hall.
- Sharma, A & Bakhshi, A. (2008). *Textbook of Developmental and Abnormal Psychology.* Nischal Anand for N.R. Books INTERNATIONAL, Jammu.

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COURSE NO. : PY- 301 **UNIT - IV**

SEMESTER - III **LESSON : 7**

PHYSICAL, LANGUAGE, COGNITIVE & PSYCHO-SOCIAL DEVELOPMENT IN INFANCY

STRUCTURE

7.1 Objectices

7.2 Introduction

7.3 Concept of Physical Development in Infancy

7.4 Concept of Language Development

7.4.1 Concept of Language Development in Infancy

7.5 Concept of Cognitive Development in Infancy

7.6 Concept of Psycho-Social Development

7.6.1 Psycho-Social Development in Infancy

7.7 Summary

7.8 Glossary

7.9 SAQ/CYP

7.10 Lesson End Exercise

7.11 Suggested Readings

7.12 Reference

7.13 Model TestPaper

7.1 OBJECTIVES

- To understand about Infancy period of Human Development.
- To understand the various points that characterize Infancy period of development.
- To learn about various physical changes taking place during this period of human development.
- To understand about the Language development in infancy.
- Important features of Language development.
- To describe Jean Piaget's theory of Cognitive development relating to infancy.
- To explain the features of psycho-social development.

7.2 INTRODUCTION

Infancy or a period of the newborn, according to "Hurlock" is a period of "Appealing age". As a child is helpless,appeals and pleases many adults. The infancy age begins from birth to 18/24 months or 2 years is a beginning of many psychological activities such as language, symbolic thought, sensorimotor coordination and social learning.

According to Medical terminology: "Infant is a young child, but no specific age limits are placed on when the individual ceases to be an infant and becomes a child"

SUBDIVISION OF INFANCY

Infancy period can be subdivided into 2 divisions:

(a) Period of Partunate: This period ranges from birth to 15-30 minutes after birth. This period begins when the fetal body has emerged from the mother's body and lasts until the umbilical cord has been cut and tied until this is done, the infant continues to be a parasite and makes no adjustments to the post-natal environment – the environment outside the mother's body.

(b) Period of Neonate: This period ranges from cutting of umbilical cord till approximately 18/24 months. This is the time of transition from the total dependency of prenatal life to a more independent, creative existence. William James once described the newborn's world as "nothing more than a Blooming & Buzzing confusion"

Thus, Infancy is a time of fast paced change in the youngster's ways of perceiving and interacting with the world.

Characteristics of Infancy:

The following are the characteristics of infancy period of human development:

1. **Shortest Period**: Infancy period is the shortest developmental period of human development. It ranges from birth till approximately 2 years.
2. **Extreme helplessness or dependency**: This is a period of extreme dependency upon the caretakers, especially the mother for the infant's basic needs.
3. **Radical Adjustments**: Infancy is a time of radical adjustments. It is a time when rhythms of breathing, feeding, sleeping & elimination are established & when babies & parents make some critical adaptations to one another.

Other than these, some other characteristics are:

4. Infancy is a Hazardous period.
5. Infancy is a preview of later development.
6. Infancy is a plateau in development.
7. Infancy is the first step in the march to maturity

7.3 PHYSICAL CHANGES/DEVELOPMENT DURING INFANCY

Physical development influences children behavior both directly & indirectly. Directly, it determines what children can do. Indirectly, it influences the attitude towards self and others. Different parts (organs) of the body have its unique way of development. Whatever changes we see in hands and legs cannot be seen in heart or lung. Heredity fixes a limit of physical growth & development. It is a rapid in the Infancy & in the later childhood. It is again fast in the start of adolescence.

The physical development of Infants are as follows:

A. Body proportion: At birth, the legs of the infant are about 1/5th of the size of the leg of an adult. Since8 week of age, the growth rate of legs is accelerated. Eyes are proportionally much larger than the rest of the head. While chin is proportionally much too small. The total length of the head & face of a 3month old fetus is about 1/3rd of the total length of the body.

B. Internal Organs: Internal organs of the body also develops with age. As the child grows, the heart beat which is 100,120 per minute in infancy, becomes regular & normal i.e 72 times per minute. Respiration becomes slower, deeper & regular. Body temperature becomes stable & so on.

C. Weight: Human body has a weight of 2.5-3.5 kg at the time of birth. Girl babies are generally lighter than male babies.

D. Height: A new born baby is 19-20inches in length at the time of birth. As soon as the baby grows, his height also increases.

E. Reflexes: Most of the important relexes of the body such as the reflexes of the lips & tougue, sucking, knee jerk, sneezing & others are present at birth.

F. The skin: Skin is blotchy 7 soft. The flesh is firm & elastic.

G. Skeleton development: Growth & development of bones is a bit faster in case of female children than male children. Soft cartilage tissues turn into bones as a result of ossification. The process of ossification begins during the prenatal period and continues in case of some bones till late in adolescence. The bones

of the hands and wrist ossify earlier in comparison to the bones of the other parts of the body.

H. Teeth: Variation are found in case of eruption of teeth. Some deciduous teeth appear earlier & others later. Generally, about the age of 1, these teeth can be seen. The first tooth, the lower front one appears approximately when the infant is 7 months old.

7.4 CONCEPT OF LANGUAGE DEVELOPMENT

Language development is actually the verbalization of concepts which is learnt by imitation (hearing). If child is deaf, his language development will be zero. Important features of language development are given below:

1. Language is a tool to be used for all types of communication. Without proper language development, no communication from one person to the other is possible.

2. Language is used as a tool in Acquiring knowledge. When knowledge increases, vocabulary also increases.

3. Language development starts with mere names of objects or events & when it reaches at its peak it develops ideas into universal concepts. Growth & Maturity of speech is an important aspect of language development.

7.4.1 Concept of Language Development in Infancy

Infants start without language, yet by 4 months of age, babies can discriminate speech sounds & engage in babbling which means making continuous murmuring sound. Here, Infants at an age of 4 months appears to be experimenting with uttering articulate sounds, but does not yet produce any recognizable words. The method in which we develop language skills is universal.

There are two major approaches to syntactic development, an empiricist account by which children learn all syntactic rules from the linguistic input, and a nativist approach by which some principles of syntax are innate & are transmitted through the human genome.

(a) Nativist approach: This approach, proposed "Noam Chomsky" argues that language is a unique human accomplishment. He says that all children have what is called an innate language acquisition device.

(b) Empiricist approach: It suggests, that general brain processes are sufficient enough for language acquisition. During this process, it is necessary for the child to be actively engaged with their environment. In order for a child to learn language, the parent or the caregiver adopts a particular way of approximately communicating with the child, this is known as child-directed speech(CDS).

There are 4 main components of Language:

1. **Phonology:** It is the study of sounds in a language. Phoneme: The Basic unit of sound.
2. **Semantic:** Semantics is the study of the meaning of language. Morpheme: The smallest unit of sound to carry meaning.
3. **Pragmatics:** Pragmatics is the study of the use of language. Deals with the interaction behind the utterances.
4. **Syntax:** Syntax is the study of the structures of language & how words can be formed to create grammatically correct sentences.

Each component has its own appropriate developmental periods:

(a) **Phonological development:** From shortly after birth to around one year, the baby starts to make speech sounds.

At around 0-2 months: The baby will engage in cooing, which mostly consists of vowel sounds.

0-4 months: Cooing turns into babbling which is the repetitive consonant-vowel combinations.

0-8 months: Child is engaged in vocal play vegetative sounds, laughing and cooing.

8-12 months: The child engages in canonical babbling i.e dada as well as variegated babbling.

