Master of Arts

(Psychology)

Developmental Psychology – 1

Semester-I

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Developmental Psychology - I (paper-2)

Learning out comes

Students will be able to understand:

Unit-1

- Understand basic concepts in developmental psychology.
- Grasp the biological processes involved in conceiving new life.
- Define and recognize the stages of prenatal development.

Unit-2

- Understand the typical physical milestones during infancy and early childhood, including growth patterns, motor skills, and sensory development.
- Understand the physical, health, motor, sensory, emotional, and perceptual development during infancy and early childhood.
- Identify developmental tasks and characteristics of late childhood, including physical, health, motor, cognitive, and language development.

Unit-3

- Understand Piaget's stages of cognitive development.
- Explore Kohlberg's stages of moral development.
- Recognize the development of personality traits in late childhood.

Unit-4

- Understand developmental tasks related to identity, autonomy, peer relationships, and academic planning.
- Recognize physical changes and maturation during adolescence.
- Explore the psychological impact of physical changes on body image and self-esteem.

Unit-5

- Understand shifts in interests and theoretical perception.
- Recognize the challenges and processes involved in identity formation.
- Understand the influence of approved sex roles and cultural norms.

DEVELOPMENTAL PSYCHOLOGY - I
SYLLABUS

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UNIT I

DOMAINS OF DEVELOPMENT

STRUCTURE

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1.1 LEARNING OBJECTIVE

After studying this lesson, you will be able to:

- Describe what is a developmental task.
- Identify the development stages in the human life span.
- List the main characteristics of development at each stage.
- List the developmental tasks representing the different stages.

1.2 INTRODUCTION

The term 'Development' is not limited to growing larger. Instead it consists of a progressive series of quantitative and qualitative changes that occur in an orderly, coherent way leading the individual towards maturity. The term 'Progressive' signifies that the changes are directional leading forward rather than backward. The quantitative changes are the changes in quantity or amount such as increase in size, height, weight, circumference of the body vocabulary etc. The qualitative changes are the changes in kind, structure, organisation and function.

The terms 'orderly and coherent' suggest that development is not a haphazard, casual type, but there is a definite relationship between each stage and the next in the developmental sequence. Each change is dependent upon what preceded it and it, in turn affects what will come after. Development results in new characteristics and new abilities in the individual. It consists of a transition from lower to higher stages of activity or function. From the moment of conception until death the individual is constantly changing, he is never static.

There is some development at each stage in the life span of the individual, but more development occurs in the early years of life than after maturity is attained. During adulthood changes do continue but at a slower rate until deterioration that characterises old age (senescence) sets in. Thus, development is a continuous process which starts even before birth. Birth is only an incident in the long succession of changes and not the beginning

1.3 ASPECTS OF DEVELOPMENT

The aspects of development could be many but the most important development aspects are physical development, cognitive development, language development, social development, emotional development, moral development, and gender development.

- **Physical development** – refers to changes in the bodily structures and functions of different body parts.
- **Cognitive development** – refers to intellectual development; it deals with abilities, such as processing information that includes thinking, imagination, memorizing, learning, reasoning, decision making.
- **Language development** – refers to changes in the use of speech.
- **Social development** – refers to changes in forming relationships/interaction with others.
- **Emotional development** – refers to changes in feelings; causes, and expressions of emotions/ feelings.
- **Moral development** – refers to changes in reasoning about "Right" or "Wrong".

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- **Gender development** – refers to changes in understanding the roles played by males and females.

1.4 DOMAINS OF DEVELOPMENT

At each stage, development takes place in various areas or domain simultaneously. Development in the respective areas during different stages is discussed under the following aspects:

a. Physical Development

It refers to changes in the bodily structures and functions of different body parts. The physical domain covers the development of physical changes, which includes growing in size and strength, as well as the development of both gross motor skills and fine motor skills. The physical domain also includes the development of the senses and using them.

Babies grow very rapidly in size during their first three years: Even the proportions of their bodies change markedly. They gain twice as much in height during their first year of life as compared to the second year. Most children grow three times of their birth weight during the first year and then gain only about one-fourth of that during the second year. During the third year, increments in both height and weight are smaller.

A baby's brain reaches about two-thirds of its adult size during the first year, and four-fifths by the end of the second year. Preschool years: During the preschool years children's height no longer increases as rapidly as during infancy. It continues to grow at a steady 2 to 3 inches per year until they reach the growth spurt that occurs during puberty Middle/ Late School childhood: School children between the age of 6 to 12 look very different from their preschool brothers and sisters. They are much taller and thinner.

Girls generally retain more fatty tissue than boys and continue to do so throughout adulthood. Younger boys are generally slightly heavier and taller than younger girls. But girls reach their pubescent growth spurt before boys and now tend to be larger. Adolescence is the span of years between childhood and adulthood. It begins at the age of twelve and ends at the age of twenty. Its beginning is marked by pubescence. It is that stage of rapid physiological growth when reproductive functions and primary sex organs mature, and when the secondary sex characteristics appear.

A sharp adolescent growth spurt occurs around this stage. Strength and energy are at its peak during the age range 20-50 years and declines from this peak are so gradual that they are hardly noticed. After the age of 65, old age sets in that is marked by physical debilitation and loss of agility.

b. Cognitive Development

It refers to intellectual development; it deals with abilities, such as processing information that includes thinking, imagination, memorizing, learning, reasoning, decision making. Cognition is the process involving thought, rationale and perception. The cognitive domain includes intellectual development and creativity. As they develop cognitively, kids gain the ability to process thoughts, pay attention, develop memories, understand their surroundings, express creativity, as well as to make, implement, and accomplish plans. The child psychologist Jean Piaget outlined four stages of cognitive development:

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- **Sensorimotor Stage (Birth to Age 2)**

  This stage involves learning about the environment through movements and sensations. Infants and toddlers use basic actions like sucking, grasping, looking, and listening to learn about the world around them.

- **Preoperational Stage (Ages 2 to 7)**

  During this stage, children learn to think symbolically as well as use words or pictures to represent things. Kids in this stage enjoy pretend play, but still struggle with logic and understanding another person's perspective.

- **Concrete Operational Stage (Ages 7 to 11)**

  Once they enter this stage, kids start to think more logically, but may still struggle with hypothetical situations and abstract thinking. Because they are beginning to see things from another person's perspective, now is a good time to start teaching empathy.

- **Formal Operational Stage (Age 12 and Up)**

  During this stage, a child develops an increase in logical thinking. They also develop an ability to use deductive reasoning and understand abstract ideas. As they become more adept at problem-solving, they also are able to think more scientifically about the world around them.

  You can help your child develop and hone their cognitive skills by giving them opportunities to play with blocks, puzzles, and board games. You also should create an environment where your child feels comfortable asking questions about the world around them and has plenty of opportunities for free play.

  Develop your child's desire to learn by helping them explore topics they are passionate about. Encourage thinking and reasoning skills by asking them open-ended questions and teaching them to expand on their thought processes. As they get older, teach them how to be critical consumers of media and where to find answers to things they don't know.

c. Language Development

It refers to changes in the use of speech. Language development is dependent on the other developmental domains. The ability to communicate with others grows from infancy, but children develop these abilities at different rates. Aspects of language include:

- **Phonology:** Creating the sounds of speech
- **Pragmatics:** Communicating verbally and non-verbally in social situations
- **Semantics:** Understanding the rules of what words mean
- **Syntax:** Using grammar and putting sentences together

One of the most important things you can do with your child throughout their early life is to read to them—and not just at bedtime. Make reading and enjoying books a central part of your day. Reading out loud to your kids from birth and beyond has a major impact on their emerging language and literacy skills.

Aside from reading books, look for opportunities to read other things, too, like the directions to a board game, letters from family members, holiday cards, online articles, and school newsletters. Hearing new vocabulary words spoken expands a child's vocabulary and helps them prepare to identify unfamiliar words when used in context.

In addition to reading, make sure you are talking to your kids even before they can say their first word. Tell them about the things you are doing or what you're buying in the store. Point out different things and engage them in the world around them. Singing to your child is another excellent way to build your child's language skills.

As they get older, try holding regular conversations, answering questions, and asking for your child's ideas or opinions. All of these activities are an important part of their language development.

d. Social Development

It refers to changes in forming relationships/interaction with others. The social development is often described as the process of establishing a sense of identity and establishing a role and purpose. It is an outwards sense of oneself. Body image is a key factor in developing a sense of self and identity, especially for girls, and the family and increasingly peers play an important role assisting and supporting the adolescent to achieve adult roles. Risk-taking is a natural part of the adolescent journey. Social development and emotional development are closely intertwined as young people search for a sense of self and personal identity.

e. Emotional Development

It refers to changes in feelings; causes, and expressions of emotions/ feelings. The way a person thinks and feels about themselves and others, their inward thoughts, is key to their emotional development. Schools are important sites for social and emotional learning and have developed policies and programs around student wellness, often with a focus on a strengths-based approach.

All emotions play an important role in adjustment an individual makes in life. The ability to respond emotionally is present in the new born infant. The first sign of emotional behaviour is general excitement due to strong stimulation. In 1919 the psychologist claimed that infants are born with three major emotions-love, rage, and fear-which are natural responses to stimuli. After a decade it was suggested that emotional states are generalized in infants and not so specific as psychologists had believed. It is believed now that new born show only one emotion, an undifferentiated excitement (also termed distress). The general excitement of the new born becomes differentiated into simple reactions that suggest pleasures and displeasures.

Even at the age of one year, the number of emotions has increased and the child shows joy, anger, fear, jealousy, happiness, anxiety, curiosity and envy. The emotions are present at birth and their development is due to maturation and learning. Babies' emotions differentiate as they grow older, proceeding from general to specific. From the first week of life they cry because of hunger, cold, pain, being undressed, and having their sleep interrupted, when their feedings interrupted, when stimulated in a fussy state, and when left alone. A baby's smile is a basic means of communication that sets in motion a beautiful cycle.

At about four months babies start to laugh aloud. They laugh loudly at all sorts things in an excited manner. In the emotional sphere, the adolescent is capable of directing his emotions at abstract ideas and not just toward people. Many adolescents feel under constant scrutiny from everyone and think that others are as admiring or as critical of them as they are of themselves. They are continually constructing, or reacting to an imaginary audience. They spend hours before the mirror imagining how they look in the eyes of others.

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f. Moral Development

Moral development deals with the development of ethics or ethical norms, values, the conscience and the ability to judge an act morally. Children cannot make moral judgments until they achieve a certain level of cognitive maturity. According to Piaget, children go through two stages in a rigid way, while the second stage is characterized by moral flexibility. Children's conception of rules, intentionality, punishment and justice move from rigid to flexible thinking. This change is a sign of cognitive development.

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In **stage 1** Child views an act as totally right or totally wrong and thinks everyone sees it the same way. He cannot put self in place of others. Child tends to judge an act in terms of actual physical consequences and not the motive behind it. Child obeys rules because they are sacred and not changeable. Unilateral respect leads to feeling of obligation to conform to adult standards and obey adult rules.

Child favours severe punishment. He feels that punishment defines the wrongs of an act. An act is bad if it will elicit punishment. Child confuses moral law with physical law and believes that any physical accident or misfortune that occurs after a misdeed is a punishment willed by God or some other supernatural force.

In **Stage 2** Child can put self in place of others and see others' point of view. Child judges act by intentions and not by consequences. Child realizes that rules are made by people and can be changed. There is mutual respect for authority and peers. Child favours milder punishment that leads to reform of the victim Child does not confuse natural misfortune with punishment. Not until adolescents have attained the Piagetian stage of abstract formal operations can they reach the most highly advanced stages of moral development. People have to be capable of abstract reasoning to understand universal, moral principles.

g. Motor Development

There is a definite order for acquiring motor skills, proceeding from the simple to the complex. The changes in body proportions have an effect on the child's behaviour. When they change rapidly, they temporarily lose control over their body. Initially babies have a poor motor control. With increase in age, their motor development shows more control. Their control over body parts gets specific and differentiated as they grow.

It proceeds from good control of their hands to good control of their fingers, e.g. if a small child picks up a biscuit, he moves his large joints like shoulders and the whole hand. As he grows older, he uses his fingers only to pick up those biscuits. His movements are differentiated and specific. After they have gained control over various differentiated movements and thus manage walking. These skills are acquired at a particular age and are called milestones. Some milestones of motor development:

Head control	1 month
Sitting without support	7 months
Rolling over	at about 5 months
Pre-walking locomotion	at about 9 to 10 months (crawling)
Standing	stand alone at 13 or 14 months
Walking	with help at 9 to 11 months, walk alone at 15 months
Climb	with help at 18 months
Jump	at 20 months
Manipulation	15-month-old shows mature grasp.

Pre-schoolers: Three-year-old improves eye-hand and small-muscle coordination. They can draw a circle, pour into a bowl, button and unbutton, cut on a line, make designs and crude letters, and fold paper. At 5, they can string beads well, grasp and control a pencil appropriately, copy a square, etc. School children keep getting stronger, faster, and attain better coordination as they achieve new motor skills. They are able to jump rope, bicycle, dance and indulge in all possible games. There are differences between abilities of boys and girls at this stage. Boys improve in performance from ages 5 to 17.

Girls on the other hand improve through their early school years, reach a peak performance at about 13, and decline in certain abilities or stay the same as they are encouraged to put aside their "boyish" ways and conform to gender stereotypes of feminist. From young adulthood through the middle years, biological changes do take place but are so slow that they are hardly noticed till the age of 50 or 55. At this stage they feel they cannot work as much as they did earlier. There is also a slight loss in sensory abilities and in physical strength and coordination.

h. Personality Development

Personality development deals with an individual's physique, temperament, traits, abilities, aspirations, interests, etc., which are representative of him and give him a distinct sense of identity. One of the oldest and most significant theory of personality was given by Freud. According to him, the personality structure has three parts-the id, the ego and the superego. The ego develops when gratification is delayed; it operates on the reality principle and seeks an acceptable way to obtain gratification. The superego or conscience incorporates the morals of society, largely through identification with the parent of the same sex. The id is present at birth. Infants are egocentric. it is only when gratification is delayed and they have to wait for food that they develop their ego and begin to differentiate themselves from the surroundings. Thus, the ego develops soon after birth.

The superego does not develop until the age of 4 or 5. Freud viewed personality development as the organization and expression of basic sexual energy or libido. In Freudian thought, the human organism goes through several different stages of psychosexual development (oral, anal, phallic, latency and genital). Freud assumed that the events of infancy and early childhood are major determinants of adult personality. He saw the first three stages as particularly significant in their relation to adult behaviour. The experiences during these stages determine adjustment patterns and personality traits of people at adulthood. Individuals may be fixated at a particular stage if their needs are not met or if they are overindulged. Fixation

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implies an immature attachment that remains in a neurotic way and interferes with normal development.

In the oral stage (birth to 12-18 months) babies attain most of their gratification from sucking anything that can go into mouth. During this stage, infants are concerned only with their own gratification. They are all id impulses as they operate on the pleasure principle. If a baby does not feel satisfied at this stage, it may become fixated. The adult personality of such a case may derive a disproportionate amount of satisfaction from the mouth kissing, smoking, nail biting, overeating, or overdrinking or an imperious demand for the loved object or over dependence like babies.

The anal stage (12-18 months to 3 years): Greatest pleasure during this stage comes from moving their bowels and the way toilet training is handled. If there is concern with cleanliness, a person may become obsessively clean or defiantly messy, pedantic, obsessively precise and rigidly tied to schedules and routines. Problems at the anal stage may make people hoard their possessions or may cause them to identify love with the bestowal of material objects.

Phallic stage (early genital stage): According to Freud, the primary zone of psychosexual pleasure changes at about the age of 3 or 4, when interest and pleasure become concentrated in the genital area. Pre-schoolers are fascinated by anatomical differences between girls and boys and adults and children. According to the theory of the Oedipus complex, a 3 to 6-year-old boy lavishes love and affection on his mother, thus competing with his father for the mother' s love and affection. Unconsciously, the little boy wants to take his father' s place, but he recognizes his father' s power. The child is caught up by conflicting feeling-genuine affection for his father and also hostility, rivalry, and fear. Noticing that little girls are different, he wonders what happened to them, and his guilt over feelings for his mother, make him worry that he will be castrated by his father.

Fearful, he represses his sexual strivings toward his mother, stops trying to rival his father, and begins to identify with him. Karen Horney (1924), although broadly in agreement with Freud's theory of psycho-sexual development, dismissed the notion that young girls experience penis envy during the phallic stage. Instead she introduced the concept of womb envy, that boys may come to envy those parts of woman's anatomy which they lack. She suggested that young girls desire not the anatomical penis but the social penis - the power and identity that the phallus seems to ensure her male counterpart. The Electra complex is similar to the Oedipus. A little girl desires her father, fears her mother, represses these feelings, and eventually identifies with the same-sex parent.

Development of the superego by identifying with the parent of the same sex, children actually take the parent's personality into their own. In psychoanalytic terms this is called introjections. They introject their wishes, values and standards. The superego is comparable to conscience. At this stage a child' s conscience is rigid. By middle childhood, youngsters resolve their Oedipal conflicts, accept their sex roles, and can now turn their energies to acquiring facts, skills, and cultural attitudes. The developing ego or self-concept of the school-aged child is threatened from all sides. To uphold its strength, children may develop defence mechanisms, many of which persist throughout adult life.

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i. Psychosocial Development

Psycho-social development focuses on children's response to the social world. It includes perception of self, others and relationships with others. From 2-6 years, the child learns how to make social contacts and get along with people outside the house. He learns to adapt himself to others and co-operate in group play.

1.5 LIFE SPAN PERIOD METHODS

Lifespan development is a process beginning at conception that continues until death. Lifespan development can be defined as a methodical, intra individual change associated with progressions corresponding to age. Levinson has put forward that the lifespan consists of four 25 years. The first 25 years belong to childhood and adolescence, the second 25 years to early adulthood, the next 25 years to middle adulthood and the last 25 years to late adulthood. According to lifespan development concept, the lifespan development is multidimensional, multidirectional, plastic, multidisciplinary and contextual. The human development domains consist of the physical domain, the cognitive domain and the social domain. The physical domain consists of the physical changes during growth, the cognitive domain refers to how humans learn and the social domain is in regard to the development of social skills and developing relationships.