12-24 months: Babies can recognize the correct pronunciation of familiar words. This period is often called the "holophrastic" stage of development, because one word conveys as much meaning as an entire phrase.

(b) **Semantic development:** From birth to 1 year, comprehension (the language we understand) develops before production (the language we use). From **12-18 months:** Semantic roles are expressed in one word speech including agent, location, possession, non-existence & denial.

18-36 months: Here, vocabulary increases and this involves fast mapping. Fast mapping is the babies' ability to learn a lot of new things quickly. The majority of the babies' new vocabulary consists of object words (nouns) & action words (verbs). The child is able to use and understand why question & basic spatial terms such as in, on or under.

(c) **Grammatical development:** In here, from age 1-2 years, children generally begin speaking in recognizable words between 9 months & 1 year old. At this stage, children speak in single words.

Between 1 & 2 years of age: Children starts using "Telegraphic speech"- children develop the ability to speak in a 2word sentences.

(d) **Pragmatics development:** By 1-2 years – they can engage in conversational; turn taking & topic maintenance.

7.5 CONCEPT OF COGNITIVE DEVELOPMENT IN INFANCY

Infancy is not only a period of amazing physical & language development, it is also a time of remarkable mental development. Cognition is the human capacity to understand the environment & to solve problems. It is the mental action or process of acquiring knowledge and understanding through thought, experience & the senses. Unlike physical development, we cannot see and measure cognitive development. We can only observe its development from the behavior of the individual. Many

psychologists have attempted to understand cognitive development of human beings. One psychologists who made a significant contribution in this direction is "Jean Piaget" a Swiss Psychologist. He gave different stages of cognitive development which are as follows:

1. THE SENSORIMOTOR STAGE (BIRTH-2YEARS).
2. THE PREOPERATIONAL STAGE (2-7 YEARS).
3. THE CONCRETE OPERATIONAL STAGE (7-12YEARS).
4. THE FORMAL OPERATIONAL STAGE (12- ADULTHOOD).

The Sensorimotor Stage : It is the first of the Piaget's stages. It concerns infants from birth to age 2. Following points will explain what happens in sensorimotor stage:

(a) Infants, at first only have the involuntary reflexes present at birth to interact with objects & people.

(b) As, Infant's sensory & motor development progresses, they begin to interact deliberately with objects, by grasping, pushing, tasting & soon…

(c) Infant's move from simple repetitive actions, such as grabbing toes to complex patterns such as trying to put a shape into sorting box.

(d) In the end of this stage, Infant's develop a sense of object permanence which is the knowledge that an object exists even when it is not in sight.

7.6 CONCEPT OF PSYCHO-SOCIAL DEVELOPMENT

Man is a Social animal, he gets into the process of socialization, whereby an individual learns to behave in accordance with social traditions & norms. Human baby is the only organism in the world that takes maximum & longer time to be socially & economically self-dependent. Important features of social development are as follows:

1. Social development starts with the process of socialization, a process which

enables a child to acquire his social status according to his age.

2. The child increases his social circles gradually. These circles increase further when the child grows with age. It makes very difficult for the child to adjust with different types of people in the society.

3. Social development means to share joy & sorrows with others, to work as a member of a group, to cooperate with others & to develop social perception for the purpose of developing belongingness with the rest of the society.

4. The end points of social development is Social maturity i.e to adapt successfully to the social environment without frustration.

7.6.1 Concept of Psycho-Social Development in Infancy

The infant's social development takes place gradually as he advances in age. The new born baby performs very few social functions being both consciously & unconsciously concerned with the fulfilment of his physical needs. But, before long he exhibits signs of reacting to individuals who help him fulfill these needs. The only thing that his early activities show is that he has started understanding the objects & individuals in his environment.

SOCIAL DEVELOPMENT IN INFANCY:

1. During the first year, child learns social skills in the company of his mother & father. When the child is responded by them he learns how to respond to others. Thus, the child learns all his social experiences from his family members in the first year.

2. By the end of 2 years, he begins to take the notice of other infants & play with them.

3. The baby becomes aware of other persons around him at the age of one month. In the second month, he smiles in response to the attentions of adults & he is able to distinguish his mother & other women.

4. In the first 2 years, the child's play is self-centered. He does not like to be

interfered by other children or adults. He plays in his own way. He is generally non-cooperative & has to be handled with patience & tact. In short, the baby is socially underdeveloped.

5. Hurlock has presented the social development taking place during first two years of infancy as under:

   a. First month: Understand human & other voices.

   b. Second month: Recognizes human voice & greets with smile.

   c. Third month: Recognizes mother & distresses on her being away.

   d. Fourth month: Recognizes human faces.

   e. Fifth month: Understands the tone of voices i.e love & hate.

   f. Sixth or Seventh month: Welcomes the known with a smile.

   g. Eighth or Ninth month: Plays with his own shadow.

   h. Twenty-Fourth month: Participates in elder's work.

The characteristics of social development during infancy:

1. Gradual Development: In infancy, social development takes place gradually as the infant advances in age.

2. Change in patterns of play: Similarly, as the infant grow older, the patterns of his play also go through many significant changes.

3. Ego- Centrism: In infancy, the feelings of I & mine develop & strengthen.

4. Socialization: Moving from the ego-centric behavior of the first years to the pre-school period, the infant's conduct begins to appear socialized.

5. Group membership: Living in the group, the infant gradually evolves the communal sentiment.

7.7 SUMMARY

Infancy is the beginning of existence as an individual. The word infant suggests extreme helplessness. During this period infant's complete helplessness gradually gives way to increasing independence. Infancy is a time of fast paced change in the youngster's ways of perceiving & interacting with the world.This lesson dealt with cognitive & language development in Infancy. In the earlier stages, the form of communications are the sounds the child makes (cooing, babbling etc.). from this, the child progresses to one word or two word sentences. However, the child has difficulty in understanding complex sentences, abstract words thoughts & may not understand certain grammar structures. It also dealt with the Jean Piaget's stages of cognitive development.This lesson also deals with the social development of infancy. Man is the social animal, he gets into the process of socialization, whereby an individual learns to behave in accordance with social traditions & norms.

7.8 GLOSSARY

1. **INFANCY:** Infancy age begins from birth to 2 years.
2. **PUBERTY:** The period during which adolescent reach sexual maturity.
3. **PHYSICAL DEVELOPMENT:** It involves developing control over the body, particularly muscles & physical coordination
4. **EGO-CENTERISM:** A salient feature of the pre-operational thought, which refersto the inability to distinguish between one's own perspective & someone else's perspective.
5. **OBJECT-PERMANENCE:** Understanding that objects & events continue to exist even when they cannot directly be seen, heard or touched.

7.9 SELF ASSESMENT QUESTIONS/CYP:

Q1. Explain the subdivision of infancy?

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Q2. Explain Radical Adjustment in Infancy?

Q3. What is the meaning of Object Permeance?

Q4. Describe the language development that happens in infancy?

Q5. Write a short note on the early interaction of the infant?

Q6. Explain the process of social development in infancy?

Q7. Comment on the various reactions to others in infancy?

7.10 LESSON END EXERCISE

NOTE: Use the space below for your answer. Use separate sheet if required.

Q1. Discuss briefly the infancy stage of development and its characteristics?

Q2. What are the physical changes that happen during the infancy stage?

Q3. Piaget called the period of infancy as the:

a. Sensorimotor stage b. concrete-operational stage c. pre-operational stage d. formal-operational stage. Pick any one.

Q4. Explain the Nativist & Empiricist approach to language development?

Q5. Write in points the various characteristics of infancy?

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Q6. What do you understand by psycho-social development?

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7.11 SUGGESTED READINGS

- Sharma, A. & Bakshi, A (2008) ——— Textbook of Development & Abnormal Psychology Jammu, N.R Books International.
- Baron, R.A & Mishra, G ——— Introduction to Psychology.
- Mangal, S.K ——— Introduction to Psychology.

7.12 REFERENCE

- Hurlock, E.B (2001) Development psychology, Tata Mc Graw- Hill Education.
- Gupta, R. Development Psychology, Ramesh Publications New Delhi.

7.13 MODEL TEST PAPER

Short answer type questions:

Q1. Define the Meaning of neonate?

Q2. Explain the skeleton development during Infancy?

Q3. Write a short note on language development?

Q4. Write a short note on cognitive development?

Q5. Write a short note on social development in infancy?

Long answer type questions:

Q1. Explain in detail the first 2 years of social development?

Q2. Explain in details the cognitive changes in infancy?

Q3. Explain the meaning and characteristics of infancy stage of development?

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COURSE NO. : PY- 301 **UNIT - IV**

SEMESTER - III **LESSON : 8**

PHYSICAL, LANGUAGE, COGNITIVE & PSYCHO-SOCIAL DEVELOPMENT IN CHILDHOOD

STRUCTURE

8.1 Objective

8.2 Introduction

8.3 Meaning of Childhood

8.3.1 Concept of Physical Changes in Early Childhood

8.3.2 Concept of Physical Changes in Late Childhood

8.4 Concept of Language Development in Childhood

8.5 Concept of Cognitive Development in Childhood

8.6 Concept of Psycho-Social Development in Childhood

8.7 Summary

8.8 Glossary

8.9 SAQ/CYP

8.10 Lesson End Exercise

8.11 Suggested Readings

8.12 Reference

8.13 Model Tst Paper

8.1 OBJECTIVE

- To understand about Childhood period of Human Development.
- To learn about various physical changes taking place during this period of human development.
- To understand about the Language development in Childhood.
- To describe Jean Piaget's theory of Cognitive development relating to Childhood.
- To explain the features of psycho-social development.

8.2 INTRODUCTION

Childhood is the stage that ranges between approximately 2 years to 12 years. Childhood is also known as school-going age i.e. it starts with the entrance to the school & ends with the onset of puberty. The comfortable confines of the child's family give way to the world of peers.

8.3 CONCEPT OF CHILDHOOD

Childhood is divided into two parts:

1. Early childhood
2. Late childhood

1. Early childhood: This period of Early childhood development lasts from two years of age through six years of age. Physically, our center of gravity shifts from the breastbone, where it was when we were infants, to the belly button. Our physical growth occurs much more slowly during this period as compared to the rapid growth that took place during infancy.

We also increase dramatically in our fine and gross motor skills and are now able to run, jump, climb, and balance. We can also write letters and create very detailed drawings due to fine motor development. Cognitive processing speed increases, which allows us to advance in thinking, reasoning, and problem solving,

as well as master our native language. Social development advances as we learn to understand our own emotions and those of others; our earliest playmates tend to be chosen based on availability.

2. Late childhood: It typically takes place from ages 6 through 12. Physical growth continues and spurts of rapid growth in height and weight may occur. Fine and gross motor skills continue to develop, and we become stronger and faster than ever before. This time is known as the school years, as children are usually focused on traditional education at this point in development. Cognitive development allows for advanced and refined communication between both hemispheres of the brain, which enables us to use advanced logic and problem solving skills more efficiently. As a result, children in middle childhood begin learning advanced math techniques. Increased participation in competitive team sports is common during middle childhood.

In this stage of childhood development, children begin to separate more from their parents, and social comparisons occur as kids seek out peers with common interests and abilities. Social isolation and bullying may occur in children who do not fit in with their peers, which often leads to decreases in feelings of self-esteem.

8.3.1 Concept of Physical Changes in Early Childhood

Early Childhood: This period is sometimes called the "Pre-school years" & it generally ranges from 2-6 years approximately the children learn to become more self-sufficient, develops school readiness skills. Some of the Physical development of Early Childhood are as follows:

1. Height: The height of 3year old child is 38 inches on an average though Indian children may be slightly lower than this size. The average height for boys is 43 inches.

2. Weight: The weight should be 33 pounds at the age of 3. By the age of 5 years, the average weight of children is 43 pounds.

3. Bones & muscles: Muscles develop at a very rapid speed due to excess involvement of the child in motor activities. The bones ossify at different rates in different parts of the body, following the laws of development direction.

4. Fat: Children who tend towards endomorphy have more adipose than muscular tissue, those who tend towards mesomorphy have more muscular than adipose tissue & those with ectomorphic build have both small muscles & little adipose tissue.

5. By the age of 5-6 the child acquires 90% of the adult weight of brain. Nerve fibers in the brain areas also come to almost maturity by the end of the period of early childhood. It should be noted that the growth of brain & nerve fibers is very rapid from birth to 4 years.

The rate of heart beat and pulse slow down and blood pressure goes up steadily.

8.3.2 Concept of Physical Changes in Late Childhood

Late Childhood: It is sometimes called the "Elementary school years". The child at this stage master's fundamental skills of reading, writing & arithmetic. It ranges from approx. 6-12 years. Childhood is generally uniform & follows a predictable pattern, children develop wide variety of health problems, which includes tooth decay, injury etc.

The following are the physical development in later childhood:

- Steady and slow but uniform growth in the external as well as internal organs are seen.
- Milk teeth are replaced by permanent set.
- Ossification of bones takes place due to increase in height & weight.
- Refinement in motor skills.
- The brain acquires the size of an adult.
- Girls are ahead of boys by 2 years in height &weight physiologically. Girls at the age of 11 are ahead of boys by at least 1 year.

Important physical characteristics of this period are increased Manual dexterity, high muscular strength, increased resistance to fatigue, increased endurance for play activities and so on.

8.4 CONCEPT OF LANGUAGE DEVELOPMENT IN CHILDHOOD

Language skills are essential to a child's ability to communicate and develop. These skills enable children to engage with other people and learn from their surroundings and in the classroom.

Language skills are about children learning the rules for putting words together in a way that will express their thoughts and feelings and understanding the meaning of both the written and spoken word.

There are four main components of Language:

1. **Phonology:** It is the study of sounds in a language. Phoneme: The Basic unit of sound.

2. **Semantic:** Semantics is the study of the meaning of language. Morpheme: The smallest unit of sound to carry meaning.

3. **Pragmatics:** Pragmatics is the study of the use of language. Deals with the interaction behind the utterances.

4. **Syntax:** Syntax is the study of the structures of language & how words can be formed to create grammatically correct sentences.

Each component has its own appropriate developmental periods:

- **Phonological development:**

24-30 months: Awareness of rhyme emerges as well as rising intonation.

36-60 months: Phonological awareness continues to improve as well as pronunciation.

6-10 years: Children can master syllable stress patterns which helps distinguish slight differences between similar words.

- **Semantic development:**

36-42 months: There is an understanding of basic color words and kinship terms.

42-48 months: Knowledge of letter names & sounds emerges as well as numbers.

3-5 years: Children usually have difficulty using words correctly. Children experience many problems such as underextensions, taking a general word & applying it specifically & overextensions, taking a specific word & applying it too generally. Here, children also understand metaphors.

6-10 years: Common idioms are also understood

- **Grammatical development:**

2-2 and half years: Children develop the ability to speak in a 3- words sentences. These sentences are often formed in a grammatically correct order.

2 and half years to 3 years: These simple sentences include proper syntax and usually consist of 3 to 4 words.