All disciplines such as sociology, psychology, medicine, biology, anthropology etc., are interested in the lifespan development and thus understanding of lifespan development requires viewing human development from various perspectives. Thus, one could state that human development is a multidisciplinary study of how people change and how they remain the same over time. It reflects the complexity and uniqueness of each person and each person's experiences as well as commonalities and patterns across people. There are four interactive forces that combine to shape human development and these are: (i) Biological (ii) Psychological (iii) socio cultural and (iv) Life cycle forces.

- **Biological structure or environment** of human includes glands, nervous system, respiratory system etc. All these affect the individual's personality. For example, if pituitary glands do not work in normal ways then the individual's physical growth will be affected and this will bring about a change in the person's personality. Biological forces include all genetic and health related factors that affect development. They provide raw material (in case of genetics) and set boundary conditions (in the case of one's health) for development. Example for this could be Prenatal development, brain maturation, puberty, menopause, facial wrinkling and change in cardiovascular functioning, diet, exercise etc. First of all, the height of the body grows up due to biological development.

  However, if the growth is abnormal it would affect the individual's personality and mental state. For instance, being too tall can make some people feel inferior and being too short can make some not only inferior but also can make them dependent on others for many things. Secondly, biological factors also determine the responsiveness of an individual, such as one may be more impulsive and emotional than others, one may get more easily excited than others etc. To give an example a person being too jumpy can make others tease the person or paste some paper bag with some label behind etc. At the same time being too bovine makes others consider the person a joker and attach funny notices as "Kick Me" etc. on one's back or make others feel like taking away the person's belongings and not return for some time thereby reducing the person to tears.

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Thirdly our growth and development depend on the glandular balanced secretions. The Rosicrucian's defined seven glandular types based on the predominance of the gonads, adrenals, pancreas, thymus, thyroid, pituitary and pineal glands. Each glandular type has a particular bony formation and skin type, musculature and hairiness. Nutrition too plays a significant role in the physical growth and development.

For instance, access to common salt, access to iodine, access to zinc, and the presence of lead and copper contaminations all these affect the physical growth and even produce abnormalities in physical development. Hereditary factors also are extremely important which to an extent determines even the ways in which one behaves in society. Some have more predisposition to be aggressive and angry while in some cases a person may be hereditarily predisposed to calmness and prefer being alone rather than with people. Some are more gregarious while some are withdrawn. Some are more intelligent than others. All these factors are part of hereditary factors.

- **Psychological** forces include all internal perceptual, cognitive, emotional and personality factors that affect development. These factors determine variations among individuals. Example for this would be Intelligence, self-confidence, honesty, self-esteem. Although a child's mental development presupposes a kind of network in which internal and external factors are intertwined, it is possible to unravel their distinct, respective roles. The internal factors are presumably responsible for the strict sequence of developmental phases, the chief determinant of which is the growth of the organs. The problem of the relations between functional maturation and functional learning now arises.

  During the course of mental development new activities emerge that must necessarily have their source in the functional activation of matured organic structure. Unless the child is able to find that physically he can indulge in many activities, learning will have no value. Hence physical growth is important which may influence personality development. It has been said that play is the activity uniquely appropriate to the child. Play is a stage in the total development of the child that disappears of its own accord at succeeding periods. Indeed, play is mingled in all of the child's activity so long as that activity remains spontaneous and untouched by objects introduced for educative purposes.

  At the beginning, games are purely functional; then come games of make-believe and games of practical skill. In his play the child repeats the impressions of events he has just experienced. He reproduces; he imitates. For the very young child, imitation is the only rule of the game so long as he is unable to go beyond the concrete, living model to abstract instructions. Initially, children's comprehension is no more than the assimilation of others to themselves and themselves to others, and in this process, imitation plays an important role. Imitation, as the instrument of this fusion, demonstrates a contradiction that explains certain contrasts on which play thrives.

  Imitation is not random; the child is very selective. He imitates people who enjoy the most prestige in his own eyes, those who evoke his positive, affectionate feelings. At the same time, the child "borrows" or becomes these persons. Always totally immersed in what he is doing, he accordingly imagines and wishes himself to be them. But soon his latent awareness of this borrowing arouses in him feelings of hostility against the person serving as a model, whom he cannot eliminate. He

finally comes to resent this person whose absolutely incontestable and frustrating superiority he often continues to experience. Between the ages of six and seven it becomes possible to disengage the child from his spontaneous activity and to divert his interest to others. Until comparatively recently, productive labour, including factory work, began at this age.

Indeed, in some colonial countries this is still the case. In France, the child enters school at this age and tackles the demands of formal education which include self-discipline. Two contradictory elements are basic to all imitation. One is a plastic union in which the external impression is taken in and then discharged again gently from its strange receptacle, leaving only those elements that are able to be incorporated into existing mental structures. The result is a new, albeit rudimentary, capacity. The second and active aspect, equally important to the first, is execution and completion. The ensuing act requires tentative, and sometimes obvious, groping. Separation and recombination of suitable elements are operations whose often long-enduring imperfections indicate the difficulties these processes involve.

In particular, the rediscovered gestures and movements may not yet be in the right order. Taken by themselves they by no means reproduce the model; they must conform to the requirements of an internal prototype. However, as they become more explicit, they make possible and even encourage objective comparisons with the external model. Alternation between these two contrary but complementary phases of intuitive assimilation and controlled execution may then assume a more or less rapid cadence until the imitation appears adequate.

- **Socio-cultural** forces include interpersonal, societal, cultural and ethnic factors that affect development. To understand development, we need to know how people and environments interact and relate to each other. The family, peers, co-workers and social institutions and culture influence development. Knowing the culture from which the person comes provides information about important influences that appear throughout the lifespan. Example for this is poverty.
- **Life cycle** forces reflect differences in how the same event affects people of different ages. Each individual is a product of a unique combination of these forces. No two individuals even in the same family experience these forces in the same way. Even identical twins have different friendship networks partners and occupations. Robert V. Kail and John C. Cavanaugh wrote in "Human Development: A Life-Span View" that the influence of life-cycle forces "reflects the influences of biological, psychological, and socio-cultural forces at different points in the life span." Age, physical and mental wellbeing, financial status, and social support systems are crucial factors in the developmental life cycle. According to Erikson, the life cycle goes through 8 stages starting from infancy to old age and the life forces during each stage influences the development of the individual.

The four forces, viz., biological, psychological, social and cultural forces as well as life cycle forces provide the best in understanding the bio-psycho-social framework for a comprehensive understanding of human development. For instance, Pregnancy can bring happiness and anticipation for one woman, but can also bring about anxiety and concern for another. Psychologists have developed different viewpoints for understanding development. Some consider development at particular points in the lifespan, while others take a more holistic view. A contemporary view of development that covers all aspects of human behaviour

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throughout the entire life cycle from conception to old age is the concept of lifespan development.

CHECK YOUR PROGRESS

1. **Discuss the biological forces in human development.**
2. **What are the psychological forces influencing human development?**
3. **Describe the socio-cultural forces in human development.**
4. **Elucidate the life cycle forces which influence human development.**
5. **What are the different aspects of language?**

1.6 STAGES OF DEVELOPMENT

Another important aspect used by developmental psychologists is stages of development. As the individual grows many behaviours occur in a certain order and in certain groupings. Each of these groupings of behaviour is called a stage of development. The skills learned during one stage are the necessary building blocks for the new skills that define the next stage. For example, the behaviour also remains stable for a time after a new stage is reached until behaviour indicating a new stage is seen. Our life span is divided into eight major stages or periods. These are:

Stages of development	Major developments
Prenatal stages (conception to birth)	Formation (basic body structure and organs)
	Physical growth is most rapid of all life span stages
	Vulnerability to environmental influences is great
Infancy and babyhood(Birth to age 3)	New born is dependent, incompetent
	All senses operate at birth
	Physical growth and development of motor skills are rapid
	Ability to learn and remember is present in early weeks of life
	Attachment to parents and others develop at the end of first year
	Self-awareness develops in the second year
	Comprehension and speech develop rapidly
	Interest in other children increases
Early childhood (3 years to 6 years)	Family still focus of life but other children become more important
	Gross and fine motor skills improve
	Ply, imagination become more Development elaborate
	Cognitive immaturity
	Behaviour is egocentric
	Independence, self-control and self-care increases
Late childhood ((6 years to 12 years)	Physical growth slows

	Peers become important
	Concrete logical thinking develops
	Ego-centricism diminishes
	Memory and language skills increase
	Cognitive ability improves
	Athletic skills improve
	Self-concept develops
Adolescence (12 years to 20 years)	Physical changes are rapid and profound
	Reproductive maturity is attained
	Search for identity becomes central
	Abstract thinking develops
	Adolescent geocentricism persists in some behaviours
	Peers help to develop and test self-concept
	Good relationships with parents
Early adulthood (20 years to 40 years)	Most people marry and become parents
	Physical health at the peak
	Career choices are made Intellectual abilities become complex
	Sense of identity continues to develop
Middle adulthood (40 years to 60 years)	Search for meaning in life assumes importance
	Menopause in women
	Problems solving skills and wisdom are high
	Caring of children and elderly parents may cause stress.
	Empty nest syndrome due to children leaving the home
	Midlife crisis. Career success at the peak. Burnout occurs
Late adulthood (60 years and above)	Health and physical ability decline
	Intelligence and memory deteriorate
	Slowing down of reaction time
	Retirement creates more leisure time but reduces income in life.
	Need to find purpose in life to face the impending death.

Human development is divided into two major phases: Early phase and Later phase. The early phase constitutes prenatal stage, childhood and adolescence and is characterised by rapid age-related increases in physical size and abilities. These changes also occur in the late phase (early, middle and late adulthood) but more slowly. People's abilities continue to develop as they adapt to the environment.

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1.7 PRINCIPLES OF DEVELOPMENT

Development has some significant principle. Development always proceeds through these principles Some main principles of these are as follows:

1. Principle of Continuity
2. Principle of Individual Difference
3. Principle of Interrelation
4. Principle of Interaction
5. Principle of lack of Uniformity in Developmental Rate
6. Principle of Uniformity of Pattern
7. Principle of proceeding from General to Specific responses
8. Principle of Proximodistal Tendencies
9. Principle of Cephalocaudal Tendencies
10. Principle of Predictability
11. Principle of Locomotion

1. Principle of Continuity

Development is a continuous process. The developmental process starts from the conception of the first life in the mother's womb and it continues till the last day of life i.e. before death. Development in human life never stops. Changes due to development sometimes are noticed directly, and sometimes they are not noticed at all. When developmental changes do not see directly, it's meant the developmental process has stopped, that is not true. The process of development continues uninterruptedly till the last day of life.

2. Principle of Individual Difference

The key word of individual difference is that one person is different from another. This distinction is also noticed among persons in terms of the rate of development. It can be noticed from any developmental aspect like physical, mental, social, emotional etc. Each person maintains his or her own rate of development. As a result, we notice differences in the physical size, height, weight, sociality, feeling, learning ability, etc. of boys and girls of a certain age.

3. Principle of Interrelation

Different developmental processes like physical development, mental development, social development, emotional development, moral development is interrelated and interdependent. For example, a child's early social behavior depends on his physical development if the child is physically handicapped then his social development will be inconsistent.

4. Principle of Interaction

The development of a person is the result of the interaction of his heredity and environment. Heredity refers to the traits that a child inherits from his or her ancestors. On the other hand, the environment of the child is the environment where the child is born and grows up.

5. Principle of lack of Uniformity in Developmental Rate

Development is a continuous process, yet an inconsistency is observed in the rate of development. The rates of development in different field like physical development, mental development, social development, emotional development,

moral development are not always the same. Sometimes the development process is very slow and we can't notice it directly. Then it is seemed that it has ended. Sometimes the speed of the development process is very high and it is noticed directly

6. **Principle of Uniformity of Pattern**
   The development process that takes place in each person follows a certain pattern. There is a balance between each person in terms of this pattern. In the developmental process of human behaviour, it is pre-determined that which behaviour will come after which behaviour. For example, every child will sit first, then crawl, then stand and finally walk. This rule applies to all children. Thus, the development process is organized by maintaining a certain universal consistency.
7. **Principle of proceeding from General to Specific responses**
   The development process is always moving from general to special. It is seen in all kinds of development. For example, in the case of language development, children start to do general responses first and then come specific responses. In this case, the children first call all men father' and all women call mother. But as they get older, they call only father as 'father' among all men and call only mother as 'mother' among all women.
8. **Principle of Proximodistal Tendencies**
   According to psychologists, there are several special trends in the developmental process. One of these is Proximodistal Tendencies. According to this tendency the developmental process moves outward from the centre of the body. Due to this reason the limbs near the centre of the body develop earlier. For example, the arms of the body develop before the palms and fingers of the hands. The same fact happens for feet. That is, the thighs develop before the soles of the feet and toes.
9. **Principle of Cephalocaudal Tendencies**
   Along with proximodistal tendencies another important trend that is observed in the developmental process, is Cephalocaudal tendencies. According to this tendency, the developmental process starts from the head and moves through the body to the feet. As a result, children are able to control their brain before gaining their ability of standing, then they able to control their hands and then their legs.
10. **Principle of Predictability**
    It is possible to predict the development process. This means that based on the knowledge of the developmental process, we can make predictions about the nature and behaviour of the child's development in different developmental areas, or we can predict the nature and behaviour of the child's development in advance. For example, based on developmental knowledge, it is possible to estimate a child's future developmental process by judging child's current developmental process.
11. **Principle of Locomotion**
    The developmental process of all children of the world proceeds in accordance with the principle of Locomotion. The key word of this principle is that the child's developmental process proceeds through some certain phases. These phases consist of crawling, standing, walking, and finally running. In the case of developmental process, there may be a difference in the timing of the child's locomotion but the periodicity remains the same.

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1.8 INFLUENCES ON DEVELOPMENT

An environmental scan completed by the National Collaborating Centre for the Determinants of Health (2008b) assessed the challenges faced by professionals supporting early child development. The following themes emerged across Canada:

- Early child development needs to be a priority issue in policy and practice.
- Poverty is the factor creating most stress within families and undermines healthy child development.
- Some population groups face considerable inability to access services related to:
  - o Language barriers
  - o Transportation issues
  - o Availability of programs and services
  - o Stigma
  - o Cost
- There is lack of coordination of services.
- There are not enough human resources allocated to programs and services for early child development.
- Home visiting programs have demonstrated good results, but lack scientific evidence.
- Children enter school demonstrating various levels of school readiness.

These themes will need to be kept in mind when assessing the factors affecting each child's development.

To help professionals assess the factors affecting a child's development, they have been grouped into four areas:

- Environmental factors
- Biological factors
- Interpersonal relationships
- Early environments and experiences

From the many factors influencing the child's development, we have taken some examples to illustrate each category.

Environmental factors

Factor or condition	Child-level determinants	Family-level determinants	Community-level determinants	Society-level determinants
Housing	Does the child have space to play and explore?	Is there overcrowding?	Is there green space such as parks where children can play?	Is there evidence of community building when planning new developments?

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	Is the child safe from injury or contaminants such as lead?	Are there any housing conditions contributing to ill health such as moisture and molds?	Is the community safe from crime and environmental pollution?	Is there housing support for low income families?
Income	Does the child have adequate clothing -e.g. snowsuit and boots in winter weather?	Is the family experiencing financial stress or a high debt load?	Are there low cost community programs for children and families?	Are social assistance programs and subsidies available and accessible to those in need?
	Does the child receive adequate nutrition? Fresh fruits and vegetables are more costly in Northern communities.	Is the family a single parent family or do they have to rely on one income?	Does the community provide secure access to food such as food banks?	Do programs exist that provide specific subsidies for food?
Employment	Does the child have quality child care, when parents are working?	Do families, especially single parents, have child care stress?	Does the community have high rates of employment?	Is there equality in income?
		Do families have meaningful and adequate employment?	Do families have to commute to access meaningful employment?	
Education	Does someone read and play with the child?	What level of education do family members have?	Is parental engagement in early education encouraged in the community?	Are programs in place to keep adolescents in school and improve their education?
	Does the child have access to books and toys that stimulate literacy development?	Do families have practices and beliefs that encourage literacy development?	Are there options for adult and family education, including ESL classes?	

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	Does the child attend quality early childhood education programs?	Do families have access to early childhood education programs?		Is early childhood education valued, and supported through policies and practice?

Biological Factors

Factor or condition	Child-level determinants	Family-level determinants	Community-level determinants	Society-level determinants
Gender	Is the child a boy or a girl? Boys and girls tend to develop and learn differently (e.g. currently boys have lower levels of school readiness).	Is there evidence of gender stereotyping, or abuse in the family?	Are women and men from various cultures and backgrounds evident as community leaders?	Are women's rights, women's equality and children's rights protected?
General health	Was the child born with a healthy birth weight? Being born small or large for gestational age is linked to obesity and chronic disease.	How was the mother's preconception and prenatal health? Folic acid intake for 3 months prior to conception significantly reduces neural tube defects.	Is there access to health services in the community (e.g. medical, dental, vision, hearing, speech and language)?	Is there universal access to quality health and specialty services for children?
	Does the child have a medical condition?	Do family members have chronic conditions? Parents with disabilities or chronic disease may require added supports.	Is there community support for people with disabilities?	Is there adequate financial and program support for families with disabilities?
Mental Health	Does the child have a warm and nurturing environment?	How is the mother's perinatal mental health? 1 in 5 mothers will suffer from depression, anxiety or another mood disorder during pregnancy or the first year after birth.	Are there programs to support mothers' mental health during pregnancy and postpartum?	Is there societal support to reduce social stigma of mental illness and provide perinatal mental health services?

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	Does the child have consistent and responsive care-givers?	Do family members experience trauma, abuse or poor mental health?	Are there community supports such as shelters, respite care, programs and services that promote coping skills?	Is there societal support to reduce social stigma of abuse and provide services for victims of trauma and abuse and those experiencing mental illness?
Health practices	Does the child have a pattern for eating, sleeping and playing?	Does the family attend to nutrition, set consistent times for sleep and engage in active play?	Are there parenting classes that offer information on nutrition, sleeping and activity?	
	Is the child breastfed or receiving breastmilk?	Does the family have information and support to make an informed choice to breastfeed?	Is there public, peer and professional support for breastfeeding women?	Is the practice of exclusive breastfeeding to 6 months and continued breastfeeding with complementary foods accepted and encouraged?
	Does the child take part in structured and unstructured physical activities for at least 60 minutes and up to several hours per day?	Are physical activity practices encouraged by family members?	Are community programs and spaces available to encourage physical activity year round?	Is free, active play and physical activity encouraged in pre-school and kindergarten curriculum?
	Are children introduced to consistent oral hygiene practices?	Are oral hygiene and dental health practices encouraged?	Are low cost dental programs available?	