3 to 4 and half years: Here from 3 to 3 and half years, children begin to integrate compound & complex sentences into their vocal line-up. At this stage, in grammer development, 90% of what a child says is clearly intelligible, children engage in ability to navigate irregular verbs & properly use plural noun formations

- **Pragmatics development:**

3-5 years: Children can master illocutionary intent, knowing what you meant to say even though you might not have said it & turnabout, which is turning the conversation over to another person.

6-10 years: Children are able to communicate effectively in demanding settings, such as on the telephone.

8.5 CONCEPT OF COGNITIVE DEVELOPMENT IN CHILDHOOD

Unlike physical development, we cannot see & measure cognitive development. We can only observe its development from the behavior of the individual. Many psychologists have attempted to understand cognitive development of human beings.

One psychologists who made a significant contribution in this direction is "Jean Piaget" a Swiss Psychologist. He gave different stages of cognitive development which are as follows:

1. THE SENSORIMOTOR STAGE (BIRTH-2YEARS).

2. THE PREOPERATIONAL STAGE (2-7 YEARS).

3. THE CONCRETE OPERATIONAL STAGE (7-12YEARS).

4. THE FORMAL OPERATIONAL STAGE (12- ADULTHOOD).

2. THE PREOPERATIONAL STAGE: This stage spans from 2-7 years. It is a time of developing language & concepts. Here, child begins to understand that symbols that represent certain aspects of reality. The child in this stage engages in what is called as symbolic play, that is wooden box is considered as a car, a stick is a gun. In this stage, child can use simple mental concepts but are not yet capable of logical thought. Here, the child must be important to everyone else. At this stage, the children's thinking is still limited to the perceptual & motor characteristics of the objects or the situations. The child, here at this stage, cannot think beyond what is visible.

3. THE CONCRETE OPERATIONAL STAGE: This stage spans from age 7 to 12 years. At this stage, child begins to overcome the limitations of the pre-operational stage. At this stage, children think more logically, eventually come out with rational conclusions. Children, here are unable to deal effectively with the abstract concepts. Abstract concepts are those that don't have some physical, touchable reality. One of the achievements of this stage is that the child achieves reversibility in the thinking. Reversibility is the ability by which the child becomes capable of following a series of actions and then being able to reverse these series of actions mentally. Apart from the ability of reversibility, conserve, child also develops the ability to "classify". That is the ability to sort out objects on the basis of common features. The major progress child makes at this stage is that the child overcomes the egocentric thinking. That is the child's way of thinking that there could be other ways also. This acceptance of other viewpoints in fact helps the child to broaden the knowledge & learn different aspects of the same thing.

8.6 CONCEPT OF PSYCHO-SOCIAL DEVELOPMENT IN CHILDHOOD

Following Social development happens in childhood:

1. Feeling of autonomy develops in children. They try to explore & manipulate their environment independently.
2. The child learns how to behave, talk & interact with the family members & neighborhood.
3. The child may be frustrated if social atmosphere of the neighborhood is not similar to that of the atmosphere at home.
4. At the age of 5-6 he begins to pride about his parents & boost about other members of his family after six.
5. Most of the children want to dominate in their respective groups at the age of six. Thus, group leader changes every time in the group.
6. Children of both sexes play together without any discrimination.
7. Negativism increases during this period. It is believed that the more a child is frustrated by the interference of adults, the more negativistic his behavior will be.
8. Girls have been found more dominating than boys in social and group situations.

8.7 SUMMARY:

Childhood period follows the infancy stage. The most obvious sign of physical growth are changes in the overall size of the child's body. Here in this lesson we talked about the language development of childhood wherein there is improvement in the four components of language. Then, we talked about the cognitive milestones as well as social development that takes place during this stage.

8.8 GLOSSARY

1. **Development:** It is a pattern of progressive, orderly & predictable changes that begins at conception and continue throughout life.

2. **Cognition:** Mental action or process of acquiring knowledge & understanding through thought, experience & the sense.

3. **Behaviour:** It is the range of actions and mannerism made by individuals, organisms in conjunction with themselves & their environment.

4. **Psycho-Social Development:** The development of the personality, including the acquisition of social attitudes and skills, from infancy through maturity.

8.9 SAQ/CYP

Q1. Explain briefly the cognitive development in late childhood?

Q2. Explain the changes that happens in the four components of language during childhood?

Q3. Explain the psychosocial changes in childhood?

8.10 LESSON END EXERCISE

Q1. Define briefly the two subdivisions of the childhood stage of development?

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Q2. Explain the physical changes that occur during childhood stage?

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Q3. What are the cognitive achievements of children in concrete operational stage?

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8.11 SUGGESTED READINGS

- Sharma, A. & Bakshi, A (2008) ——— Textbook of Development & Abnormal Psychology Jammu, N.R. Books International.
- Baron, R.A & Mishra, G ——— Introduction to Psychology.
- Mangal, S.K ——— Introduction to Psychology.

8.12 REFERENCES

- **Hurlock, E.B (2001) Development psychology, Tata Mc Graw- Hill Education.**
- **Gupta, R. Development Psychology, Ramesh Publications New Delhi**

8.13 MODEL TEST PAPER

Short answer type questions:

Q1. What is Babbling?

Q2. What do you mean by concrete operational stage?

Q3. Explain the two subdivision of childhood period?

Long answer type questions:

Q1. Compare with illustrations the cognitive characteristics of the pre-operational and concrete-operational child.

Q2. Describe the early stages of language development and state their importance for later language development.

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COURSE NO. : PY- 301 **UNIT - V**

SEMESTER - III **LESSON : 9**

ADOLESCENCE : PHYSICALCHANGES; COGNITIVE DEVELOPMENT, SOCIAL-EMOTIONAL DEVELOPMENT

STRUCTURE

9.1 Objectives

9.2 Introduction

9.3 Physical Development in Adolescence

9.4 Cognitive Development in Adolescence

9.5 Social-Emotional Development

9.6 Let us sum up.

9.7 References

9.1 OBJECTIVES

After going through this lesson the student should be able to:

- Know the physical changes which take place during adolescence
- Understanding the cognitive processes and the related development of Adolescent period
- To analyze the process of Social-Emotional Development

9.2 INTRODUCTION

Adolescence is a stage in the development of an individual which lies between childhood and adulthood. The word 'Adolescere' comes from Greek word which means to grow to maturity. It is difficult to say at what age does it commence and when does it terminate. This period has been termed as a period of stresses and strains. Adolescence refers to period of development and adjustment. In this period the growth takes place in all aspects of life not only in physical but also in cognition, social and emotional aspects. The period of Adolescence extends from 11 to 18 years of age.

CHARECTERISTICS OF ADOLESCENCE

The characteristics of Adolescence distinguish it from the periods which preceded it and the period which follows it. These characteristics are

- Adolescence is an Important Period
- Adolescence is a Transitional Period
- Adolescence is a period of change
- Adolescence is a problem Age
- Adolescence is a Time of Search for Identity
- Adolescence is a Dreaded Age
- Adolescence is a time of unrealism
- Adolescence is the threshold of Adulthood.

9.3 PHYSICAL CHANGES DURING ADOLESCENCE

Growth is far from complete when puberty ends, nor is it entirely complete at the end of early adolescence. There is more marked internal than external development

(1) Increase in height and weight: in adolescence there is a rapid increase in height and weight. The maximum limit with regard to increase in size, height

and weight is achieved. Boys are generally heavier and taller than girls.

(2) Development of bones and muscles: The bones and muscles of adolescents develop very rapidly. The muscles of girls remain softer while those of boys become hard.

(3) Bodily proportions: Different parts of body grow at different rates and reach their final size at different rates in adolescence period.

(4) Change in voice: There is a distinct change in voice among the two sexes. The voice of the boy deepens and becomes harsher whereas the girl's voice acquires sweetness and softness.