Interpersonal Relationships

Relationships are particularly important as infants learn primarily through their relationship with others. Eye contact, smiles and imitation set the stage for more

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sustained communication and meaningful exchanges and engagement with parents and other caregivers, and a growing world of relationships.

Factor or condition	Child-level determinants	Family-level determinants	Community-level determinants	Society-level determinants
Attachment	Does the child show a secure attachment pattern to her primary caregiver?	Is the primary caregiver available and responsive to the child cues to assist her in developing a secure attachment?	Are programs available to promote attachment parenting?	Are primary caregivers given financial and instrumental support to develop a secure attachment with their child (e.g. self-employed mothers do not receive maternity benefits)?
Parenting styles	Does the child experience a consistent parenting style?	Do parents provide a consistent parenting style (e.g. authoritative, authoritarian, permissive or uninvolved)?	Are parenting programs available? Parents use their own parents as role models, but don't want to make the same mistakes as their parents.	Are the rights and responsibilities of parents recognized in workplace and other policies?
Social networks	Does the child have relationships with other adults and children?	Does the family have extended family and/ or social networks they belong to?	Are interest groups available that include the whole family (e.g. religious groups, cultural groups, activity groups)?	Is there societal support for the development of diverse interest groups that include the whole family?

	Does the child have friends and is there evidence of peer acceptance?	Is there evidence of acceptance of the family within the community or network?	Does the community foster a sense of belonging for all families regardless of cultural, sexual or religious orientation?	Is there evidence of support of human rights, and lack of discrimination?

Early Environments and Experiences

These have already been mentioned in the examples given. The most important early environment for an infant is her primary caregiver. How the primary caregiver responds to the child shapes the early brain pathways and builds the foundation for future learning. Early experiences involve all senses through:

- Touch - e.g., skin-to-skin holding
- Smell - e.g., smell of mother's skin and breastmilk
- Taste - e.g., taste of breastmilk
- Sight - e.g., eye contact, gazing at face
- Hearing - e.g., hearing a familiar voice

A child needs experiences like these to develop her social, emotional, language, cognitive, and physical skills. Over time these experiences become more and more complex until she has reached the ability to think symbolically, build bridges between ideas, connect feelings and develop an understanding of how the world works. All this is done through continued reciprocal interactions with adults and peers.

1.9 CONCEIVING NEW LIFE

Conceiving New Life Fertilization, or conception, is the process by which sperm and ovum the male and female gametes, or sex cells combine to create a single cell called a zygote, which then duplicates itself again and again by cell division to produce all the cells that make up a baby. But conception is not as simple a sit sounds. Several independent events need to coincide to conceive a child, and not all conceptions end in birth. Fertilization normally occurs while the ovum is passing through the fallopian tube. If fertilization does not occur, the ovum and any sperm cells in the woman's body die. The sperm are absorbed by the woman's white blood cells, and the ovum passes through the uterus and exits through the vagina.

WHAT CAUSES MULTIPLE BIRTHS?

Multiple births happen in two ways. Although twins are the most common variation, triplets, quadruplets, and other multiple births are possible.

Dizygotic twins, or fraternal twins, are the result of two separate eggs being fertilized by two different sperm to form two unique individuals. Genetically, they are like siblings who inhabit the same womb at the same time, and they can be the same or different sex. Dizygotic twins tend to run in families and are the result of multiple eggs being released at one time.

Monozygotic twins are the result of a far different process. They result from the cleaving of one fertilized egg and are generally genetically identical. They can still differ

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outwardly, however, because people are the result of the interaction between genes and environmental influences

THE GENETIC CODE

The "stuff" of heredity is a chemical called deoxyribonucleic acid (DNA). The double-helix structure of a DNA molecule resembles a long, spiraling ladder whose steps are made of pairs of chemical units called bases.

The bases — adenine (A), thymine (T), cytosine (C), and guanine (G)—are the "letters" of the genetic code, which cellular machinery "reads."

Chromosomes are coils of DNA that consist of smaller segments called genes, the functional units of heredity. Each gene is located in a definite position on its chromosome and contains thousands of bases. The sequence of bases in a gene tells the cell how to make the proteins that enable it to carry out specific functions. The complete sequence of genes in the human body constitutes the human genome. Every cell in the normal human body except the sex cells (sperm and ova) has 23 pairs of chromosomes—46 in all.

Through a type of cell division called meiosis, which the sex cells undergo when they are developing, each sex cell ends up with only 23 chromosomes— one from each pair. When sperm and ovum fuse at conception, they produce a zygote with 46 chromosomes, 23 from the father and 23 from the mother.

Through mitosis, a process by which the non–sex cells divide in half over and over again, the DNA replicates itself, so that each newly formed cell has the same DNA structure as all the others. Each cell division creates a genetic duplicate of the original cell, with the same hereditary information. Sometimes a mistake in copying is made, and a mutation may result. Mutations are permanent alterations in genetic material. When development is normal, each cell (except the sex cells) continues to have 46 chromosomes identical to those in the original zygote.

WHAT DETERMINES SEX?

At the moment of conception, the 23 chromosomes from the sperm and the 23 from the ovum form 23 pairs. Twenty-two pairs are autosomes, chromosomes that are not related to sexual expression. The twenty-third pair are sex chromosomes one from the father and one from the mother—that govern the baby's sex.

Sex chromosomes are either X chromosomes or Y chromosomes. The sex chromosome of every ovum is an X chromosome, but the sperm may contain either an X or a Y chromosome. The Y chromosome contains the gene for maleness, called the SRY gene. When an ovum (X) is fertilized by an X-carrying sperm, the zygote formed is XX, a genetic female. When an ovum (X) is fertilized by a Y-carrying sperm, the resulting zygote is XY, a genetic male.

PATTERNS OF GENETIC TRANSMISSION

Dominant and Recessive Inheritance Do you have dimples?

If so, you probably inherited them through dominant inheritance. If your parents have dimples but you do not, recessive inheritance occurred. How do these two types of inheritance work?

Genes that can produce alternative expressions of a characteristic (such as the presence or absence of dimples) are called alleles. Alleles are alternate versions of the same gene. Every person receives one maternal and one paternal allele for any given trait. When both alleles are the same, the person is homozygous for the characteristic; when they are different, the person is heterozygous.

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In dominant inheritance, the dominant allele is always expressed, or shows up as a trait in that person. The person will look the same whether or not he or she is heterozygous or homozygous because the recessive allele doesn't show. For the trait to be expressed in recessive inheritance, the person must have two recessive alleles, one from each parent. If a recessive trait is expressed, that person cannot have a dominant allele.

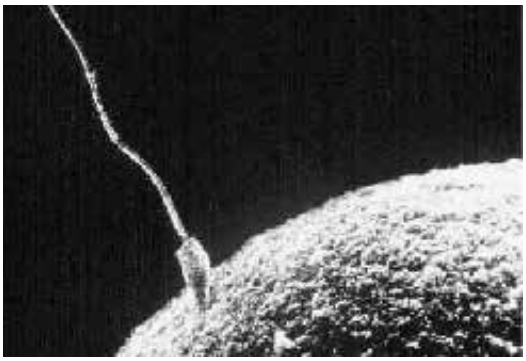
Relatively few traits are determined in this simple fashion. Most traits result from polygenic inheritance, the interaction of several genes. For example, there is not an "intelligence" gene that determines whether or not you are smart.

1.10 PRENATAL PERIOD

PRENATAL DEVELOPMENT

How did you come to be who you are? From beginning as a one-cell structure to your birth, your prenatal development occurred in an orderly and delicate sequence. There are three stages of prenatal development: germinal, embryonic, and foetal. Let's take a look at what happens to the developing baby in each of these stages.

1. **GERMINAL STAGE (WEEKS 1–2)**
   In the discussion of biopsychology earlier in the book, you learned about genetics and DNA. A mother and father's DNA is passed on to the child at the moment of conception. Conception occurs when sperm fertilizes an egg and forms a zygote. A zygote begins as a one-cell structure that is created when a sperm and egg merge. The genetic makeup and sex of the baby are set at this point. During the first week after conception, the zygote divides and multiplies, going from a one-cell structure to two cells, then four cells, then eight cells, and so on. This process of cell division is called mitosis. Mitosis is a fragile process, and fewer than one-half of all zygotes survive beyond the first two weeks (Hall, 2004). After 5 days of mitosis there are 100 cells, and after 9 months there are billions of cells. As the cells divide, they become more specialized, forming different organs and body parts. In the germinal stage, the mass of cells has yet to attach itself to the lining of the mother's uterus. Once it does, the next stage begins.



Sperm and ovum fuse at the point of conception.

2. **EMBRYONIC STAGE (WEEKS 3–8)**
   After the zygote divides for about 7–10 days and has 150 cells, it travels down the fallopian tubes and implants itself in the lining of the uterus. Upon implantation, this multi-cellular organism is called an embryo. Now blood vessels grow, forming the placenta. The placenta is a structure connected to the uterus that provides nourishment and oxygen from the mother to the developing embryo via the

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umbilical cord. Basic structures of the embryo start to develop into areas that will become the head, chest, and abdomen. During the embryonic stage, the heart begins to beat and organs form and begin to function. The neural tube forms along the back of the embryo, developing into the spinal cord and brain.

3. FOETAL STAGE (WEEKS 9–40)

When the organism is about nine weeks old, the embryo is called a foetus. At this stage, the foetus is about the size of a kidney bean and begins to take on the recognizable form of a human being as the "tail" begins to disappear.

From 9–12 weeks, the sex organs begin to differentiate. At about 16 weeks, the foetus is approximately 4.5 inches long. Fingers and toes are fully developed, and fingerprints are visible. By the time the foetus reaches the sixth month of development (24 weeks), it weighs up to 1.4 pounds. Hearing has developed, so the foetus can respond to sounds. The internal organs, such as the lungs, heart, stomach, and intestines, have formed enough that a foetus born prematurely at this point has a chance to survive outside of the mother's womb.

Throughout the foetal stage the brain continues to grow and develop, nearly doubling in size from weeks 16 to 28. Around 36 weeks, the foetus is almost ready for birth. It weighs about 6 pounds and is about 18.5 inches long, and by week 37 all of the foetus's organ systems are developed enough that it could survive outside the mother's uterus without many of the risks associated with premature birth. The foetus continues to gain weight and grow in length until approximately 40 weeks. By then, the foetus has very little room to move around and birth becomes imminent. The progression through the stages is shown in.

During the foetal stage, the baby's brain develops and the body adds size and weight, until the foetus reaches full-term development.

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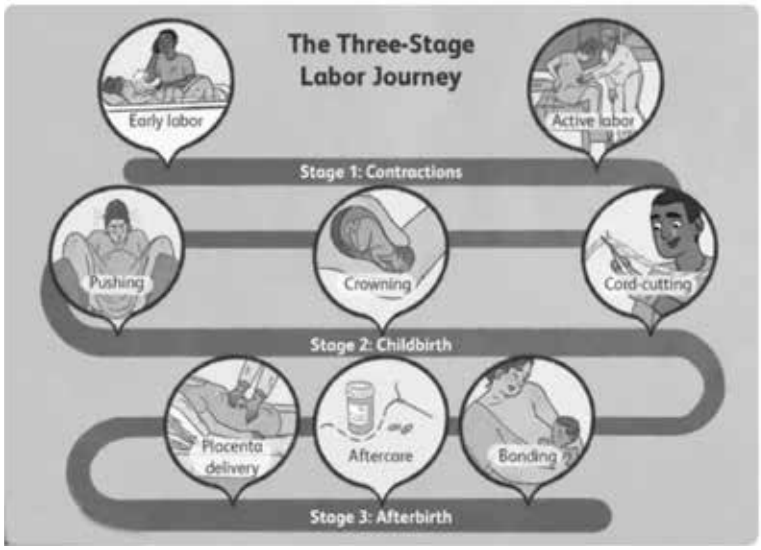
PRENATAL INFLUENCES

During each prenatal stage, genetic and environmental factors can affect development. The developing foetus is completely dependent on the mother for life. It is important that the mother takes good care of herself and receives prenatal care, which is medical care during pregnancy that monitors the health of both the mother and the foetus. According to the National Institutes of Health, routine prenatal care is important because it can reduce the risk of complications to the mother and foetus during pregnancy. In fact, women who are trying to become pregnant or who may become pregnant should discuss pregnancy planning with their doctor. They may be advised, for example, to take a vitamin containing folic acid, which helps prevent certain birth defects, or to monitor aspects of their diet or exercise routines.

Recall that when the zygote attaches to the wall of the mother's uterus, the placenta is formed. The placenta provides nourishment and oxygen to the foetus. Most everything the mother ingests, including food, liquid, and even medication, travels through the placenta to the foetus, hence the common phrase "eating for two." Anything the mother is exposed to in the environment affects the foetus; if the mother is exposed to something harmful, the child can show life-long effects.

1.11 STAGES OF CHILDBIRTH

There are three stages of labour: contractions, childbirth, and delivery of the placenta. Pregnancy can be full of surprises, and labor is no different. Just how long or challenging giving birth may be varies greatly from person to person and from pregnancy to pregnancy. However, getting to know the three stages of labor can give you the information you and your support system need to feel adequately prepared for what comes next. Learn more about labor, step by step, plus when to call your healthcare professional and how to cope along the way.



What Are the Stages of Labor?

First, a quick primer: During the first stage of labor, you begin to have increasingly strong and frequent contractions as the muscles in your uterus (womb) rhythmically tighten and release. These contractions help stretch, soften, and open, or efface and dilate, your cervix, the narrow passageway between your uterus and vagina, so that a baby can move into the birth canal.

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Once your cervix is fully dilated, you're onto the second stage of labor, pushing and giving birth to your baby. After that, the third and final stage of labor is delivering the placenta (afterbirth), the organ that provides your developing child with oxygen and nourishment through the umbilical cord during pregnancy.

Below, learn more about what to expect during each stage of labor.

The First Stage of Labor

During the first stage of labor, your body prepares to give birth with contractions that help open up your cervix. Typically, this is the longest stage of labor. On average, it takes about 12–19 hours for your cervix to become fully dilated to 10 centimetres (or about 4 inches). That said, this stage can take anywhere from many hours to days for first-time mothers. There are two phases to the first stage of labor: early labor and active labor.

Early Labor

When you begin early labor, also known as the latent phase, you can expect irregular mild to moderate contractions that last about 30–60 seconds every five to 20 minutes. Now is when your cervix—often long, thin, and hard—becomes softer and thinner to stretch to about 6 centimetres (just over 2 1/3 inches). While every labor journey is different, you may experience:

- **The beginning of true labor contractions:** These could feel like gas-induced discomfort, menstrual cramps, or back pain. If they're not very strong or are irregular, it might not even seem like you're "in labor" just yet. Conversely, you could notice they are, in fact, getting stronger and more frequentwhich is how you can tell the difference between Braxton-Hicks contractions, or "false" labor pains, and the real deal.
- **Vaginal discharge:** Anywhere from a week before until the day you go into labor, you may lose your mucus plug, the protective seal at the opening of your cervix. This comes out as a small amount of discharge that may be clear, pink, or a little bloody.
- **Your water breaking:** A trickle or gush of fluid from your vagina could mean the amniotic sacthe fluid-filled pouch that surrounds the foetus during pregnancyhas ruptured.

Most pregnant people spend this time at home. Here's how to deal with labor pains and any discomfort you may be having:

- **Rest, walk, repeat.** Alternate between resting and moving, and try out different positions to ease discomfort.
- **Take slow, deep breaths.** Try to avoid freezing up when contractions strike and instead breathe through them the best that you can.
- **Drink up.** Make sure to stay hydrated and check in with your healthcare provider about whether you can eat lightly or should be fasting at this time.
- **Try some hydrotherapy.** A bath, shower, or dip in a pool can sometimes help you feel better. Check with your healthcare provider first, however, if your water has broken.
- **Practice self-care.** Use aromatherapy, music, and your support system for welcome distractions.

Don't hesitate to contact your ob-gyn (obstetrician-gynaecologist) or obstetric care professional if you think you may be in labor. Call your healthcare provider or go to the hospital immediately if:

- Your foetus is moving less often.
- You're getting no relief between contractions and you're in severe pain.
- You're bleeding heavily from your vagina.
- Your water has broken.

If you show up at the hospital early (meaning your cervix is less than 6 cm dilated), your healthcare professional may encourage you to go home until your contractions are more frequent or stronger.

Active Labor

When you go into active labor, your contractions become more intense, your cervix continues to open up until it's fully dilated, and your baby begins to move into the birth canal.Here's what to expect:

- **Intense contractions and a feeling of pressure in your back.** During active labor, your contractions will become longer (about 45–90 seconds each), closer together (approximately every three–four minutes), and more painful over the next two–eight hours.
- **Regular check-ins.** Upon your arrival, your healthcare professional will give you a physical exam and then check your progress frequently, as often as every two hours or more depending on your stage of labor.
- **Discussing options:** Your healthcare professional may talk you through different ways to move the labor process along, such as breaking your water if it hasn't broken already or giving you Pitocin (usually an intravenous flow of oxytocin), which can increase the frequency and/or intensity of your contractions.
- **Help managing pain.** At this time, you can also talk to your healthcare provider about an epidural (an injection of anaesthesia into your lower back) or other pain medication.
- **A tough transition.** The last part of the active phase of labor, transition, may be the shortest but most intense as your cervix stretches from 8 to 10 centimetres to become completely dilated. You can expect strong contractions every two–three minutes lasting 60–90 seconds. You may feel the drive to bear down or push. Your healthcare professional will help you determine when to actively push.

The Second Stage of Labor

During the second stage of labor, you bring your baby into the world. You might feel increased pressure on your rectum and the urge to push—which is good, because now's the time to do just that.

This stage can take anywhere from a few minutes to a few hours. It tends to take longer for your first baby or if you've had an epidural.Here's what comes next:

- **Pushing**: Your healthcare professional will coach you to push at the peaks of the waves of contractions and rest between them. This is really hard workso you may need to lean on your partner or a support person to help you stay focused.

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- **Choosing a birth position**: People give birth in many different positions, including while squatting, sitting, kneeling, or lying down. The position likely depends on the guidance you receive from your obstetrician or midwife.
- **Crowning**: This is when the top of your baby's head appears. As soon as your baby's head fully emerges, the rest of your baby will soon follow, supported by your healthcare provider.
- **Sometimes, an episiotomy, forceps, or a vacuum device is needed to provide extra help**: Episiotomy (a small cut to lengthen your vaginal opening) is not routinely performed or recommended anymore except for special circumstances. Healthcare providers might also use forceps or suction, if necessary, to help your baby exit the birth canal.
- **Cutting the cord**: After your baby comes out, it's time to cut the umbilical cord. If you or your partner would like to be the one to do this, let your healthcare professional know and they'll guide you through it.

The Third Stage of Labor

After you've given birth, there's just one last stepdelivering the placenta. The third stage of labor is the shortest and usually takes about five to 30 minutes. Here's what you may experience:

- **Chills and trembling:** In the wake of childbirth, it's not unusual to get the chills or to tremble.
- **Delivery of the placenta:** Next, the placenta detaches from the wall of your uterus and comes out of your vagina. It may do this on its own, or you may need to give another push. Your ob-gyn will let you know and may also massage your uterus to help it along.
- **Aftercare:** At this time, your healthcare provider might also give you medication to halt bleeding and stitch any tears you may have.
- **Family time:** Now's the best part. Get some much-needed rest as your medical team gives your child their first exam. Then, say hello for the first time, start breastfeeding if you'd like, and begin bonding with the newest member of your family.

The time leading up to childbirth can be filled with a slew of different emotions, from excitement, anxiety, and joy to exhaustion, impatience, and fear.

Whether you're preparing to give birth or want to be as supportive as possible to your partner or loved one, knowing the three stages of labor and coming up with a game plan for each can help give you some peace of mind. You've got quite the journey ahead, but it's well worth the struggle.

1.12 VAGINAL VS CESAREAN DELIVERY

What does vaginal delivery mean?

Delivery of a full-term newborn baby (37-42 weeks from the last menses of mother) through the vagina without the use of forceps or vacuum for assistance is called a vaginal (normal) delivery of a baby. It is the most preferred option of delivery, that is, almost two of every three deliveries are normal.

DOMAINS OF DEVELOPMENT

What does cesarean delivery mean?

Cesarean delivery is a surgical procedure to deliver babies through a horizontal or vertical

incision on the mother's belly. The operation is used almost solely to save the mother and baby's life. It is also called C-section or cesarean section.

During this surgery, the mother's belly muscles are separated to make a second cut (incision) on the wall of the womb. Then, the baby is extracted through the womb wall, and the womb and belly are closed with stitches. It is often necessary when a vaginal delivery would put both the baby and mother at risk.

When will your doctor suggest cesarean delivery?
Vaginal delivery has far fewer risks to both the mother and baby than a cesarean delivery. However, your doctor (obstetrician) may suggest cesarean delivery if:

- You have twins or triplets in your womb.
- There is obstructed labor (no further progress in your labor)
- Your unborn baby is in distress.
- Your unborn baby is too large to be delivered vaginally.
- You have previous cesarean deliveries.
- Your unborn baby is in a lie position or position other than vertex (vertex means the baby's head is in the uterine mouth).
- Placenta previa is observed (the placenta of a baby is at the opening of the cervix).
- There are some complications with the baby's umbilical cord.
- You have certain infections or sexually transmitted diseases that have higher chances of passing on to your baby during the vaginal delivery process (human immunodeficiency virus [HIV] or acquired immunodeficiency syndrome [AIDS]).
- You may have chosen this option by yourself for your convenience.

Each has its own set of positives and negatives. In absence of any contraindications, vaginal birth is a natural way of giving birth, but it is prudent to discuss with your doctor, which is a safer option for you in your current condition.

Advantages of cesarean delivery:

- Cesarean is often safer than vaginal delivery in case of the danger posed to the mother or baby due to a medical condition and reduces the death rate and illnesses in the mother and baby.
- Deliveries can be scheduled according to the convenience of the mother (even for relatives).
- Elective cesarean delivery has become an easy way out, is efficient, and predictable.
- Benefits for mothers are that it: Provides a modest protective effect against loss of urine control, later in life.
- Benefits for babies are that:
    - o Cesarean delivery is a life-saving operation for them in dangerous situations during the birth process.
    - o It reduces mortality and morbidity rates in babies during birth.

Disadvantages of cesarean delivery:

- Prolonged hospital stays
- Less likely chances of the early beginning of breastfeeding

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- Higher risks of repeating hospitalizations for both the mother and baby
- Expensive means of delivery

Risks for mother are that there is:

- A higher risk of blood loss or blood clots.
- Pain at the surgical incision site.
- Prolonged recovery period (up to two months sometimes).
- A higher risk of mother's death during cesarean delivery than that during vaginal delivery due to uterine scarring.
- Five times higher illness and death rate during cesarean delivery than during vaginal delivery due to complications such as:
  - Bleeding.
  - Sepsis (a life-threatening infection in the body).
  - Thromboembolism (obstruction of the blood vessels due to clot formation).
  - Amniotic fluid embolism (fluid surrounding the baby enters into the mother's bloodstream).
- A higher risk of placental issues and womb rupture in future pregnancies, which may increase severe illness, complications, and death rate in mothers.
- A higher risk of the requirement of cesarean delivery in future pregnancies.
- A weakening of the belly muscles.

Risks for baby:

- While passing through the normal birth passage, the baby's contact with the mother's vaginal germinal flora provides immunity to the baby against certain bacteria.
- Chances of development of a strong immune system are low in babies born with cesarean delivery, and the risk of asthma, atopic dermatitis (skin allergy), and celiac disease (gluten intolerance) is higher in these children.
- There is a higher risk of breathing issues such as asthma in babies that may extend up to their childhood.
- There is a higher possibility of the baby being admitted to a neonatal intensive care unit (NICU) after delivery.
- There is a higher chance of the baby being born dead (stillbirth).
- Premature delivery or early-term delivery may carry a significant risk of pulmonary complications in babies, especially in babies born through cesarean delivery without labor.

Benefits of vaginal delivery:

- There is less risk of blood loss, scarring, infections, and complications related to anaesthesia or pain medications
- Vaginal delivery removes fluids from the baby's lungs as it passes through the birth passage.
- Access to beneficial bacteria to the baby while passing through the birth canal may support the baby's immunity system

- It allows more immediate contact between the mother and baby.
- It allows for quicker initiation of breastfeeding.
- Short hospital stays are usually two- to three days long.
- Quick recovery is often just within a few days to a week.

Risks of vaginal delivery:

- The process is longer and more physically demanding for the mother.
- It may stretch the vagina, or the risk of vaginal tear and internal injuries is higher and may alleviate sometimes by an episiotomy or stitches.
- Possible risk of complications in the mother such as loss of bowel control and urine control may be lifelong.
- There is a higher risk of adverse outcomes in a twin delivery.
- There is a higher risk of moderate-to-severe stress incontinence (urine control) in women who delivered vaginally than those who delivered by cesarean (10% vs 5%).
- There will be a sore groin area usually just for a few days.
- There is a possible weakening of the groin muscles.

1.13 CHAPTER SUMMARY

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 analyse 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.

1.14 REVIEW QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. **What are the benefits of vaginal delivery?**
2. **What are the principles of development?**
3. **What does cesarean delivery mean?**
4. **State the four stages of cognitive development by Jean Piaget.**
5. **What do you understand by genetic code?**

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LONG ANSWER TYPE QUESTIONS

1. **Define the different aspects of development in detail.**
2. **Explain the stages of child birth in detail.**
3. **Discuss the patterns of genetic transmission.**
4. **Describe the prenatal development in detail.**
5. **What causes multiple births?**

1.15 MULTIPLE CHOICE QUESTIONS

1. **The "stuff" of heredity is a chemical called _____.**
   a. DNA
   b. RNA
   c. RBCs
   d. WBCs

2. **_____ Forces include all internal perceptual, cognitive, emotional and personality factors that affect development.**
   a. Psychological
   b. Socio-cultural
   c. Biological
   d. Developmental

3. **Cesarean section is also termed as _____.**
   a. C section
   b. U section
   c. Vaginal Delivery
   d. None of these

4. **What is the full form of HIV?**
   a. Human Immunitydeficiency Virus
   b. Human Immunodeficiency Virus
   c. Human Immunodeficient Virus
   d. None of these

5. **_____ Psychology is the branch of psychology which deals with the human development as human being passes from one stage to another.**
   a. Cognitive
   b. Social
   c. Clinical
   d. Development

6. **_____ refers to the biological unfolding of the individual according to species-typical biological inheritance an individual person's biological inheritance.**
   a. Maturation
   b. Development
   c. Psychology
   d. None of these

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7. What is the full form of AIDS?

a. Acquired Immunodeficient Syndrome
b. Acquired Immunodeficiency Syndrome
c. Acquired Immunitydeficiency Syndrome
d. None of these

8. _____ provides nourishment and oxygen to the foetus.

a. Placenta
b. Food pipes
c. Genes
d. None of these

9. Chromosomes are coils of _____ that consist of smaller segments called genes,

a. DNA
b. RNA
c. RBCs
d. WBCs

10. There are _____ numbers of chromosomes in our body.

a. 40
b. 42
c. 44
d. 46

♦♦♦♦♦

UNIT II

INFANCY AND CHILDHOOD

STRUCTURE

NOTES

2.1 LEARNING OBJECTIVE

After studying this lesson, you will be able to:

- Understand the characteristics of infancy and early childhood.
- Learn about the physical development, health, motor and sensory development.
- Know emotional and perceptual development.
- Learn about cognition development.

2.2 INTRODUCTION

People prefer to use the term babies which is a more common term, as infants is a more formal or specialised synonym when they are very young and it is stage post the newborn stage. Infant, the term is a Latin derivative word from "infans", meaning 'unable to speak' or 'speechless'. Infants in the infancy stage are as the name suggests do not possess the ability to speak and the birth giver has the responsibility to take care through the infancy period. To learn more about what you mean by infancy, let us define infancy and get an insight into the infancy period.

2.3 CHARACTERISTICS OF INFANCY AND EARLY CHILDHOOD

Studying psychological development is a rather recent phenomenon, and the bulk of this work has been carried out since the beginning of the twentieth century. Before this period there was some recognition of the importance of the early years. The historian Philippe Aries (1962) claimed that the idea that childhood is an important and valuable period is probably only a couple of hundred years old. Charles Darwin was one of the first to keep a detailed baby biography, a diary of one of his sons, Doddy, from birth, which he published in 'A biographical sketch of an infant. This was more than just notes on his son's behaviour. He also reflected on the possible reasons for what had occurred. In 1891 Stanley Hall published his 'Notes on the study of infants', and he recorded 'the contents of children's minds by asking children numerous questions. Thus, began the systematic study of infancy and childhood.

One of the advantages of studying psychological development is that it enables us to find out what is normal. Most of us like to consider that we are normal, average or fairly typical of people in general, and we can be surprised to discover that someone thinks or feels very differently from us. Development psychology has provided data which shows the range of behaviour, thoughts and feelings typical for any particular population, at any particular time. Thus, it may show that thumb sucking, temper tantrums, nightmares and nail-biting are all fairly normal at a certain age because a high proportion of children show these patterns. So what might be viewed as problematic by new parents encountering these in their first child is seen quite differently when put in the context of children's behaviour in general.

Once we have established norms for development within a particular culture, we can then see how particular events may change or shape the individual. For example, we can compare different family structures (the nuclear family, the single-parent family, the extended family and so on) to see how they may influence child development.

Jean Piaget was an influential figure in the area of cognitive development. According to him, all people pass through a fixed sequence of universal stages of cognitive development. Not only does the quantity of information increase at each stage, but the quality of knowledge and understanding changes as well.

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Piaget focused on the changes in cognition that occur as children move from one stage to the next. He was of the view that human thinking is arranged into schemes which are organized mental patterns that represent behaviours and actions. Schemes can be viewed as the intellectual computer software that directs and determine how data from the world are looked at and dealt with. Schemes vary at each stage. For example,

- During infancy, schemes represent concrete behaviour; such as schemes for sucking, reaching and each separate behaviour.
- In older children, the schemes become more sophisticated and abstract such as skills involved in riding a bike or playing an interactive video game.

According to Piaget, growth in children's understanding of the world can be explained by two basic principles.

a. **Assimilation:** It can be defined as a process in which people understand a new experience in terms of their current stage of cognitive development and existing ways of thinking.

b. **Accommodation:** It refers to changes in existing ways of thinking in response to encounters with new stimuli or environment.

Infancy is the shortest of all developmental periods. Infancy begins with birth and ends when the infant is approximately two weeks old, by far the shortest of all developmental periods. It is the time when the foetus must adjust to life outside the uterine walls of the mother where it has lived for approximately nine months.

According to medical criteria, the adjustment is completed with the fall of the umbilical cord from the navel; according to physiological criteria; it is completed when the infant has regained the weight lost after birth; and according to psychological criteria, it is completed when the infant begins to show signs of developmental progress in behaviour. Although most infants complete this adjustment in two weeks or slightly less, those whose birth has been difficult or premature require more time.

CHARACTERISTICS OF INFANCY

Characteristics of infancy, even though generalised, can also be very specific to each infants' growth and development depending on their birth. Before birth, when they are still in their mother's womb, they are referred to as a foetus.

A normal infant is the one where they are conceived by normal pregnancy and the female has experienced a very safe period during all the trimesters. The labour and delivery too when are normal, the infant is said to be a normal infant. Their characteristics and developmental stage are also normal and natural, unlike the infants who are prematurely born.

When the foetus is not confined to the normal duration of 36 weeks or 9 months of pregnancy and due to some unprecedented circumstances, that can be related to the mother or the foetus being born before this period. Such newborns are called premature babies and they are put in an incubation set up in the hospital till they reach their normal infancy life-stage development.

Certain Common Characteristics are:

- They have a distinctive appearance with a large head and arms and legs relatively short
- The infants have narrower shoulders and hips
- They have a slightly protruding abdomen.

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- Downy, unpigmented hair called lanugo is found in many newborns on many areas of their body except feet and palm. But within a few weeks after birth, this usually disappears.
- They may have a head full of hair to almost no hair. The navel is formed after a few weeks when the stub of the umbilical cord that still remains dries and falls off.

Early Period

In his or her early days and weeks the infant spends their time experiencing different states of sleeping like deep sleep, light sleep, drowsy and even quiet alert sleeping patterns, they are always on an active alert mode and crying which is a very common response to things they experience but are unable to express due to their inability to speak yet. They sleep about 16 hours every day, but this pattern of sleep is also constantly changing and may last for a few hours to sometimes a few minutes, the changes during this period is quite unpredictable.

In the period after these initial reactions and responses, the growth and development occur in many ways like cognitively, the language ability changes, they become physically able such as fine motor skills and gross motor skills are developed. And social skills are also developed by the end of the first year, which is the infancy stage.

The infancy period is full of social development milestones.

INFANT DEVELOPMENT	0-2 MONTHS	3-6 MONTHS	6-9 MONTHS	9-12 MONTHS
PHYSICAL DEVELOPMENT	While lying they are able to lift and turn their heads	Vision is improved able to track objects. Neck muscles are developed and they are able to sit with support with their head up.	Sit steadily for longer periods without support. May start crawling, can even attempt be walking by holding an adult's hand.	Infants can now be able to stand alone without support and may even take a few steps on their own.
COGNITIVE DEVELOPMENT	The infants in this stage are just crying a lot and other times they are observing with not much notable difference or even understanding at this point.	The infants now try to act in a way that they find relaxing or soothing like sucking on their thumb. Despite several attempts at trying to stop them, they do it because they enjoy it.	They are now being adapted to an attitude of expectancy, they see bottles they expect to be fed, so a sense of predictability understanding is being developed. And if they like being fed they will repeat trying to converse. They are hungry for pleasure.	Intentional mean send behaviour is often displayed at this stage by the infants and they try to experiment fot their desired result in different ways. So they begin to understand they can express hunger or pain by different means and can gain attention from their mother or father.

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LANGUAGE DEVELOPMENT	They are alert to voices around them and only might communicate via crying for hunger and pain.	Crying reduces and they now coo and make certain vowel sounds like 'oo' or 'aah'.	They can now babble, laugh and even blow bubbles with excitement.	They imitate the sounds they hear and try saying ma or papa, or dada. Anything they hear more, even 'no' or 'yes' they try to speak.
SENSORY DEVELOPMENT	They can hear even at the foetal stage but as infants, their hearing ability matures and they identify and prefer human voices.	Sense of smell, taste and touch strengthens, they even enjoy the sweet taste. Vision also improves and the infants at this stage are able to track objects.	Colour vision and contrast develop and are able to differentiate and identify different colours.	Senses are now mature and can very distinctively identify and recognise what it is they enjoy or dislike. Like the smell of flowers, the taste of ice-creams and mangoes, etc.
SOCIAL DEVELOPMENT	In the beginning, they make faces and are able to recognize others.	They smile a lot and even play peek-a-boo, they are playful and kick their legs in the air in a jovial state.	They imitate the moods of the ones who are near them. They recognize the emotions and moods of their parents or siblings and behave accordingly.	Able to interact with others and with themselves. They try to understand their own needs like when they need food or to go out, or the need to poop or pee and they can converse clearly.

2.4 PHYSICAL DEVELOPMENT, HEALTH, MOTOR AND SENSORY DEVELOPMENT

Infants (birth to age 1) and toddlers (ages 1 to 2) grow quickly; bodily changes are rapid and profound. Physical development refers to biological changes that children undergo as they age. Important aspects that determine the progress of physical development in infancy and toddlerhood include physical and brain changes; development of reflexes, motor skills, sensations, perceptions, and learning skills; and health issues.

The first 4 weeks of life are termed the neonatal period. Most babies weigh between 5 1/2 and 10 pounds and are between 18 and 22 inches long. Male babies are generally slightly heavier and longer than female babies. Neonates born weighing less than 5 1/2 pounds are of low birth weight. Infants who arrive before their due date are preterm or premature, and these babies may or may not have low birthweight. Babies who arrive on or shortly after their due date are full-term. Infants who arrive 2 or more weeks after their due date are post-mature. Both premature and postmature babies are at higher risk of complications such as sickness, brain damage, or death, than are full-term babies.

Physical growth:

Physical growth is especially rapid during the first 2 years. An infant's birth weight generally doubles by 6 months and triples by the infant's first birthday. Similarly, a baby

grows between 10 and 12 inches in length (or height), and the baby's proportions change during the first 2 years. The size of an infant's head decreases in proportion from 1/3 of the entire body at birth, to 1/4 at age 2, to 1/8 by adulthood.