(5) Increase in size of genital organs: In adolescence, there is increase in size of external, internal genital or sex organ.

(6) Increase in blood pressure: In the adolescence period, the blood pressure increases in both the sexes.

(7) Increase in pulse rate: During this period, the pulse rate increases in both the sexes.

(8) Sex Organs: Both male and female sex organs reach their mature size in late adolescence, but are not mature in function until several years later.

(9) Functioning of sex glands: At the beginning of adolescence period, sex glands begin to function. In case of boys, seminal glands begin to work and the girls begin to menstruate monthly.

(10) Physiological Changes: All the systems of the body acquire their final and full growth.

(11) Digestive System: During this period, the whole digestive system undergoes qualitative changes. The adolescent has a desire of eating more. The stomach becomes longer and less tubular, the intestines grow in length and circumference, the muscles in the stomach and intestinal walls become thicker and stronger, the liver increases in weight, and the esophagus become longer.

(12) Circulatory System: The heart grows rapidly during adolescence; by the age of seventeen or eighteen, it is twelve times as heavy as it was at birth. The length and thickness of the walls of the blood vessels increase and reach a mature level.

(13) Respiratory System: The lung capacity of girls is almost at a mature level at age seventeen; boys reach this level several years later.

(14) Endocrine System: The increased activity of the gonads at puberty results in a temporary imbalance of the whole endocrine system in early adolescence. The sex glands develop rapidly and become functional, though they do not reach their mature size until late adolescence or early adulthood.

(15) Body Tissues: The skeleton stops growing at an average age of eighteen. Tissues, other than bones have reached their mature size. This is especially true of muscle tissue.

Let us Sum Up

Adolescence is a period of rapid physical growth, including the hormonal and bodily changes associated in the puberty. Girls typically begin their growth spurts and puberty about two years earlier than boys. It is triggered by a complex set of hormonal changes. Sexual maturity is achieved later in boys as compared to girls.

Check Your Progress Exercise I

Note: Use the space given below. Use separate sheet if the space provided is not sufficient.

1. Define Adolescence.

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2. What are the various characteristics of Adolescence.

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3. Explain the various physical changes as experienced by Adolescents.

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4. Write the changes which take place in secondary sex characteristics in girls and boys during Adolescence.

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9.4 COGNITIVE DEVELOPMENT

Introduction

During adolescence individuals thoughts change from concrete objects to abstract events. During adolescence individuals are able to indulge in abstract thinking and they can understand issues in relative terms instead of absolute terms. They can also think and plan about future events. Psychologists have tried to explain the cognitive development using different approach. Piaget was the first

psychologist to offer an explanation of units important development milestone. Many adolescents attain Piaget's stages of formal operations which is characterized by the ability to think abstractly. An adolescent reaches the stage of formal operations anywhere between the age of 12 to 16 years. During this stage teenagers learn to reason logically about abstract concepts, Instead of thinking only about real things and actual occurrences, as younger children do, teenagers can think about possible occurrences. Piaget called this kind of thinking hypothetical-deductive reasoning.

Characteristics of cognitive development in Adolescence

(1) Hypothetical-deductive reasoning is the ability to derive conclusions from hypothetical premises. For example, when a teenager imagines what her life will be like if she goes to college and then compares her imagined future to another possible future that doesn't involve college she is engaging in hypothetical-deductive reasoning. Advances in logic enables adolescents to engage in systematic problem solving, a process in which a problem solver searches for a solution by testing hypothesis about single factors.

The formal operational adolescents use scientific approach. They do not simply plunge into the experiment. First several possibilities or hypothesis are considered about what makes the pendulum swing. Thus, before starting a new project, a detailed plan or design for systematically testing each alternative. Formal operational reasoning also seems to enable adolescents to understand figurative language, such as metaphors, to a great degree.

(2) Use of advanced Information-Processing : Adolescent's process information faster, use processing resources more efficiently, understand their own memory processes better and have more knowledge than do elementary school children, As a result they are much better at using strategies to help themselves remember things and can more easily understand and remember complex information. The proponents of information processing approaches to cognitive development argue that growth in mental abilities proceeds gradually and continuously.

(3) Metacognition, Meta-memory and strategy use : The metacognitive and

meta-memory skills of adolescents exceeds those of younger children. Adolescents improve their understanding of their memory capacity. Thus they can judge when they have fully memorized the material considerably, more accurately than when they were younger. The studies on meta-memory suggest that the capacity to apply memory strategies selectively, based on the characteristics of a memory task, appears early in the teenaged years and continues to improve throughout the adolescence.

(4) Egocentrism in Adolescent's thinking : During adolescence, individuals become able to think and reason not only about their own thoughts but about those of others as well. According to David Elkind, the egocentrism of adolescent is expressed in many forms. Adolescents become self-absorbed and view the world from their own point of view. Egocentrism makes adolescents highly critical of authority figures such as parents and teachers, unwilling to accept criticism and quick to find fault with other's behavior.

Adolescent egocentrism can be expressed in following different forms

- Finding fault with authority figures.
- Argumentativeness.
- Self-consciousness
- Self-centeredness
- Indecisiveness
- Apparent Hypocrisy

(5) Development of intelligence : Adolescence is the period of great growth and intellectual development. Intelligence reaches its climax in this period.

(6) Increase in the span of attention : The span of attention increases in this period. The power of concentration ncreases and facilitates the adolescent to attend on one stimuli for a longer period of time.

(7) Development of memory : The adolescent tends to act more logically with the enhancement of memory at this stage.

(8) Development of imagination : Adolescent possesses excessive imagination. Writers, artists, musicians, poets, philosophers and inventors are born in this period.

(9) Increase in reasoning ability : In this stage, the individual begins to think critically about the outside world. He does not accept anything on faith.

10) Increase ability to understand : An adolescent develops the ability to see varied relationship and develops to solve problems of life with proper understanding.

11) Increase ability to generalize the facts : There is an increase in the ability of the adolescents to generalize the facts.

Let Us Sum Up

There are substantial cognitive advancements which take place during the adolescence. Piaget proposed the Formal operational stage of cognitive development in adolescence. The formal operational stage is characterized by the ability to apply basic cognitive operations to ideas and possibilities, in addition to actual objects.

According to information processing perspective, the cognitive advances of adolescents are quantitative and gradual, involving improvements in many aspects of thinking and memory.

Memory functions improve in adolescence as teens become more proficient in meta-cognition, meta-memory and strategy use. Adolescents are susceptible to egocentrism, which may cause social problems.

Check Your Progress Exercise II

Note: Use the space below. Use separate sheet if space provided is insufficient.

1. Explain Piaget's formal operational stage.

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2. List the advances in information processing capabilities that occur during adolescence.

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3· In what ways does egocentrism complicate adolescent's life.

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9.5 SOCIAL-EMOTIONAL DEVELOPMENT

One of the most difficult developmental tasks of adolescence relates to social adjustments. These adjustments must be made to members of the opposite sex, in a relationship that never existed before and to adults outside the family and school environments.

To achieve the goal of adult patterns of socialization, the adolescent must make many new adjustments, the most important and also the most difficult are those to the increased influence of the peer group, changes in social behavior, new social groupings, new values in friendship selection, new values in social acceptance and rejection, and new values in the selection of leaders.

Social Characteristics during Adolescence Stage:

- **Consciousness :** In adolescent stage, the individual becomes conscious of his sex. Both boys and girls indulge in attracting the members of the opposite sex.
- **Social Consciousness :** Adolescents develop social consciousness. They want to be praised and seek social approval of various modes of behavior.
- **Group loyalty :** Adolescents form their groups and discuss their problems within their groups. They trust their groups and become loyal to their groups and may come in clash with their elders or outsiders who do not approve their group affiliations.
- **Social Service :** At this stage, ideals of social service are formed and cherished. Social service in public gathering, fairs, festivals etc. become a passion for the adolescents.
- **Increased Peer-Group Influence :** Because adolescents spend most of their time outside the home with members of the peer group, it is understandable that peers would have a greater influence on adolescent's attitudes, speech, interests, appearance, and behavior than the family has.
- **Changes in Social behavior :** As a result of broader opportunities for social participation, social insight improves among older adolescents. They are now able to judge members of the opposite sex as well as members of their own sex better than they could when they were younger. As a result, they make better adjustments in social situations and they quarrel less.
- **New value in selection of Friends :** Adolescents no longer select their friends on the basis of ready availability at school or in the neighborhood, as they did during childhood, and enjoyment of the same activities is not as such an important factor in friendship selection. Adolescents want as friends those whose interests and values are similar to theirs, who understand them and them feel secure, and in whom they can confide problems and discuss

matters they feel they cannot share with parents or teachers.

- **New values in social acceptance :** Just as adolescents have new values concerning their friends, so they have new values concerning acceptable or unacceptable members of different peer-groups. These values are based largely on peer-group values which are used to judge members of the group. Adolescents soon discover that they are judged by the same standards by which they judge others.

EMOTIONAL DEVELOPMENT DURING ADOLESCENCE

(1) Heightening of Emotions : Adolescents are emotionally disturbed due to hormonal changes and the resulting physical and sexual changes, because of this emotional instability they indulge in nail biting, conflicts, quarrels and arguments.

(2) Mood swings : Emotional moods of adolescent moves up and down. The moods of an adolescent keeps fluctuating from normal to depressed. One minute the adolescent's mood is up in the clouds and the next he is in depths of despair. This fluctuation of moods makes it a period of stress and strain.

(3) Not under control : The adolescent's emotions are not under control. They can't tolerate over strictness of parents as well as teachers.

(4) Complexity : The adolescent's emotional development becomes complex by their experiences and while dealing with the environmental complexities.

(5) Abstract Emotions : The adolescents develop abstract emotion and express accordingly.

(6) Realism : There is a great level of realism in emotional experience of adolescents. Adolescents enter the period of reality and start recognizing the weakness and strength of one's character.

(7) Capacity of sharing emotions : Adolescents develop an increased capacity for sharing emotional experiences with others.

(8) Widened loyalties : During adolescence, the adolescents show widened loyalties towards their loved ones. Their loyalties are more towards their groups and friends.

(9) Compassion : Adolescents develop great compassion in this stage. Fellow feelings develop among the adolescents.

(10) Common emotional pattern : The most important emotional pattern of the adolescents include love, anger, jealousy, fear, worry etc.

The emotional patterns of adolescence, while similar to those of childhood, differ in the stimuli that give rise to the emotions and even more important, in the degree of control the individuals exercise over the expression of their emotions. Instead of having temper tantrums, however, adolescents, express their anger by sulking, refusing to speak, or loudly criticizing those who angered them. Adolescents also become envious of those with more material possessions. While they may not complain and feel sorry like children do, they are likely to take a part time job to earn money for the material possessions, they crave or even drop out of school to get these things.

9.6 LET US SUM UP

Adolescence is a period of heightened emotionality and a period of "stress and storm". Even though physical growth is far from complete when puberty ends, its rate slackens in adolescence and much of the change that occurs then is internal rather than external. The physical growth causes many concerns for boys and girls. The important social changes in adolescence include increased peer-group influence, more mature patterns of social behavior, new social groupings, and new values in the selection of friends and leaders and in social acceptance.

The emotional patterns of adolescence, while similar to those of childhood, differ in the stimuli that give rise to the emotions and, even more important, in the degree of control the individuals exercise over the expression of their emotions. Boys and girls are said to have achieved emotional maturity if, by the end of adolescence, they do not "blow up" emotionally when others are present, but wait for a convenient time and place to let off emotional steam in a socially acceptable manner.

Check Your Progress Exercise III

1. Explain the process of social development in Adolescence.

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2. Write in points the various characteristics of social development of Adolescents.

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3. What are the various social interests of adolescents.

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4. Explain the emotional development in Adolescent.

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5. What are the various characteristics of emotional development.

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9.7 REFERENCES

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ADULTHOOD : SELF-CONCEPT AND IDENTITY; ERICKSON'S VIEW OF YOUNG ADULTHOOD; CAREER; MARRIAGE AND PARENTHOOD

STRUCTURE

10.1 Objectives

10.2 Self-Concept and Identity

10.3 Erickson's View of young Adulthood

10.4 Career

10.5 Marriage and Parenthood

10.6 Summary

10.7 Lesson End Exercise

10.8 References

5.2.0 OBJECTIVES

After going through this lesson the student should be able to

- Understand the self-concept during Adulthood.
- Know the factors that determine a person's identity.

- Understand Erickson's view of young adulthood.
- To be acquainted with the meaning of Career, marriage and Parenthood.

10.2 SELF-CONCEPT AND IDENTITY

Like the physical skills, certain intellectual abilities also peak during adulthood. An Adult is aware of him-self and knows his self- worth. He has the capacity to love others and understands the importance of interpersonal relationships. His/her personality is integrated and relatively free from damaging conflicts. He/ She become more independent, are able to make decisions for himself / herself and their decisions are based on realistic perception of the environment and the possession of the knowledge and skills necessary for environmental mastery.

Romance, relationship, love, marriage and children are the shift of life for most people during early adulthood.

Self-concept or self-identity is the sum of a being's knowledge and understanding of their self. The self-concept is different from self-consciousness, which is an awareness of one's self. Components of the self-concept include physical, psychological, and social attributes, which can be influenced by the individual's attitudes, habits, beliefs and ideas. These components and attributes cannot be condensed to the general concepts of self-image and self-esteem as different types of identity coming together in one person.

These types of identity can be broken down into the following.

Cultural identity: It is the (feeling of) identity of a group or culture, or of an individual as far as they are influenced by their belonging to a group or culture. Cultural identity is similar to and has overlaps with, but is not synonymous with, identity politics. There are modern questions of culture that are transferred into questions of identity. Historical culture also influences individual identity, and as with modern cultural identity, individuals may pick and choose aspects of cultural identity, while rejecting or disowning other associated ideas.

Professional identity is the identification with a profession, exhibited by an aligning of roles, responsibilities, values, and ethical standards as accepted by the profession.

An ethnic identity is the identification with a certain ethnicity, usually on the basis of a presumed common genealogy or ancestry. Recognition by others as a distinct ethnic group is often a contributing factor to developing this bond of identification. Ethnic groups are also often united by common cultural, behavioral, linguistic, ritualistic, or religious traits.

Processes that result in the emergence of such identification are summarised as **ethnogenesis.** Various cultural studies and social theory investigate the question of cultural and ethnic identities. Cultural identity remarks upon: place, gender, race, history, nationality, sexual orientation, religious beliefs and ethnicity.

National identity is an ethical and philosophical concept whereby all humans are divided into groups called nations. Members of a "nation" share a common identity, and usually a common origin, in the sense of ancestry, parentage or descent.

A religious identity is the set of beliefs and practices generally held by an individual, involving adherence to codified beliefs and rituals and study of ancestral or cultural traditions, writings, history, and mythology, as well as faith and mystic experience. The term "religious identity" refers to the personal practices related to communal faith and to rituals and communication stemming from such conviction. This identity formation begins with association in the parents' religious contacts, and individuation requires that the person chooses to the same—or different—religious identity than that of their parents.