Foetal and neonatal brain developments are also rapid. The lower, or subcortical, areas of the brain (responsible for basic life functions, like breathing) develop first, followed by the higher areas, or cortical areas (responsible for thinking and planning). Most brain changes occur prenatally and soon after birth. At birth, the neonate's brain weighs only 25 per cent of that of an adult brain. By the end of the second year, the brain weighs about 80 per cent; by puberty, it weighs nearly 100 per cent of that of an adult brain.

Reflexes and motor skills:

Because infants cannot endure on their own, newborn have specific built-in or prewired abilities for survival and adaptive purposes. Reflexes are automatic reactions to stimulation that enable infants to respond to the environment before any learning has taken place. For instance, babies automatically suck when presented with a nipple, turn their heads when a parent speaks, grasp at a finger that is pressed into their hand, and startle when exposed to loud noises. Some reflexes, such as blinking, are permanent. Others, such as grasping, disappear after several months and eventually become voluntary responses.

Common Infant Motor Reflexes

Reflex	Stimulus/ Action
Blinking	In response to a puff of air, the infant closes both eyes.
Babinski	In response to stroking the side of its foot, the infant twists its foot inward and fans out its toes.
Grasping	In response to an object pressed against its palm, the infant attempts to grasp the object.
Moro	In response to a shock or loud noise, the infant arches its back and throws its arms outward.
Rooting	In response to stroking its cheek, the infant turns its head toward the touch and attempts to suck.
Stepping	In response to holding the infant so that its feet barely touch a surface, the infant "walks."
Sucking	In response to inserting a finger or nipple into its mouth, the infant begins rhythmically sucking.
Babkin	In response to stroking its forehead, the infant turns its head and opens its mouth.
Plantar	In response to touching the ball of the foot, the infant curls its toes under.

Motor skills, or behavioural abilities, develop in conjunction with physical growth. In other words, infants must learn to engage in motor activities within the context of their changing bodies. At about 1 month, infants may lift their chins while lying flat on their stomachs. Within another month, infants may raise their chests from the same position. By the fourth month, infants may grasp rattles, as well as sit with support. By the fifth month, infants may roll over, and by the eighth month, infants may be able to sit without assistance. At about 10 months, toddlers may stand while holding onto an object for support. At about 14 months, toddlers may stand alone and perhaps even walk. Of course,

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these ages for each motor-skill milestone are averages; the rates of physical and motor development differ among children depending on a variety of factors, including heredity, the amount of activity the child participates in, and the amount of attention the child receives.

Motor development follows cephalocaudal (centre and upper body) and proximodistal (extremities and lower body) patterns, so that motor skills become refined first from the centre and upper body and later from the extremities and lower body. For example, swallowing is refined before walking, and arm movements are refined beforehand movements.

CHECK YOUR PROGRESS

1. **Define reflexes and motor skills.**
2. **Define infancy.**
3. **Explain the rate of physical growth in infant.**
4. **Who was Jean Piaget?**
5. **State some of the common infant motor reflexes.**

Sensation and Perception:

Normal infants are capable of sensation, or the ability to respond to sensory information in the external world. These infants are born with functioning sensory organs, specialized structures of the body containing sensory receptors, which receive stimuli from the environment. Sensory receptors convert environmental energy into nervous system signals that the brain can understand and interpret. For example, the sensory receptors can convert light waves into visual images. The human senses include seeing, hearing, smelling, touching, and tasting.

New-borns are very near-sighted, but visual acuity, or ability, develops quickly. Although infant vision is not as good as adult vision, babies may respond visually to their surroundings from birth. Infants are particularly attracted to objects of light-and-dark contrasts, such as the human face. Depth perception also comes within a few months. New-borns may also respond to tastes, smells, and sounds, especially the sound of the human voice. New-borns may almost immediately distinguish between the primary caregiver and others based on sight, sound, and smell. Infant sensory abilities improve considerably during the first year.

Perception is the psychological process by which the human brain processes the sensory data collected by the sensory organs. Visually, infants are aware of depth (the relationship between foreground and background) and size and shape constancy (the consistent size and shape of objects). This latter ability is necessary for infants to learn about events and objects.

2.5 EMOTIONAL AND PERCEPTUAL DEVELOPMENT

Despite its shortness, infancy is generally subdivided into two periods: the period of the partunate and the period of the neonate. These are described below:

Subdivisions of Infancy

Period of the Partunate (from birth to fifteen to thirty minutes after birth). This period begins when the foetal 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 postnatal environment – the environment outside the mother's body.

Period of the Neonate (from the cutting and tying of the umbilical cord to approximately the end of the second week of postnatal life). The infant is now a separate, independent individual and is no longer a parasite. During this period, the infant must make adjustments to the new environment outside the mother's body. Even in difficult births, it seldom takes more than forty-eight hours for the foetus to emerge from the mother's body. By contrast, it requires approximately two weeks to adjust to the new environment outside the mother's body.

Radical Adjustments

Although the human life span legally begins at the moment of birth, birth is merely an interruption of the development pattern that started at the moment of conception. It is the graduation from an internal to an external environment. Like all graduations, it requires adjustments on the individual's part. It may be easy for some infants to make these adjustments but so difficult for others that they will fail to do so. Miller has commented, "In all the rest of his life, there will never be such a sudden and complete change of locale".

Plateau in Development

The rapid growth and development which took place during the prenatal period suddenly come to a stop with birth. There is often a slight regression, such as loss of weight and a tendency to be less strong and healthy than at birth. Normally this slight regression lasts for several days to a week, after which the infant begins to improve. By the end of the infancy period, the infant's stage of development is usually back to where it was all the time of birth. The halt in growth and development, characteristic of this plateau, is due to the necessity for making radical adjustments to the postnatal environment. Once these adjustments have been made, infants resume their growth and development. While a plateau in development during infancy is normal, many parents, especially those of firstborn children, become concerned about it and fear that something is wrong with their child. Consequently, the infancy plateau may become a psychological hazard, just as it is a potential physical hazard.

2.6 CHARACTERISTICS OF LATE CHILDHOOD

Ages 7 through 11 comprise middle childhood. Some authorities divide middle childhood into early-middle (ages 7–9) and late-middle (ages 10–11) periods. Like infants, toddlers, and pre-schoolers, these older children grow both physically and cognitively, although their growth is slower than it was during early childhood.

Physical development in middle childhood is characterized by considerable variations in growth patterns. These variations may be due to gender, ethnic origin, genetics, hormones, nutrition, environment, or disease. While children of this age group follow the same basic developmental patterns, they do not necessarily mature at the same rate. Most girls experience a preadolescent growth spurt around age 9 or 10, while most boys experience the same growth spurt around age 11 or 12. Children who do not receive adequate nutrition or medical attention may be at risk for stunted or delayed growth development. For example, children who live in countries where malnutrition is not a problem tend to be taller than children who live in countries where malnutrition is a problem.

Physical changes, brain and nervous system development, gross and fine motor skills, and health issues are important aspects of physical development during middle childhood as in previous developmental stages.

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By the beginning of middle childhood, children typically have acquired a leaner, more athletic appearance. Girls and boys still have similar body shapes and proportions until both sexes reach puberty, the process whereby children sexually mature into teenagers and adults. After puberty, secondary sexual characteristics—breasts and curves in females, deeper voice and broad shoulders in males—make distinguishing females from males much easier.

Girls and boys grow about 2 to 3 inches and gain about 7 pounds per year until puberty. Skeletal bones and muscles broaden and lengthen, which may cause children (and adolescents) to experience growing pains. Skeletal growth in middle childhood is also associated with losing the deciduous teeth, or baby teeth. Throughout most of middle childhood, girls are smaller than boys and have less muscle mass. As girls enter puberty, however, they may be considerably larger than boys of the same age, who enter puberty a few years later. Once boys begin sexually maturing, their heights and weights eventually surpass the heights and weights of girls of the same age.

Brain and nervous system developments continue during middle childhood. More complex behavioural and cognitive abilities become possible as the central nervous system matures. Early in middle childhood, a growth spurt occurs in the brain so that by age 8 or 9, the organ is nearly adult-size. Brain development during middle childhood is characterized by the growth of specific structures, especially the frontal lobes. These lobes, located in the front of the brain just under the skull, are responsible for planning, reasoning, social judgment, and ethical decision-making, among other functions. Damage to this part of the brain results in erratic emotional outbursts, inability to plan, and poor judgment. The most anterior (front) portion of the frontal lobes is the prefrontal cortex, which appears to be responsible for personality.

As the size of the frontal lobes increases, children can engage in increasingly difficult cognitive tasks, such as performing a series of tasks in a reasonable order. An example is assembling a mechanical toy: unpacking the pieces, connecting the parts, and making the model move by adding a power source—a series of tasks that must be completed in the correct order to achieve certain results.

Lateralization of the two hemispheres of the brain, also continues during middle childhood, as does maturation of the corpus callosum (the bands of neural fibres connecting the two cerebral hemispheres), and other areas of the nervous system. Interestingly, children achieve concrete operations around age 7 when the brain and nervous systems have developed a certain amount of neural connections. When these neural connections have developed, a child's ability to perceive and think about the world advances from an egocentric, magical viewpoint to a more concrete and systematic way of thinking. Motor skills are behavioural abilities or capacities. Gross motor skills involve the use of large bodily movements, and fine motor skills involve the use of small bodily movements. Both gross and fine motor skills continue to refine during middle childhood.

Children love to run, jump, leap, throw, catch, climb, and balance. Children play baseball, ride bikes, roller skate, take karate lessons, take ballet lessons, and participate in gymnastics. As school-age children grow physically, they become faster, stronger, and better coordinated. Consequently, during middle childhood, children become more adept at gross motor activities. Middle childhood tends to be a very healthy period of life in Western societies. The typical minor illnesses of early childhood—colds, coughs, and stomach-aches—are likely to lessen in frequency in middle childhood. This improved resistance to common illnesses is probably due to a combination of increased immunity from previous exposures and improved hygiene and nutritional practices. Minor

illnesses occur, but most illnesses do not require medical attention. Minor illnesses may help children learn psychological coping skills and strategies for dealing with physical discomforts.

2.7 DEVELOPMENTAL TASKS

A developmental task is a task that arises at or about a certain period in life, unsuccessful achievement of which leads to an inability to perform tasks associated with the next period or stage in life.

A few of the developmental tasks are described below:

- Learning to get along with friends of both sexes: To learn to look upon girls as women and boys as men; to become an adult among adults; to learn to work with others for a common purpose, disregarding personal feelings; to lead without dominating.
- Accepting one's physical body and keeping it healthy: To accept one's body; to keep it healthy through good nutrition, exercise, disease prevention, and other health practices
- Becoming more self-sufficient: To develop affection for parents without dependence upon them; to develop respect for older adults without dependence upon them
- Making decisions about marriage and family life: To explore attitudes toward family life and having children; to acquire the knowledge necessary for home management and, if desired, child-rearing
- Preparing for a job or career: To develop career/vocational goals and ways to reach these goals; to be able to make a living.
- Establishing a residence and learning how to manage a household: learning how to budget and keep a home maintained.
- Acquiring a set of values to guide behaviour: To develop career/vocational goals and ways to reach these goals; to be able to make a living to develop an outlook toward life-based on what is important.
- Becoming socially responsible: To participate as a responsible person with friends at home, and in the community; to develop personal moral values to guide behaviour

2.8 COGNITION DEVELOPMENT AND LANGUAGE

Cognitive Development: Age 2–6

Pre-schoolers provide remarkable examples of how children play an active role in their cognitive development, especially in their attempts to understand, explain, organize, manipulate, construct, and predict. Young children also see patterns in objects and events of the world and then attempt to organize those patterns to explain the world.

At the same time, pre-schoolers have cognitive limitations. Children have trouble controlling their attention and memory functions, confuse superficial appearances with reality, and focus on a single aspect of an experience at a time. Across cultures, young children tend to make these same kinds of immature cognitive errors.

Piaget referred to the cognitive development occurring between ages 2 and 7 as the preoperational stage. In this stage, children increase their use of language and other

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symbols, their imitation of adult behaviours, and their play. Young children develop a fascination with words both good and bad language. Children also play games of make-believe: using an empty box as a car, playing with family, with siblings, and nurturing imaginary friendships.

Piaget also described the preoperational stage in terms of what children cannot do. Piaget used the term operational to refer to reversible abilities that children had not yet developed. By reversible, Piaget referred to mental or physical actions that can go back and forth—meaning that they can occur in more than one way or direction. Adding (3 + 3 = 6) and subtracting (6 − 3 = 3) are examples of reversible actions. Children at this stage, according to Piaget, make use of magical thinking based on their own sensory and perceptual abilities and are easily misled. Children engage in magical thinking, for instance, while speaking with their parents on the telephone and then asking for a gift, expecting it to arrive via the telephone.

Piaget believed that pre-schoolers' cognitive abilities are limited by egocentrism—the inability to distinguish between their point of view and the point of view of others. The capacity to be egocentric is apparent at all stages of cognitive development, but egocentricity is particularly evident during preschool. Young children eventually overcome this early form of egocentrism when learning that others have differing views, feelings, and desires. Then children may interpret others' motives and use those interpretations to communicate mutually and therefore more effectively with others. Pre-schoolers eventually learn to adjust their vocal pitches, tones, and speeds to match those of the listener. Because mutual communication requires effort and pre-schoolers are still egocentric, children may lapse into egocentric (nonmutual) speech during times of frustration. In other words, children (and adults) may regress to earlier behavioural patterns when their cognitive resources are stressed and overwhelmed.

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Piaget indicated that young children have not mastered classification, or the ability to group according to features. Neither have they mastered serial ordering, or the ability to

group according to logical progression. While possibly inherent in young children, these abilities are not fully realized until later.

Piaget also believed that young children cannot comprehend conservation or the concept that physical properties remain constant even as appearance and form change. Young children have trouble understanding that the same amount of liquid poured into containers of different shapes remains the same. A preoperational child will tell you that a handful of pennies is more money than a single five-dollar bill. According to Piaget, when children develop the cognitive capacity to conserve (around age 7), children move into the next stage of development, concrete operations.

Current research implies that children are not as suggestible, operational, magical, or egocentric as Piaget surmised. In studying children's use of symbols and representational thinking, for example, researcher Renee Baillargeon found that pre-schoolers as young as 2 1/2 can employ reversible mental thinking. Baillargeon's research involved the following experiment: Two objects a large red pillow and a miniature red pillow are hidden in a large room and a miniature replica of the room, respectively; shown where the miniature pillow is hiding in the miniature room; a child locates the corresponding large pillow in the large room. Baillargeon suggested that such abilities are indicative of symbolic thought, in which objects represent not only themselves but also other objects as well.

2.9 CHAPTER SUMMARY

In this Unit you read about physical, motor and sensory development in the first year of life. You learnt how the neonate adapts and adjusts to her environment. The newborn is not helpless. She has fairly well-developed sensory capabilities - she can see, hear, smell, taste and feel touch, her cheeks and jaws are also specially formed to suck. The infant is born with a collection of involuntary responses to stimuli, referred to as reflexes, and these help her to survive.

During the first year the infant learns to control the movements of her head, arms, and legs and acquires various motor skills. She learns to roll over on her back, sit, crawl, stand and then walk. She also learns to coordinate the movement of her head and eyes and thus grasps things, carries them to her mouth, transfers them from one hand to another and gradually learns to pick and manipulate small objects.

The infant's sensory abilities also develop. She is able to differentiate between various objects and identify emotions on the mother's face. The ability to judge the direction of sound also improves. She learns to discriminate between various sounds which will help her to learn language. The development of physical, motor and sensory abilities is crucial for development in other areas.

Physical growth is, to a large extent, determined by maturation. At the same time, opportunities to practise motor skills are also important. The caregiver has an important role in that she must plan and conduct activities to promote sensory and motor development.

Infants should be immunized regularly and their growth should be periodically checked using growth charts. Supplementary food should begin when the child is around four months old. Breast-feeding should preferably continue till the child is 12 to 18 months.

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2.10 REVIEW QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. **What do you understand by radical adjustments?**
2. **Define developmental tasks.**
3. **What do you understand by cognitive development?**
4. **What are the two important principles for explaining children's understanding of the world by Piaget?**
5. **State the characteristics of late childhood.**

LONG ANSWER TYPE QUESTIONS

1. **Explain the characteristics of infancy in detail.**
2. **Discuss emotional and perceptual development in detail.**
3. **What are the characteristics of early childhood?**
4. **Draw a chart of infant development during the different stages.**
5. **Describe preoperational stage in detail.**

2.11 MULTIPLE CHOICE QUESTIONS

1. **_____are automatic reactions to stimulation that enable infants to respond to the environment before any learning have taken place.**
   a. Reflexes
   b. Assimilation
   c. Accommodation
   d. None of these

2. **_____ can be defined as a process in which people understand a new experience in terms of their current stage of cognitive development and existing ways of thinking.**
   a. Reflexes
   b. Assimilation
   c. Accommodation
   d. None of these

3. **_____ refers to changes in existing ways of thinking in response to encounters with new stimuli or environment**
   a. Reflexes
   b. Assimilation
   c. Accommodation
   d. None of these

4. **_____ is the shortest of all developmental periods.**
   a. Infancy
   b. Toddlerhood
   c. Early Childhood
   d. Middle Childhood

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5. 9 months of pregnancy is equal to ____ weeks.

a. 30
b. 34
c. 35
d. 36

6. _____ psychology has provided data which shows the range of behaviour, thoughts and feelings typical for any particular population, at any particular time.

a. Cognitive
b. Social
c. Clinical
d. Development

7. _____ is the psychological process by which the human brain processes the sensory data collected by the sensory organs.

a. Perception
b. Reflexes
c. Assimilation
d. Accommodation

8. _____ was an influential figure in the area of cognitive development.

a. Jean Piaget
b. Charles Darwin
c. Stanley Hall
d. None of these

9. _____ was one of the first to keep a detailed baby biography.

a. Jean Piaget
b. Maria Ressa
c. Charles Darwin
d. Stanley Hall

10. 'Notes on the study of infants (1891)' was published by _____.

a. Jean Piaget
b. Maria Ressa
c. Charles Darwin
d. Stanley Hall

♦♦♦♦♦

UNIT III

PIAGET'S STAGE THEORY ON DEVELOPMENT

STRUCTURE

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3.1 LEARNING OBJECTIVE

After studying this lesson, you will be able to:

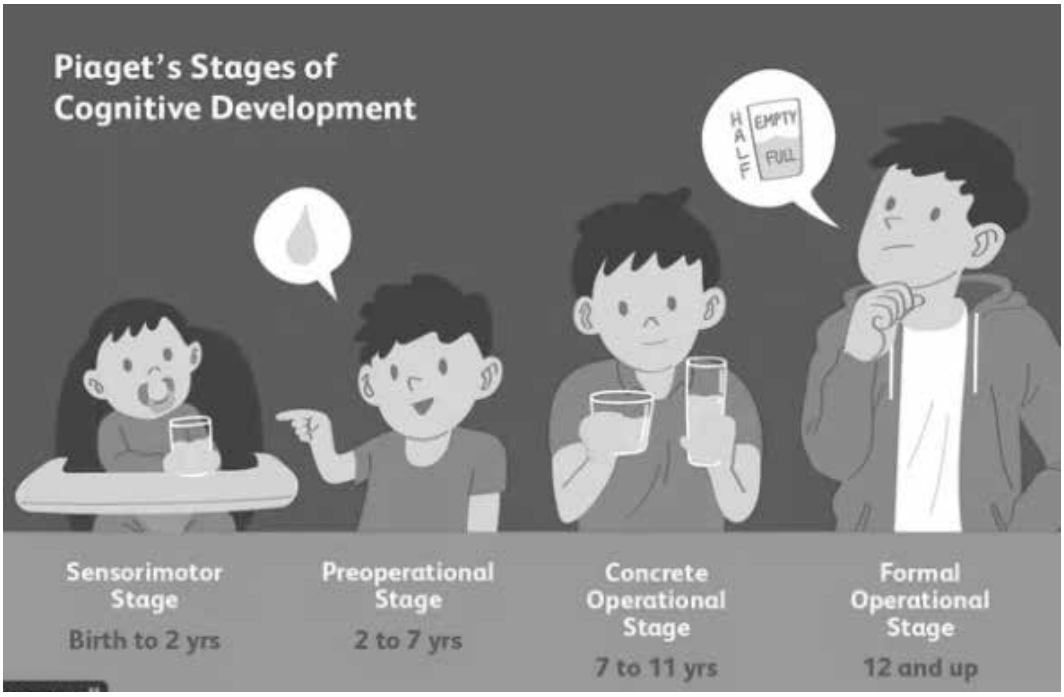
- Understand cognitive development.
- Learn about Piaget sensory motor stage.
- Understand Piaget preoperational stage.
- Understand moral development.
- Know about the personality in late childhood.
- Learn about Freud's Latency Period.
- Know about social learning theory.
- Understand the Piaget stage of formal operations.