Gender identity describes the gender with which a person identifies (i.e., whether one perceives oneself to be a man, a woman, outside of the gender binary, etc.), but can also be used to refer to the gender that other people attribute to the individual on the basis of what they know from gender role indications (social behavior, clothing, hair style, etc.). Gender identity may be affected by a variety of social structures, including the person's ethnic group, employment status, religion or irreligion, and family.

10.3 ERICKSON'S VIEW OF YOUNG ADULTHOOD

Erik Erikson: Erik Erikson (1902-1994) was a pioneer in a life-span perspective. Erikson contented that ego development is lifelong. The psychoanalyst Erik H. Erikson departed from Freudian theory in emphasizing societal, rather than biological, influences on personality. Erikson described development as proceeding through eight turning points throughout the life span.

Erikson's belief is that throughout each person's lifetime, they experience different crises or conflicts. Each of the conflicts arises at a certain point in life and must be successfully resolved for progression to the next of the eight stages.

Once an adolescent has attained identity achievement, they are ready to enter the next stage of Erikson's theory "Intimacy versus Isolation" where they will form strong friendships and a sense of companionship with others. If the "Identity versus Role Confusion" crisis is not solved, an adolescent will face confusion about future plans, particularly their roles in adulthood. Failure to form one's own identity leads to failure to form a shared identity with others, which could lead to instability in many areas as an adult. The identity formation stage of Erik Erikson's theory of psychosocial development is a crucial stage in life

Sixth Stage: Intimacy versus Isolation (Psychosexual Mode is Genitality)

Stage 6: Young Adulthood

Age: Young Adulthood — 19 to 40 years

Conflict: Intimacy vs. Isolation

Important Event: Love relationships

Intimacy vs. Isolation

Occurring in young adulthood (ages 18 to 40 yrs), we begin to share ourselves more intimately with others. We explore relationships leading toward longer-term commitments with someone other than a family member.

Successful completion of this stage can result in happy relationships and a

sense of commitment, safety, and care within a relationship. Avoiding intimacy, fearing commitment and relationships can lead to isolation, loneliness, and sometimes depression. Success in this stage will lead to the virtue of love.

In this stage, the most important events are love relationships. Intimacy refers to one's ability to relate to another human being on a deep, personal level. An individual who has not developed a sense of identity usually will fear a committed relationship and may retreat into isolation. It is important to mention that having a sexual relationship does not indicate intimacy. People can be sexually intimate without being committed and open with another. True intimacy requires personal commitment. However, mutual satisfaction will increase the closeness of people in a true intimate relationship.

Elements for a positive outcome: The young adult must develop intimate relationships with others. Not resolving this conflict leaves the young adult feeling isolated. The young adult must be willing to be open and committed to another individual.

Elements for a negative outcome

An individual may retreat into isolation if a sense of identity is not developed and will fear a committed relationship. Examples: Giving and sharing with an individual without asking what will be received in return. Erikson viewed intimacy or closeness and mutual sharing with another as the basic strength of this stage, isolation as its core pathology. Erikson believed that intimacy between two people as a couple was only possible when each had developed a strong sense of identity separately. Unfortunately, many couples in these days married at a very young age, so this was by no means always the case. The dilemma is that it is difficult (though possible in rare cases) for two people to grow and mature together unless they have first matured separately. Not surprisingly, divorce is a common outcome for couples who marry while still quite young and immature. Young adults often still have not advanced in maturity from adolescence. Although some have achieved a level of maturity by the early twenties, many others do not arrive at this level until well into their thirties – and still others never do attain full maturity! In today's complex world, attainment of maturity and relative independence seems to take considerable time.

Perhaps it is fortunate, then, that people tend to marry somewhat later than they did in the 1950s. By geniality Erikson referred to sexual intimacy. This is the physical correlate of psychological intimacy. Good sexual relations depend on the ability of each partner to share and care, not to exploit or hurt the other. Sexual love must be unselfish. At the young adult stage, people tend to seek companionship and love. Some also begin to "settle down" and start families, although seems to have been pushed back farther in recent years.

Out of all of the psychosocial stages Erikson proposes, the stages that most pertain to this time period are the 5th and 6th stage: Identity vs. Confusion and Intimacy vs. Isolation respectively. The Identity vs. Confusion stage is a time during adolescence when the individual is trying to discover their identity and independence from their parents. With proper encouragement the person can move on from this stage with a sense of control, self and independence. Once individuals experience the stage of Identity vs. Confusion, they enter the 6th stage of Intimacy vs. Isolation. This is a period of time for the exploration of relationships. Erikson felt that in order to move to the 7th step, which occurred as one became an adult, one had to be able to form and maintain committed relationships. If youth are unsure about their identities, they will be reluctant to form interpersonal relationships. If youth do not experience intimate relationships, it is likely that they will feel a sense of isolation.

During psychosocial moratorium, adolescences are able to explore their identities without taking on adult responsibilities. This is a latency period between adolescence and adulthood. Adulthood was defined as the point in time in which the individual is ready to be a parent. The characteristics associated with the people in this latency life stage include the inability to form intimate relationships and having not yet reached the psychosocial readiness required for adulthood. Erikson mentions that most societies where these moratoriums exists, allow it to happen. Things like apprenticships and prolonged schooling are accepted and even expected by the society. This is also a time for the person to explore. Often the person has adventures that coincide with societies values. During this time period it is common that a person puts off having a job because they are waiting to find one that is not only promising financially, but that would allow them to use their unique talents and give them

satisfaction. This is a time of paradox for the young individual. On the one hand they wish to have free will when making decisions, but will act in a way that his or her parents find shamelessly in order to avoid coming across as shameless to his or her peers.

This shows that during this stage of life peers become extremely important to the individual, at times become more influential than their parents. Another characteristic of this time period is the idea of identity confusion. A person in this stage is stuck between the identity they had as a young child and the one they will have as an adult. According to Erikson, love experienced in this stage is not based on sexual needs but instead on the person's need to be able to define their identity by seeing it reflected in their partner. This is also congruent with Arnett's belief that relationships during this transitional time period are a way for the individual to further explore their identity.

Without realizing it, Erikson established the foundation for emerging adulthood, by postulating that there is a stage in-between adolescence and adulthood, and by laying the foundation for many of the characteristics that Jeffery Jenson Arnett proposes belong in the period of Emerging Adulthood.

Young adults seek deep intimacy and satisfying relationships, but if unsuccessful, isolation may occur. Significant relationships at this stage are with marital partners and friends.

10.4 CAREER

As people move through adulthood, they focus their energies and motivations on different developmental tasks. Among the major tasks faced by young adults are completing their education, entering a career, marrying and become parents. Everyone faces these tasks. During young adulthood years one embarks upon career. Career choice is made during young adulthood years. Work occupies a considerable portion of the adult lifespan and its influence touches almost every part of our life. Age and Gender influences the work we do and the career we choose. The career defines our position in the society, gives meaning to our lives, provide satisfying activity, an outlet for creativity and a source of social stimulation.

Importance of Work

The work we do affects personality, family life, social relationships and attitudes. The degree to which a person's job requires thought and independence affects many aspects of personality. Job complexity leads to increased intellectual flexibility, which in turn affects a person's values, self-concept and attitudes towards society. The quality of an employee's social relations are related to self-esteem, levels of anxiety, and tendencies towards depression. Work can be a source of stress, especially when a person becomes over involved in a job and devotes long hours to it, work can be a source of enormous satisfaction, especially when it gives the worker a sense of creating, producing or achieving something.

Choosin A Career

Many people wander into their career by accident. The location of home, luck and gender are some of the factors which determine what career or job is taken up, local industries determine the type of job available. Adults in the community provide the role models that turn a child's thoughts to various jobs and careers. Work and Gender are intimately related. Women generally choose jobs which are more convenient and suitable to them. Women these days, earn not only to supplement family income but in many cases they may be the sole earner and supporter of the family.

Marriage and Parenthood

Marriage customs vary widely, but there is some universality about it too, that is, it meets fundamental needs of the humans. In most societies, marriage is considered the best way to ensure orderly raising of children. It allows for a division of labor within a unit and offers intimacy, commitment, friendship, affection, sexual fulfillment, companionship, and an opportunity for emotional growth, as well as new sources of identity. In most societies, marriage is considered the best way to ensure orderly raising of children and allows a division of labor within a unit. It offers intimacy, commitment, friendship, affection, companionship and an opportunity for emotional growth, as well as provide new source of identity and self-esteem. In our culture, the Harmonious union of male and female is considered essential to spiritual

fulfillment and the survival of the species.

The transition to married life brings major changes in sexual functioning, living arrangements, rights and responsibilities, attachments, and loyalties.

Marital adjustment is one of the most difficult adjustments young adults make. Sex-role adjustment is fundamental to marital adjustment.

Factors in Marital Success: One of the most important factors in marital success is a sense of commitment.

Success in marriage is closely associated with partner's communication skills, decision making, and the capacity to deal with conflicts. Positive arguments and openness for discussions, as well as expressing anger seems good for the marriage, whereas whining, defensiveness, stubbornness, and withdrawal are signs of trouble.

Age at the time of marriage is a major predictor of whether a union will last. Early marriages have high divorce rates; people who marry after settlement have better chances of success. Couples with high family income are less likely to end their marriages.

For Adults to make successful adjustments to marriage and also to parenthood, they must play roles that are mutually satisfying to both spouses, and they must derive satisfaction from playing these roles. In addition, if they are to derive satisfaction from their roles as parents, they must select roles that both parents agree are best for their children, and they must feel confident of their abilities to play these roles successfully.

Parenthood

Parenthood is one of the most important roles in the lives of most young adults. Those who are married concentrate on the role of parenthood during their twenties and early thirties. The institution of the family is universal. In many African, Asian, and Latin American cultures the extended-family household is the traditional form. In western industrialized countries, family size, composition, structure, and division of labor have changed dramatically. Most mothers now work for pay, in or

outside the home, and a small or growing number of fathers are primary caregivers.

In preindustrial farming societies, large families were a necessary: children helped with the family's work and would eventually care for aging parents. In industrial societies, large families are no longer an economic asset. In developing countries, too, where overpopulation and hunger are major problems, there is recognition of the need to limit family size and to space children further apart.

A first baby marks a major transition in parent's lives. This totally brings a change at individual level as well as at relationships level. As children develop parents develop too. Both women and men often have mixed feelings about becoming parents. A long with excitement, they may feel anxiety about the responsibility of caring for a child and the commitment of time and energy it entails. Fathers today are more involved in their children's lives, and even in child care and housework, than ever before, still most are not nearly involved as mothers are. In almost all known societies, women, even if they work full time, have primary responsibility for housework and child raising. However, the ways couples divide breadwinning and household work, and the psychological effects of those decisions vary.

10.6 SUMMARY

One of the greatest challenges people face in early adulthood is making a decision on the choice of career. People are motivated to work for need of money and prestige, enjoyment of work and its personal importance. Career helps determine a person's identity, social life and status. The majority of adults choose jobs that fit the cultural norms for their social class and gender.

Marriage establishes the family as a social system, with marital roles affected by the way power is divided. Happy marriages are characterized by emotional maturity, the free expression of emotions, consideration for others, high self- esteem and adaptability. Parenthood changes the social roles, friendship patterns, family relationships, personality, values and community. Parenthood seems to intensity both the pleasure and dissatisfactions of life, and children either can draw a couple together or push them apart.

CHECK YOUR PROGRESS EXERCISE

Note: Use the space below for answers. Use separate sheet if required.

1. What is self-concept and identity.

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2. Explain the various types of identities

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3. Throw light on Erickson's view of young Adulthood

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_____

4. Why is choosing career such an important issue for young adult?

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_____

_____

5. Enumerate the factors which influence the choice of a career.

_____

_____

_____

6. What are the various benefits of marriage

_____

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_____

7. What adjustments are required to made to make marriage successful?

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_____

8. Describe the transition to parenthood and its stresses

_____

_____

_____

9. How does arrival of children affect the marital life of young adults?

_____

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_____

10.8 REFERENCES

Hurlock B Elizabeth —— Developmental Psychology

Papalia —— Human Development

Zinbardo —— Psychology and life

Sharma R.N —— Developmental Psychology

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Directorate of Distance Education

UNIVERSITY OF JAMMU

JAMMU

SELF LEARNING MATERIAL

B.A. SEMESTER - III

Subject : PSYCHOLOGY **UNIT I-V**

Course No. PY-301 **Lesson No. : 1-10**

Dr. Hina S. Abrol
Course Co-ordinator

http:/www.distanceeducation.in
Printed and published on behalf of the Directorate of Distance Education, University of Jammu, Jammu by the Director, DDE, University of Jammu

PSYCHOLOGY

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Printed By : Chenab Offset Printer / 2020/ 100

SYLLABUS

B.A. THIRD SEMESTER

PSYCHOLOGY

Course No. PY-301 **Title : Human Development**

Duration of Exam. : 3 Hrs. Total Marks : 100

Theory Examination : 80

Internal Assessment : 20

Objective : The course is designed to provide conceptual foundation of human development. It focuses on human development in different domains.

Unit I : Nature, Issues and scope of studying Human Development

Designs : Longitudinal, cross-sectional and sequential designs.

Unit II : **Heredity :** Basics of Genetics, Genetic disorders, Heredity and Environment.

Prenatal Development : Stages of Prenatal development and factors influencing Prenatal development.

Unit III : **Theories of Human Development :** Freud, Erickson, Bandura, Piaget, Vygotsky.

Unit IV : **Infancy :** Physical Changes; Language Development; Social-Emotional Development.

Childhood : Physical Changes; Language Development; Social-Emotional Development.

Unit V : **Adolescence :** Physical Changes; Cognitive Development; Social Emotional Development.

Adulthood : Self concept and identity; Erickson's view of Young Adulthood; Career; Marriage and Parenthood.

Note for Question Paper Setting :

The question paper would contain two types of questions, that is, **Long Answer Type Questions and Short Answer Type Questions.**

There would be **two long answer type questions,** set from each unit; out of which one question will have to be attempted by the students, unitwise.

Similarly, there would be **two short answer type questions,** set from each unit. The student will have to attempt **one short answer type question** from each unit. In all, students will have to attempt five long answer type questions and **five short answer type questons** out of five units.

Long answer type questions would carry **Sixty marks B** (12 marks, each question) and Short answer type questions would carry **Twenty marks** for five questions **(4 marks, each question).** These questions would be set **unitwise** in the question paper, separately.

Internal Assessment (Total 20 marks)

Distribution of internal assignment as under :

(i)	Class Test	:	10 marks
(ii)	Two Written assignments	:	10 marks (05 marks each)

Books Recommended :

1. Bee, H. & Boyed, D. (2002), *Life Span Development*, Allyn & Bacon.
2. Feldman, R. S. (2002), *Development Accross the Life Span,* Upper Saddle River, NJ: Prentice Hall.
3. Hurlock, E.B. (2002), *Child Growth and Development,* New York : Mc Graw Hill.
4. Srivastva, A.K. (1998), *Child Development : An Indian Perspective,* New Delhi : NCERT
5. Sharma, A., & Bakshi, A. (2002), *Text Book Development and Abnormal Psychology, Jammu :* NR Publication.

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