3.2 INTRODUCTION

Jean Piaget's theory of cognitive development suggests that children move through four different stages of learning. His theory focuses not only on understanding how children acquire knowledge, but also on understanding the nature of intelligence. Piaget's stages are:

- Sensorimotor stage: Birth to 2 years
- Preoperational stage: Ages 2 to 7
- Concrete operational stage: Ages 7 to 11
- Formal operational stage: Ages 12 and up

Piaget believed that children take an active role in the learning process, acting much like little scientists as they perform experiments, make observations, and learn about the world. As kids interact with the world around them, they continually add new knowledge, build upon existing knowledge, and adapt previously held ideas to accommodate new information.



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3.3 COGNITIVE DEVELOPMENT

Cognitive development is a field of study in neuroscience and psychology focusing on a child's development in terms of information processing, conceptual resources, perceptual skill, language learning, and other aspects of the developed adult brain and cognitive psychology. Qualitative differences between how a child processes their waking experience and how an adult process their waking experience are acknowledged (such as object permanence, the understanding of logical relations, and cause-effect reasoning in school-age children). Cognitive development is defined as the emergence of the ability to consciously cognize, understand, and articulate their understanding in adult terms.

Cognitive development is how a person perceives, thinks, and gains understanding of their world through the relations of genetic and learning factors. There are four stages to cognitive information development. They are, reasoning, intelligence, language, and memory. These stages start when the baby is about 18 months old, they play with toys, listen to their parents speak, they watch TV, anything that catches their attention helps build their cognitive development. Jean Piaget's theory of cognitive development suggests that children move through four different stages of learning. His theory focuses not only on understanding how children acquire knowledge, but also on understanding the nature of intelligence. Piaget's stages are:

- Sensorimotor stage: Birth to 2 years
- Preoperational stage: Ages 2 to 7
- Concrete operational stage: Ages 7 to 11
- Formal operational stage: Ages 12 and up

3.4 PIAGET SENSORY MOTOR STAGE

During this earliest stage of cognitive development, infants and toddlers acquire knowledge through sensory experiences and manipulating objects. A child's entire experience at the earliest period of this stage occurs through basic reflexes, senses, and motor responses.

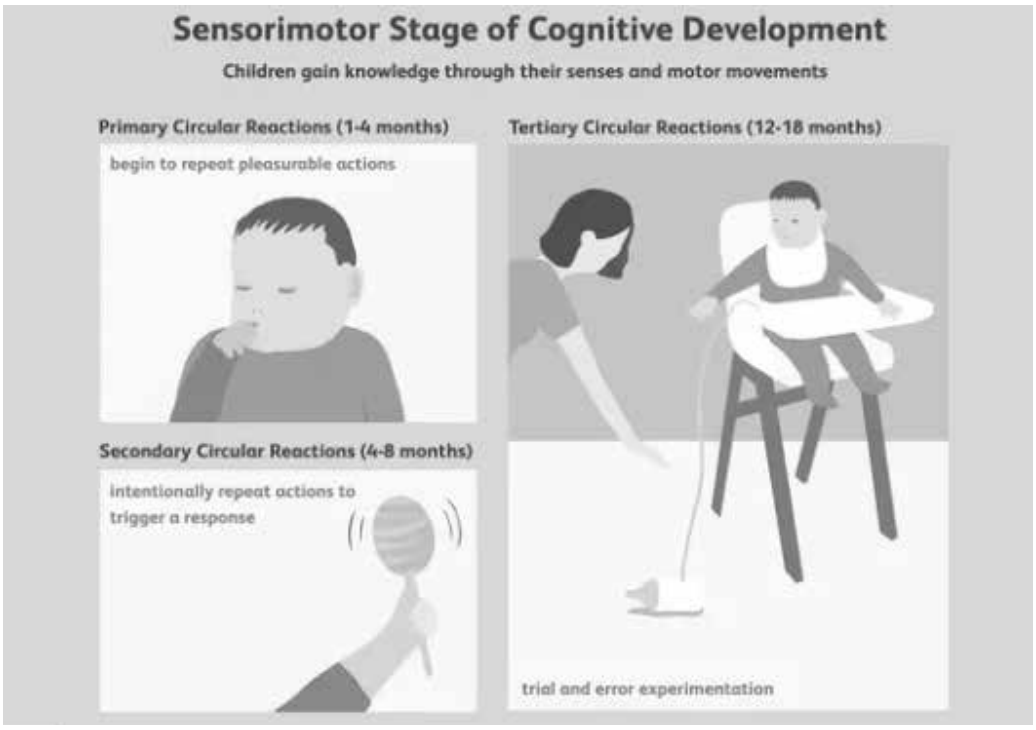
Birth to 2 Years

Major characteristics and developmental changes during this stage:

- Know the world through movements and sensations
- Learn about the world through basic actions such as sucking, grasping, looking, and listening
- Learn that things continue to exist even when they cannot be seen (object permanence)
- Realize that they are separate beings from the people and objects around them
- Realize that their actions can cause things to happen in the world around them

During the sensor motor stage, children go through a period of dramatic growth and learning. As kids interact with their environment, they continually make new discoveries about how the world works. The cognitive development that occurs during this period takes place over a relatively short time and involves a great deal of growth. Children not only learn how to perform physical actions such as crawling and walking; they also learn a great deal about language from the people with whom they interact. Piaget also broke this stage down into sub-stages. Early representational thought emerges during the final part of the sensor motor stage.

PIAGET'S STAGE THEORY ON DEVELOPMENT



Piaget believed that developing object permanence or object constancy, the understanding that objects continue to exist even when they cannot be seen, was an important element at this point of development. By learning that objects are separate and distinct entities and that they have an existence of their own outside of individual perception, children are then able to begin to attach names and words to objects.

Birth to one month

Each child is born with inherited reflexes that they use to gain knowledge and understanding about their environment. Examples of these reflexes include grasping and sucking.

1–4 months

Children repeat behaviors that happen unexpectedly because of their reflexes. For example, a child's finger comes in contact with the mouth and the child starts sucking on it. If the sensation is pleasurable to the child, then the child will attempt to recreate the behavior. Infants use their initial reflexes (grasping and sucking) to explore their environment and create schemas. Schemas are groups of similar actions or thoughts that are used repeatedly in response to the environment. Once a child begins to create schemas they use accommodation and assimilation to become progressively adapted to the world. Assimilation is when a child responds to a new event in a way that is consistent with an existing schema. For example, an infant may assimilate a new teddy bear into their putting things in their mouth scheme and use their reflexes to make the teddy bear go into their mouth. Accommodation is when a child either modifies an existing schema or forms an entirely new schema to deal with a new object or event. For example, an infant may have to open his or her mouth wider than usual to accommodate the teddy bear's paw.

5–8 months

The child has an experience with an external stimulus that they find pleasurable, so they try to recreate that experience. For example, a child accidentally hits the mobile above

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the crib and likes to watch it spin. When it stops the child begins to grab at the object to make it spin again. In this stage, habits are formed from general schemas that the infant has created but there is not yet, from the child's point of view, any differentiation between means and ends. Children cannot also focus on multiple tasks at once, and only focus on the task at hand.

The child may create a habit of spinning the mobile in its crib, but they are still trying to find out methods to reach the mobile in order to get it to spin in the way that they find pleasurable. Once there is another distraction (say the parent walks in the room) the baby will no longer focus on the mobile. Toys should be given to infants that respond to a child's actions to help foster their investigative instincts. For example, a toy plays a song when you push one button, and then a picture pops up if you push another button.

8–12 months

Behaviors will be displayed for a reason rather than by chance. They begin to understand that one action can cause a reaction. They also begin to understand object permanence, which is the realization that objects continue to exist when removed from view. For example: The baby wants a rattle but the blanket is in the way. The baby moves the blanket to get the rattle. Now that the infant can understand that the object still exists, they can differentiate between the object, and the experience of the object. According to psychologist David Elkind, "An internal representation of the absent object is the earliest manifestation of the symbolic function which develops gradually during the second year of life whose activities dominate the next stage of mental growth."

12–18 months

Actions occur deliberately with some variation. For example, a baby drums on a pot with a wooden spoon, then drums on the floor, then on the table.

18–24 months

Children begin to build mental symbols and start to participate in pretend play. For example, a child is mixing ingredients together but does not have a spoon so they pretend to use one or use another object to replace the spoon. Symbolic thought is a representation of objects and events as mental entities or symbols which helps foster cognitive development and the formation of imagination. According to Piaget, the infant begins to act upon intelligence rather than habit at this point. The end product is established after the infant has pursued for the appropriate means. The means are formed from the schemas that are known by the child. The child is starting to learn how to use what it has learned in the first two years to develop and further explore their environment.

3.5 PIAGET PREOPERATIONAL STAGE

Lasts from 2 years of age until 6 or 7. It can be characterized in two somewhat different ways. In his early work, before he had developed his structuralist theory of cognition, Piaget described the child's thoughts during this period as being governed by principles such as egocentrism, animism, and other similar constructs. Egocentrism is when a child can only see a certain situation his or her own way. One cannot comprehend that other people have other views and perceptions of scenarios. Animism is when an individual gives lifeless object human-like qualities.

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An individual usually believes that this object has human emotions, thoughts, and intentions. Once he had proposed his structuralist theory, Piaget characterized the preoperational child as lacking the cognitive structures possessed by the concrete operational child. The absence of these structures explains, in part, the behaviors

Piaget had previously described as egocentric and animistic; for example, an inability to comprehend that another individual may have different emotional responses to similar experiences. During this stage children also become increasingly adept at using symbols as evidenced by the increase in playing and pretending. The foundations of language development may have been laid during the previous stage, but the emergence of language is one of the major hallmarks of the preoperational stage of development.

2 to 7 Years

Major characteristics and developmental changes during this stage:

- Begin to think symbolically and learn to use words and pictures to represent objects
- Tend to be egocentric and struggle to see things from the perspective of others
- Getting better with language and thinking, but still tend to think in very concrete terms

At this stage, kids learn through pretend play but still struggle with logic and taking the point of view of other people. They also often struggle with understanding the idea of constancy.

Children become much more skilled at pretend play during this stage of development, yet they continue to think very concretely about the world around them.

For example, a researcher might take a lump of clay, divide it into two equal pieces, and then give a child the choice between two pieces of clay to play with. One piece of clay is rolled into a compact ball while the other is smashed into a flat pancake shape. Because the flat shape looks larger, the preoperational child will likely choose that piece, even though the two pieces are exactly the same size.

Here's a list of the main characteristics of this stage of development:

Egocentrism:

You've probably noticed that your child thinks of one thing: they. That's perfectly normal for this developmental stage. They want that drink NOW not after you've finished throwing the laundry into the dryer. Egocentrism also means that your child assumes that you see, hear, and feel the same things they do. But hang in there, because by the time they hit 4 years old (give or take), they'll be able to understand something from your point of view.

Centration:

This is the tendency to focus on only one aspect of a situation at a time. Try lining up two rows of paper clips in such a way that a row of five paper clips is longer than a row of seven paper clips. Ask your young child to point to the row that has more paper clips and she'll point to the row of five. This is because they're focusing on one aspect only (length) and can't manipulate two (length and number). As your little one grows, they'll develop the ability to decenter.

Conservation:

Conservation is related to centration. It's the understanding that a quantity stays the same even if you change the size, shape, or container it's in. Piaget found that most children can't understand this concept before 5 years old. Curious? Try it out yourself. Pour equal amounts of juice into two identical disposable cups. Then pour one cup into a tall, thin cup and ask your child to choose the cup that contains more. Chances are, they'll point to the tall, thin cup.

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Parallel play:
At the beginning of this stage you'll notice that your child plays alongside other children but not with them. Don't worry this doesn't mean your little one is antisocial by any means! They're simply absorbed in their own world. Although your kiddo may be talking, they're using their speech to express what they see, feel, and need. They don't yet realize that speech is the tool to becoming social.

Symbolic representation:
During the early preoperational period, between 2 and 3 years old, your child will begin to realize that words and objects are symbols for something else. Watch how excited they become when they say "Mommy" and see you melting.

Let's pretend:
As your child develops within this stage, they'll move from parallel playing to including other children in games. That's when "let's pretend" games happen. According to Piaget, children's pretend play helps them solidify the concepts that they're developing cognitively. Here's when your dining room chairs become a bus. Keep an eye out: You may need to referee when your child and their playmate fight over who's the driver and who's the passenger.

Artificialism:
Piaget defined this as the assumption that everything that exists had to have been made by a sentient being, such as God or a human. This being is responsible for its qualities and movements. In other words, in the eyes of your child, rain isn't a natural phenomenon — someone is making it rain.

Irreversibility
This is a stage where your child can't imagine that a sequence of events can be reversed to their starting point.

3.6 PIAGET STAGE OF CONCRETE OPERATIONS

While children are still very concrete and literal in their thinking at this point in development, they become much more adept at using logic. The egocentrism of the previous stage begins to disappear as kids become better at thinking about how other people might view a situation.

7 to 11 Years
Major characteristics and developmental changes during this stage:

- Begin to think logically about concrete events
- Begin to understand the concept of conservation; that the amount of liquid in a short, wide cup is equal to that in a tall, skinny glass, for example
- Thinking becomes more logical and organized, but still very concrete
- Begin using inductive logic, or reasoning from specific information to a general principle

While thinking becomes much more logical during the concrete operational state, it can also be very rigid. Kids at this point in development tend to struggle with abstract and hypothetical concepts. During this stage, children also become less egocentric and begin to think about how other people might think and feel. Kids in the concrete operational stage also begin to understand that their thoughts are unique to them and that not everyone else necessarily shares their thoughts, feelings, and opinions.

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The concrete operational stage is the third stage in Piaget's theory of cognitive development. This period lasts around seven to eleven years of age, and is characterized by the development of organized and rational thinking. Piaget (1954a) considered the concrete stage a major turning point in the child's cognitive development, because it marks the beginning of logical or operational thought. The child is now mature enough to use logical thought or operations (i.e. rules) but can only apply logic to physical objects (hence concrete operational). Children gain the abilities of conservation (number, area, volume, orientation), reversibility, seriation, transitivity and class inclusion. However, although children can solve problems in a logical fashion, they are typically not able to think abstractly or hypothetically.

Conservation is the understanding that something stays the same in quantity even though its appearance changes. This can apply to aspects such as volume, number, area etc. To be more technical conservation is the ability to understand that redistributing material does not affect its mass, number, volume or length.

Tests of Various Types of Conservation

Type of Conservation	Initial Presentation	Transformation
Volume	Two equal glasses of liquid. 	Pour one into a taller, narrower glass. 
Number	Two equal lines of checkers. 	Increase spacing of checkers in one line. 
Matter	Two equal balls of clay. 	Squeeze one ball into a long, thin shape. 
Length	Two sticks of equal length. 	Move one stick. 

For example, Piaget and Szeminska (1952) showed that children below 7 or 8 years of age often believed that lengthening rows of counters (by spreading them out) increased the number and squashing balls of plasticine flat reduced their volume.

In Piaget's standard procedure he asked the child a pre and a post transformation question. He asked whether two instances (e.g. rows of counters or beakers of liquid) were the same or different both before and after a change was made to their physical appearance (e.g. by spreading out the counters or pouring the liquid into a taller vessel). By around

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seven years the majority of children can conserve liquid, because they understand that when water is poured into a different shaped glass, the quantity of liquid remains the same, even though its appearance has changed. Five-year-old children would think that there was a different amount because the appearance has changed.

Conservation of number (see video below) develops soon after this. Piaget (1954b) set out a row of counters in front of the child and asked her/him to make another row the same as the first one. Piaget spread out his row of counters and asked the child if there were still the same number of counters. Most children aged seven could answer this correctly, and Piaget concluded that this showed that by seven years of age children were able to conserve number. Some forms of conservation (such as mass) as understood earlier than others (volume). Piaget used the term horizontal decalage to describe this (and other) developmental inconsistencies.

Several aspects of the conservation tasks have been criticized, for example, that they fail to take account of the social context of the child's understanding. Rose and Blank (1974) argued that when a child gives the wrong answer to a question, we repeat the question in order to hint that their first answer was wrong. This is what Piaget did by asking children the same question twice in the conservation experiments, before and after the transformation.

When Rose and Blank replicated this but asked the question only once, after the liquid had been poured, they found many more six-year-olds gave the correct answer. This shows children can conserve at a younger age than Piaget claimed. Porpodas (1987) found that asking more than one question wasn't really the problem. This research suggested that the questions provided 'verbal interference' which prevented children from transferring information across from the pre-transformation stage. This implied that the problem was a cognitive one, but not exactly of the nature originally suggested.

In an attempt to answer the 'conservation or conversation?' question, ie whether the conservation failures are due to cognitive immaturity or the language use or power relations between the child participant and adult experimenter, Baucal & Stepanovic (2006) analyzed the results of many tests of the repeated question hypothesis. They also conducted an additional test which aimed to distinguish between cognitive and social effects by using a repeated question about a 'transformation' which had not changed (pouring liquid back into the same glass so only the question and not the actual change could influence their response).

Interestingly, the results were not as predicted. They expected that any child's response would be the same on the standard and modified tasks, but this was not the case. However, they were unable to conclude whether the cause was or was not repeating the question. Research has gone on to explore the 'conversation about conservation' idea which underpins the interview method. Arcidiacono and Perret-Clermont (2009) suggested that children's statements about conservation are not, as Piaget claimed, simply a product of their cognitive level but of their social interaction with the interviewer. This suggests that the child's reasoning is 'co-constructed' during the testing process. If adults 'accept' wrong (or right) answers without asking for a justification (argument about why it is so), which is what Piaget was really interested in. Another feature of the conservation task which may interfere with children's under-standing is that the adult purposely alters the appearance of something, so the child thinks this alteration is important. McGarrigle and Donaldson (1974) devised a study of conservation of number in which the alteration was accidental.

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3.7 MORAL DEVELOPMENT

Moral development focuses on the emergence, change, and understanding of morality from infancy through adulthood. Morality develops across a lifetime and is influenced by an individual's experiences and behavior when faced with moral issues through different periods of physical and cognitive development. Morality concerns an individual's reforming sense of what is right and wrong; it is for this reason that young children have different moral judgment and character than that of a grown adult. Morality in itself is often a synonym for "rightness" or "goodness." It refers to a specific code of conduct that is derived from one's culture, religion, or personal philosophy that guides one's actions, behaviors, and thoughts.

Notions of moral development have evolved over the centuries. The earliest theories came from philosophers like Confucius, Aristotle, and Rousseau, who took a more humanist perspective and focused on developing the conscience and sense of virtue. In the modern-day, empirical research has explored morality through a moral psychology lens by theorists like Sigmund Freud and its relation to cognitive development by theorists like Jean Piaget, Lawrence Kohlberg, B. F. Skinner, Carol Gilligan, and Judith Smetana.

The interest in morality spans many disciplines (e.g., philosophy, economics, biology, and political science) and specializations within psychology (e.g., social, cognitive, and cultural). In order to investigate the different ways individuals, understand morality, it is essential to consider their culture, beliefs, emotions, attitudes, and behaviors that contribute to their moral understanding. Additionally, researchers in moral development consider the role of peers and parents, conscience and values, socialization and cultural influences, empathy and altruism, and positive development to discover what factors have the most significant impacts on the development of an individual's morality.

FREUD: MORALITY AND THE SUPEREGO

The founder of psychoanalysis, Sigmund Freud, proposed the existence of a tension between the needs of society and the individual. According to Freud, moral development proceeds when the individual's selfish desires are repressed and replaced by the values of critical socializing agents in one's life (for instance, one's parents). In Freud's terminology, this process is the growth of the ego in balancing the needs and tensions between the id (selfish desires and impulses) and the super-ego (the person's internal sense of cultural needs and norms as learned from their parents).

B.F. SKINNER'S BEHAVIORAL THEORY

A proponent of behaviorism, B.F. Skinner similarly focused on socialization as the primary force behind moral development. In contrast to Freud's notion of a struggle between internal and external forces, Skinner focused on the power of external forces (reinforcement contingencies) to shape an individual's development. Behaviorism is founded on the belief that people learn from the consequences of their behavior. He called his theory "operant conditioning" when a specific stimulus is reinforced for one to act. Essentially, Skinner believed that all morals were learned behaviors based on the punishments and rewards (either explicit or implicit) that the person had experienced during their life, in the form of trial-and-error behavioral patterns.

PIAGET'S THEORY OF MORAL DEVELOPMENT

While both Freud and Skinner focused on the external forces that bear on morality (parents in the case of Freud, and behavioral contingencies in the case of Skinner), Jean Piaget (1965) focused on the individual's construction, construal, and interpretation of

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morality from a social-cognitive and social-emotional perspective. To understand adult morality, Piaget believed that it was necessary to study how morality manifests in the child's world and the factors that contribute to the emergence of central moral concepts such as welfare, justice, and rights. In interviewing children using the Clinical Interview Method, Piaget (1965) found that young children were focused on authority mandates and that with age, children become autonomous, and evaluating actions from a set of independent principles of morality. Piaget characterizes the development of morality of children through observing children while playing games to see if rules are followed.

A hallmark of moral understanding is intentionality, which can be defined as "an attribution of the target's intentions towards another," or a sense of purpose or directedness towards a certain result. According to researchers Malle, Moses, and Baldwin (2001), five components make up people's concept of intentionality: an action is considered intentional if a personal has (a) a desire for an outcome, (b) a belief that the action will lead to the outcome, (c) an intention to perform the action, (d) skill to perform the action, and (e) awareness while performing it.

Recent research on children's theory of mind (ToM) has focused on when children understand others' intentions The moral concept of one's intentionality develops with experience in the world. Yuill (1984) presented evidence that comprehension of one's intentions plays a role in moral judgment, even in young children. Killen, Mulvey, Richardson, Jampol, and Woodward (2011) present evidence that with developing false belief competence (ToM), children are capable of using information about one's intentions when making moral judgments about the acceptability of acts and punishments, recognizing that accidental transgressors, who do not hold hostile intentions, should not be held accountable for adverse outcomes.

In this study, children who lacked false belief competence were more likely to attribute blame to an accidental transgressor than children with demonstrated false belief competence. In addition to evidence from a social cognitive perspective, behavioral evidence suggests that even three-year-olds can take into account a person's intention and apply this information when responding to situations. Vaish, Carpenter, and Tomasello (2010), for instance, presented evidence that three-year-olds are more willing to help a neutral or helpful person than a harmful person. Beyond identifying one's intentionality, mental state understanding plays a crucial role in identifying victimization. While obvious distress cues (e.g., crying) allow even three-year-olds to identify victims of harm, it is not until around six years of age that children can appreciate that a person may be an unwilling victim of harm even in the absence of obvious distress. In their study, Shaw and Wainryb (2006) discovered that children older than six interpret compliance, resistance, and subversion to illegitimate requests (e.g., clean my locker) from a victim's perspective. That is, they judge that victims who resist illegitimate requests will feel better than victims who comply.

CHECK YOUR PROGRESS

1. **Define 'centration'.**
2. **What do you understand by cognitive development?**
3. **What do you understand by 'egocentrism'?**
4. **Explain moral development.**
5. **List the different stages stated by Piaget.**

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3.8 PERSONALITY IN LATE CHILDHOOD

As childhood draws to a close, children begin to hero-worship characters in history, fiction, on screen, world of sports or teachers. They then form concept of the ideal self, the kind of person they would like to be. Understanding social and personality development requires looking at children from three perspectives that interact to shape development. The first is the social context in which each child lives, especially the relationships that provide security, guidance, and knowledge. The second is biological maturation that supports developing social and emotional competencies and underlies temperamental individuality. The third is children's developing representations of themselves and the social world. Social and personality development is best understood as the continuous interaction between these social, biological, and representational aspects of psychological development.

This interaction can be observed in the development of the earliest relationships between infants and their parents in the first year. Virtually all infants living in normal circumstances develop strong emotional attachments to those who care for them. Psychologists believe that the development of these attachments is as biologically natural as learning to walk and not simply a byproduct of the parents' provision of food or warmth. Rather, attachments have evolved in humans because they promote children's motivation to stay close to those who care for them and, as a consequence, to benefit from the learning, security, guidance, warmth, and affirmation that close relationships provide

3.9 DEVELOPMENT OF SELF-CONCEPT

Self-concept begins to develop in early childhood. This process continues throughout the lifespan. However, it is between early childhood and adolescence that self-concept experiences the most growth.

By age 2, children begin to differentiate themselves from others. By the ages of 3 and 4, children understand that they are separate and unique selves. At this stage, a child's self-image is largely descriptive, based mostly on physical characteristics or concrete details. Yet, children increasingly pay attention to their capabilities, and by about 6 years old, children can communicate what they want and need. They are also starting to define themselves in terms of social groups.

Between the ages of 7 and 11, children begin to make social comparisons and consider how they're perceived by others. At this stage, children's descriptions of themselves become more abstract. They begin to describe themselves in terms of abilities and not just concrete details, and they realize that their characteristics exist on a continuum. For example, a child at this stage will begin to see himself as more athletic than some and less athletic than others, rather than simply athletic or not athletic. At this point, the ideal self and self-image start to develop.

Adolescence is a key period for self-concept. The self-concept established during adolescence is usually the basis for the self-concept for the remainder of one's life. During the adolescent years, people experiment with different roles, personas, and selves. For adolescents, self-concept is influenced by success in areas they value and the responses of others valued to them. Success and approval can contribute to greater self-esteem and a stronger self-concept into adulthood.

Cognitive and Motivational Roots:

The development of self-schema and the larger self-concept has cognitive and motivational roots. We tend to process information about the self more thoroughly than information

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about other things. At the same time, according to self-perception theory, self-knowledge is acquired in much the same way as we acquire knowledge about others: we observe our behaviors and draw conclusions about who we are from what we notice.

While people are motivated to seek out this self-knowledge, they are selective in the information to which they pay attention. Social psychologists have found three motivations for seeking self-knowledge:

- To discover the truth about the self, regardless of what is found.
- To discern favorable, self-enhancing information about the self.
- To confirm whatever one already believes about the self.

Malleable Self-Concept

Our ability to call up certain self-schemas while ignoring others makes our self-concepts malleable. In a given moment, our self-concept is dependent on the social situations in which we find ourselves and the feedback we receive from the environment. In some cases, this malleability means that certain parts of the self will be especially salient. For example, a 14-year-old may become especially aware of her youth when she is with a group of elderly people. If the same 14-year-old was in a group of other young people, she would be much less likely to think about her age.

Self-concept can be manipulated by asking people to recall times when they behaved in a certain way. If asked to recall times when they worked hard, individuals are generally able to do so; if asked to recall times when they were lazy, individuals are also generally able to do so. Many people can remember instances of both of these opposing characteristics, but individuals will generally perceive herself as one or the other (and act in accordance with that perception) depending on which one is brought to mind. In this way, self-concept can be altered and adjusted.

3.10 FREUD'S LATENCY PERIOD

Freud proposed that personality development in childhood takes place during five psychosexual stages, which are the oral, anal, phallic, latency, and genital stages. During each stage sexual energy (libido) is expressed in different ways and through different parts of the body.

These are called psychosexual stages because each stage represents the fixation of libido (roughly translated as sexual drives or instincts) on a different area of the body. As a person grows physically certain areas of their body become important as sources of potential frustration (erogenous zones), pleasure or both.

Freud (1905) believed that life was built round tension and pleasure. Freud also believed that all tension was due to the build-up of libido (sexual energy) and that all pleasure came from its discharge. In describing human personality development as psychosexual Freud meant to convey that what develops is the way in which sexual energy of the id accumulates and is discharged as we mature biologically. (NB Freud used the term 'sexual' in a very general way to mean all pleasurable actions and thoughts). Freud stressed that the first five years of life are crucial to the formation of adult personality. The id must be controlled in order to satisfy social demands; this sets up a conflict between frustrated wishes and social norms. The ego and superego develop in order to exercise this control and direct the need for gratification into socially acceptable channels. Gratification centers in different areas of the body at different stages of growth, making the conflict at each stage psychosexual.

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Latency Stage - Age range: 7 to 10 years old, or elementary school through preadolescence.

The latency stage is the fourth stage of psychosexual development, spanning the period of six years to puberty. During this stage the libido is dormant and no further psychosexual development takes place (latent means hidden). Freud thought that most sexual impulses are repressed during the latent stage, and sexual energy can be sublimated towards school work, hobbies, and friendships. Much of the child's energy is channeled into developing new skills and acquiring new knowledge, and play becomes largely confined to other children of the same gender.

During this time, the libido is relatively repressed or sublimated. Freud did not identify any erogenous zone for this stage. The child now begins to act on their impulses indirectly by focusing on activities such as school, sports, and building relationships. Dysfunction at this stage results in the child's inability to form healthy relationships as an adult.

3.11 ERICKSON'S INDUSTRY VERSUS INFERIORITY

Erikson's fourth stage of identity typically occurs between the ages of 7-13 and involves industry vs. inferiority. When a child successfully navigates this stage, they develop competency. Competency becomes a big part of confidence as we develop in life and plays a strong role in the next stage of identity. A big part of this stage focuses on academics, competition, and social interactions. Children at this stage seek recognition from both adults and peers that they are capable and competent. Children learn what they can and can't accomplish; however, their ability is more important through practice and work. Children are focused on achievement, winning, and social status. Children who can achieve goals and recognition experience confidence and competency. Children who struggle to achieve or with social interaction may become insecure or tend to initiate but not complete.

Impacts:

This stage is impacted by previous stages and is often the stage where deficiencies may have a more noticeable impact. Other children may tend to avoid situations in which they have to trust others or may struggle to initiate in class or with peers. Other children who experience struggles with autonomy may find it difficult to excel without parents' help or may resist limits and boundaries. Other children may take competency to an extreme, struggling with issues related to perfection. Perfection erodes confidence by making someone only as good as their next mistake and creates a constant feeling of anxiety. Perfection is often an attempt to deal with the fear of abandonment or criticism by excelling in activities or school. This may impact the next stage of identity in which one defines themselves only by what they excel at doing. As Deepak Chopra put it, "Becoming a Human Doing rather than a Human Being."

Issues:

The fourth stage is also where learning differences and other organic issues may become more pronounced. Children who have learning differences or have may struggle more in experiencing competency. They may also experience more negative interactions with teachers or caregivers. Instead of an environment promoting competency, too often, the classroom may promote feelings of inferiority. Some children may adapt to these issues by becoming the "Class Clown." The need for competency is so strong some children seek to be "the best at being bad." These children may indulge in self-destructive behaviors, defiance, sexualized behavior, etc., as a substitute for success, gaining attention or notoriety from peers. This negative grandiosity, so to speak, is a vital mal-adaptation to

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explore. It is even more challenging to give up self-destructive behaviors when they may be the only thing one believes they do well.

Learning differences may impede a child's ability to experience academic competency, but also on a social level where they may not pick up as fast on social cues. This lack of social awareness may lead to more negative interactions with peers or feelings of confusion in social interactions. This may result in children avoiding social interactions or isolating themselves. The isolation offers less social engagement and practice compounding the problem.

Supporting Success:

Children are most successful when they can successfully find a balance of achievement, dedication toward success, and recognizing that achievement is only part of who they are. Children who connect practice and effort are the most common success factors tend to develop competency. Parents can assist children through this stage by reinforcing practice and encouraging the striving for excellence and not perfection. Parents need to attune to their child to recognize the ability of their child. This allows the parent to create reasonable expectations for the child and recognize where the child may need more support or problem-solving. Parents may have to explore more environments where their child will be more successful. Support is different from enabling in which undermines competency by sending a message the child is incapable. Industry is a critical stage in setting a foundation for the next stage of identity and establishing confidence in life.

Successful completion of this stage promotes the feeling of being capable and working toward goals in life. The key is for children to find a balance between achievement and perfection. As we say at Spring Ridge, "Strive for excellence vs. Perfection."

3.12 SOCIAL LEARNING THEORY

Social learning theory, proposed by Albert Bandura, emphasizes the importance of observing, modelling, and imitating the behaviors, attitudes, and emotional reactions of others. Social learning theory considers how both environmental and cognitive factors interact to influence human learning and behavior.

In social learning theory, Albert Bandura (1977) agrees with the behaviorist learning theories of classical conditioning and operant conditioning. However, he adds two important ideas:

1. Mediating processes occur between stimuli & responses.
2. Behavior is learned from the environment through the process of observational learning.

Observational Learning:

Children observe the people around them behaving in various ways. This is illustrated during the famous Bobo doll experiment (Bandura, 1961). Individuals that are observed are called models. In society, children are surrounded by many influential models, such as parents within the family, characters on children's TV, friends within their peer group and teachers at school. These models provide examples of behavior to observe and imitate, e.g., masculine and feminine, pro and anti-social, etc. Children pay attention to some of these people (models) and encode their behavior. At a later time, they may imitate (i.e., copy) the behavior they have observed.

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They may do this regardless of whether the behavior is 'gender appropriate' or not, but there are a number of processes that make it more likely that a child will reproduce the

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behavior that its society deems appropriate for its gender. First, the child is more likely to attend to and imitate those people it perceives as similar to itself. Consequently, it is more likely to imitate behavior modeled by people of the same gender. Second, the people around the child will respond to the behavior it imitates with either reinforcement or punishment. If a child imitates a model's behavior and the consequences are rewarding, the child is likely to continue performing the behavior. If a parent sees a little girl consoling her teddy bear and says "what a kind girl you are," this is rewarding for the child and makes it more likely that she will repeat the behavior. Her behavior has been reinforced (i.e., strengthened).

Reinforcement can be external or internal and can be positive or negative. If a child wants approval from parents or peers, this approval is an external reinforcement, but feeling happy about being approved of is an internal reinforcement. A child will behave in a way which it believes will earn approval because it desires approval. Positive (or negative) reinforcement will have little impact if the reinforcement offered externally does not match with an individual's needs. Reinforcement can be positive or negative, but the important factor is that it will usually lead to a change in a person's behavior. Third, the child will also take into account of what happens to other people when deciding whether or not to copy someone's actions. A person learns by observing the consequences of another person's (i.e., models) behavior, e.g., a younger sister observing an older sister being rewarded for a particular behavior is more likely to repeat that behavior herself. This is known as vicarious reinforcement.

This relates to an attachment to specific models that possess qualities seen as rewarding. Children will have a number of models with whom they identify. These may be people in their immediate world, such as parents or older siblings, or could be fantasy characters or people in the media. The motivation to identify with a particular model is that they have a quality which the individual would like to possess. Identification occurs with another person (the model) and involves taking on (or adopting) observed behaviors, values, beliefs and attitudes of the person with whom you are identifying. The term identification as used by Social Learning Theory is similar to the Freudian term related to the Oedipus complex. For example, they both involve internalizing or adopting another person's behavior. However, during the Oedipus complex, the child can only identify with the same sex parent, whereas with Social Learning Theory the person (child or adult) can potentially identify with any other person. Identification is different to imitation as it may involve a number of behaviors being adopted, whereas imitation usually involves copying a single behavior.

Meditational Processes:

SLT is often described as the 'bridge' between traditional learning theory (i.e., behaviorism) and the cognitive approach. This is because it focuses on how mental (cognitive) factors are involved in learning. Unlike Skinner, Bandura (1977) believes that humans are active information processors and think about the relationship between their behavior and its consequences. Observational learning could not occur unless cognitive processes were at work. These mental factors mediate (i.e., intervene) in the learning process to determine whether a new response is acquired. Therefore, individuals do not automatically observe the behavior of a model and imitate it. There is some thought prior to imitation, and this consideration is called mediational processes. This occurs between observing the behavior (stimulus) and imitating it or not (response)

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There are four mediational processes proposed by Bandura:

- **Attention:** The individual needs to pay attention to the behavior and its consequences and form a mental representation of the behavior. For a behavior to be imitated, it has to grab our attention. We observe many behaviors on a daily basis, and many of these are not noteworthy. Attention is therefore extremely important in whether a behavior influences other imitating it.
- **Retention:** How well the behavior is remembered. The behavior may be noticed but is it not always remembered which obviously prevents imitation. It is important therefore that a memory of the behavior is formed to be performed later by the observer. Much of social learning is not immediate, so this process is especially vital in those cases. Even if the behavior is reproduced shortly after seeing it, there needs to be a memory to refer to.
- **Reproduction:** This is the ability to perform the behavior that the model has just demonstrated. We see much behavior on a daily basis that we would like to be able to imitate but that this not always possible. We are limited by our physical ability and for that reason, even if we wish to reproduce the behavior, we cannot.

  This influences our decisions whether to try and imitate it or not. Imagine the scenario of a 90-year-old-lady who struggles to walk watching Dancing on Ice. She may appreciate that the skill is a desirable one, but she will not attempt to imitate it because she physically cannot do it.
- **Motivation:** The will to perform the behavior. The rewards and punishment that follow a behavior will be considered by the observer. If the perceived rewards outweigh the perceived costs (if there are any), then the behavior will be more likely to be imitated by the observer. If the vicarious reinforcement is not seen to be important enough to the observer, then they will not imitate the behavior.

The social learning approach takes thought processes into account and acknowledges the role that they play in deciding if a behavior is to be imitated or not. As such, SLT provides a more comprehensive explanation of human learning by recognizing the role of meditational processes. For example, Social Learning Theory is able to explain many more complex social behaviors (such as gender roles and moral behavior) than models of learning based on simple reinforcement. However, although it can explain some quite complex behavior, it cannot adequately account for how we develop a whole range of behavior including thoughts and feelings. We have a lot of cognitive control over our behavior and just because we have had experiences of violence does not mean we have to reproduce such behavior.

It is for this reason that Bandura modified his theory and in 1986 renamed his Social Learning Theory, Social Cognitive Theory (SCT), as a better description of how we learn from our social experiences. Some criticisms of social learning theory arise from their commitment to the environment as the chief influence on behaviour. It is limiting to describe behaviour solely in terms of either nature or nurture and attempts to do this underestimate the complexity of human behaviour. It is more likely that behaviour is due to an interaction between nature (biology) and nurture (environment). Social learning theory is not a full explanation for all behaviour. This is particularly the case when there is no apparent role model in the person's life to imitate for a given behaviour.

PIAGET'S STAGE THEORY ON DEVELOPMENT

The discovery of mirror neurons has lent biological support to the theory of social learning. Although research is in its infancy the recent discovery of "mirror neurons" in primates may constitute a neurological basis for imitation. These are neurons which fire both if the animal does something itself, and if it observes the action being done by another.

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3.13 PIAGET STAGE OF FORMAL OPERATIONS

The formal operational stage begins at approximately age twelve and lasts into adulthood. As adolescents enter this stage, they gain the ability to think in an abstract manner by manipulating ideas in their head, without any dependence on concrete manipulation (Inhelder & Piaget, 1958).

He/she can do mathematical calculations, think creatively, use abstract reasoning, and imagine the outcome of particular actions. An example of the distinction between concrete and formal operational stages is the answer to the question "If Kelly is taller than Ali and Ali is taller than Jo, who is tallest?" This is an example of inferential reasoning, which is the ability to think about things which the child has not actually experienced and to draw conclusions from its thinking.

The child who needs to draw a picture or use objects is still in the concrete operational stage, whereas children who can reason the answer in their heads are using formal operational thinking.

Formal Operational Thought:

1. **Hypothetic Deductive Reasoning:** Hypothetic deductive reasoning is the ability to think scientifically through generating predictions, or hypotheses, about the world to answer questions. The individual will approach problems in a systematic and organized manner, rather than through trial-and-error.
2. **Abstract Thought:** Concrete operations are carried out on things whereas formal operations are carried out on ideas. The individual can think about hypothetical and abstract concepts they have yet to experience. Abstract thought is important for planning regarding the future.

How Did Piaget Test Formal Operations?

Piaget (1970) devised several tests of formal operational thought. One of the simplest was the 'third eye problem'. Children were asked where they would put an extra eye, if they were able to have a third one, and why.

Schaffer (1988) reported that when asked this question, 9-year-olds all suggested that the third eye should be on the forehead. However, 11-year-olds were more inventive, for example suggesting that a third eye placed on the hand would be useful for seeing round corners.

Formal operational thinking has also been tested experimentally using the pendulum task (Inhelder & Piaget, 1958). The method involved a length of string and a set of weights. Participants had to consider three factors (variables) the length of the string, the heaviness of the weight and the strength of push. The task was to work out which factor was most important in determining the speed of swing of the pendulum. Participants can vary the length of the pendulum string, and vary the weight. They can measure the pendulum speed by counting the number of swings per minute.

To find the correct answer the participant has to grasp the idea of the experimental method -that is to vary one variable at a time (e.g. trying different lengths with the same weight). A participant who tries different lengths with different weights is likely to end up with the wrong answer. Children in the formal operational stage approached the task systematically, testing one variable (such as varying the length of the string) at a time to see its effect. However, younger children typically tried out these variations randomly or changed two things at the same time. Piaget concluded that the systematic approach indicated the children were thinking logically, in the abstract, and could see

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the relationships between things. These are the characteristics of the formal operational stage.

Psychologists who have replicated this research, or used a similar problem, have generally found that children cannot complete the task successfully until they are older. Robert Siegler (1979) gave children a balance beam task in which some discs were placed either side of the center of balance. The researcher changed the number of discs or moved them along the beam, each time asking the child to predict which way the balance would go. He studied the answers given by children from five years upwards, concluding that they apply rules which develop in the same sequence as, and thus reflect, Piaget's findings.

Like Piaget, he found that eventually the children were able to take into account the interaction between the weight of the discs and the distance from the center, and so successfully predict balance. However, this did not happen until participants were between 13 and 17 years of age. He concluded that children's cognitive development is based on acquiring and using rules in increasingly more complex situations, rather than in stages.

3.14 KOHLBERG'S WORK ON MORAL DEVELOPMENT

Kohlberg (1963) built on the work of Piaget and was interested in finding out how our moral reasoning changes as we get older. He wanted to find out how people decide what is right and what is wrong. Just as Piaget believed that children's cognitive development follows specific patterns, Kohlberg (1984) argued that we learn our moral values through active thinking and reasoning, and that moral development follows a series of stages. Kohlberg's six stages are generally organized into three levels of moral reasons. To study moral development, Kohlberg posed moral dilemmas to children, teenagers, and adults, such as the following:

A man's wife is dying of cancer and there is only one drug that can save her. The only place to get the drug is at the store of a pharmacist who is known to overcharge people for drugs. The man can only pay $1,000, but the pharmacist wants $2,000, and refuses to sell it to him for less, or to let him pay later. Desperate, the man later breaks into the pharmacy and steals the medicine. Should he have done that? Was it right or wrong? Why? (Kohlberg, 1984)

Level One-Pre-conventional Morality: In stage one; moral reasoning is based on concepts of punishment. The child believes that if the consequence for an action is punishment, then the action was wrong. In the second stage, the child bases his or her thinking on self-interest and reward. "You scratch my back, I'll scratch yours." The youngest subjects seemed to answer based on what would happen to the man as a result of the act. For example, they might say the man should not break into the pharmacy because the pharmacist might find him and beat him.

Or they might say that the man should break in and steal the drug and his wife will give him a big kiss. Right or wrong, both decisions were based on what would physically happen to the man as a result of the act. This is a self-centered approach to moral decision-making. He called this most superficial understanding of right and wrong pre-conventional morality. Pre-conventional morality focuses on self-interest. Punishment is avoided and rewards are sought. Adults can also fall into these stages, particularly when they are under pressure.

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Level Two-Conventional Morality: Those tested who based their answers on what other people would think of the man as a result of his act, were placed in Level Two. For

instance, they might say he should break into the store, and then everyone would think he was a good husband, or he should not because it is against the law. In either case, right and wrong is determined by what other people think. In stage three, the person wants to please others. At stage four, the person acknowledges the importance of social norms or laws and wants to be a good member of the group or society. A good decision is one that gains the approval of others or one that complies with the law. This he called conventional morality; people care about the effect of their actions on others. Some older children, adolescents, and adults use this reasoning.

Level Three-Post-conventional Morality: Right and wrong are based on social contracts established for the good of everyone and that can transcend the self and social convention. For example, the man should break into the store because, even if it is against the law, the wife needs the drug and her life is more important than the consequences the man might face for breaking the law. Alternatively, the man should not violate the principle of the right of property because this rule is essential for social order. In either case, the person's judgment goes beyond what happens to the self. It is based on a concern for others; for society as a whole, or for an ethical standard rather than a legal standard. This level is called post-conventional moral development because it goes beyond convention or what other people think to a higher, universal ethical principle of conduct that may or may not be reflected in the law.

Notice that such thinking is the kind Supreme Court justices do all day when deliberating whether a law is moral or ethical, which requires being able to think abstractly. Often this is not accomplished until a person reaches adolescence or adulthood. In the fifth stage, laws are recognized as social contracts. The reasons for the laws, like justice, equality, and dignity, are used to evaluate decisions and interpret laws. In the sixth stage, individually determined universal ethical principles are weighed to make moral decisions. Kohlberg said that few people ever reach this stage.

Lawrence Kohlberg's Levels of Moral Reasoning:

- **Young children- usually prior to age 9: (Pre-conventional morality)**
  Stage 1: Focus is on self-interest, and punishment is avoided. The man shouldn't steal the drug, as he may get caught and go to jail.

  Stage 2: Rewards are sought. A person at this level will argue that the man should steal the drug because he does not want to lose his wife who takes care of him.
- **Older children, adolescents, and most adults (Conventional morality)**
  Stage 3: Focus is on how situational outcomes impact others and wanting to please and be accepted. The man should steal the drug because that is what good husbands do.

  Stage 4: People make decisions based on laws or formalized rules. The man should obey the law because stealing is a crime.
- **Rare with adolescents and few adults (Post-conventional morality)**
  Stage 5: Individuals employ abstract reasoning to justify behaviors. The man should steal the drug because laws can be unjust, and you have to consider the whole situation.

  Stage 6: Moral behavior is based on self-chosen ethical principles. The man should steal the drug because life is more important than property.

Although research has supported Kohlberg's idea that moral reasoning changes from an early emphasis on punishment and social rules and regulations to an emphasis on more

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general ethical principles, as with Piaget's approach, Kohlberg's stage model is probably too simple. For one, people may use higher levels of reasoning for some types of problems, but revert to lower levels in situations where doing so is more consistent with their goals or beliefs (Rest, 1979). Second, it has been argued that the stage model is particularly appropriate for Western, rather than non-Western, samples in which allegiance to social norms, such as respect for authority, may be particularly important (Haidt, 2001). In addition, there is frequently little correlation between how we score on the moral stages and how we behave in real life.

Perhaps the most important critique of Kohlberg's theory is that it may describe the moral development of males better than it describes that of females. Gilligan (1982) has argued that, because of differences in their socialization, males tend to value principles of justice and rights, whereas females value caring for and helping others. Although there is little evidence for a gender difference in Kohlberg's stages of moral development (Turiel, 1998), it is true that girls and women tend to focus more on issues of caring, helping, and connecting with others than do boys and men (Jaffee & Hyde, 2000).

3.15 CHAPTER SUMMARY

Piaget's theory of cognitive development helped add to our understanding of children's intellectual growth. It also stressed that children were not merely passive recipients of knowledge. Instead, kids are constantly investigating and experimenting as they build their understanding of how the world works.

Also, the sensor motor stage serves as an important base in development and gives children the abilities they need as they progress into the next stage of development. As children enter the next stage starting at around age two, they begin developing symbolic thought allowing them to improve language, imagination, and memory skills.

While there are few strict Piagetians around today, most people can appreciate Piaget's influence and legacy. His work generated interest in child development and had an enormous impact on the future of education and developmental psychology.

Piaget's theory also helped change the way that researchers thought about children. Rather than simply viewing them as smaller versions of adults, experts began to recognize that the way children think is fundamentally different from the way that adults think.

3.16 REVIEW QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. **How Did Piaget Test Formal Operations?**
2. **What do you understand by moral development?**
3. **What are the four mediational processes proposed by Bandura?**
4. **Briefly explain B.F. Skinner's behavioural theory.**
5. **What do you understand by Piaget sensory motor stage?**

LONG ANSWER TYPE QUESTIONS

1. **Define Piagets operational stage in detail.**
2. **Describe Erickson's industry versus inferiority in detail.**
3. **Describe social learning theory in detail.**
4. **Elaborately explain Freud's latency period.**
5. **Describe Piaget's theory of moral development.**

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3.17 MULTIPLE CHOICE QUESTIONS

1. _____ is the tendency to focus on only one aspect of a situation at a time.

a. Conservation
b. Centration
c. Parallel play
d. Egocentrism

2. _____ development focuses on the emergence, change, and understanding of morality from infancy through adulthood.

a. Physical
b. Biological
c. Cognitive
d. Moral

3. Social learning theory was proposed by _____.

a. Albert Bandura
b. Jean Piaget
c. Maria Ressa
d. Charles Darwin

4. _____ is a field of study in neuroscience and psychology focusing on a child's development in terms of information processing, conceptual resources, perceptual skill, language learning, and other aspects of the developed adult brain and cognitive psychology.

a. Cognitive development
b. Social development
c. Clinical development
d. Psychological development

5. _____ is defined as the assumption that everything that exists had to have been made by a sentient being, such as God or a human.

a. Centration
b. Parallel play
c. Egocentrism
d. Artificialism

6. Preoperational stage lies between ages _____ to _____.

a. 2 to 7
b. 7 to 11
c. 12 and up
d. None of these

7. The stage of ages 7 to 11 is termed as _____.

a. Sensorimotor stage
b. Preoperational stage
c. Concrete operational stage
d. Formal operational stage

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8. What is the full form of ToM?

a. Theory of morality
b. Theory of mind
c. Theory of morals
d. None of these

9. 'Structuralist Theory of Cognition' was proposed by _____.

a. Albert Bandura
b. Jean Piaget
c. Maria Ressa
d. Charles Darwin

10. There are _____ stages to cognitive information development.

a. Two
b. Three
c. Five
d. Four

♦♦♦♦♦

UNIT IV

UNDERSTANDING ADOLESCENCE

STRUCTURE

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4.1 LEARNING OBJECTIVE

After studying this lesson, you will be able to:

- Learn about the characteristics of adolescence.
- Understand the developmental tasks of adolescence.
- Know about the physical changes during this phase.
- Understand the psychological impact of physical changes.
- Learn about the health concerns of adolescence.
- Know about the aspects of intellectual development.

4.2 INTRODUCTION

You must be remembering the period of your life when you grew up and noticed the changes in your body and mind. You became so much concerned about yourself and opposite gender started attracting you. Adults considered you children and children considered you adults! The world appeared full of evils and you wanted to make it heaven! The experiments were so elating but sometimes nothing seemed to work. Nobody would agree to your ideas except your friends! You desired independence but some guidance from parents and elders too! Surprisingly, the situation has not changed much.

Rather, it has become more complex due to inflow of information in the era of information technology. The globalization and free accessibility to information while offers new challenges and remarkable opportunities for their well-being but at the same time, if not channelized properly, it may become detrimental. You will come to know about its positive and negative effects as you go through this course. To begin with, you will learn about adolescence, its definition and the various changes during this period. The importance of adolescence has been dealt in describing adolescents as a special group and need to invest in them to promote healthy and productive individuals for the development of the nation.

4.3 CHARACTERISTICS OF ADOLESCENCE

Adolescence is a difficult journey of self-exploration and interaction with the world. It is characterized by contradictions, fantasies, surprises and uncertainties while posing immense possibilities and threats. The self-description given below by one of the adolescents will help us understand various characteristics of this beautiful period.

"What am I like a person? "I am sensitive, friendly, outgoing, popular and tolerant, though, I can be shy, self-conscious……I would like to be friendly and tolerant all the time….and I am disappointed when I am not. I am responsible, even studious now and then... I don't usually do that well at school. I am a pretty and cheerful person, especially, with my friends… At home I am more likely to be anxious around my parents. They expect me to get all "A" s. This is not fair… So, I am usually pretty stressed out at home, or sarcastic, since my parents are always on my case. But I really don't understand how I can switch so fast! I mean, how I can be cheerful one minute and anxious the next, and then be sarcastic? Which one is the real me? Sometimes I feel that some guy will be interested in asking me out. I try to act different like Madonna. I will be flirtish and fun loving...And then everybody else is looking at me like they think I'm totally weird! Then I get self-conscious and embarrassed and become radically introverted, and I don't know who really, I am! But I don't really care what they think any way. I don't want to care…. I can be true self with my close friends. I can't be my real self with my parents. They don't understand me...They

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still treat me like I am still a kid. At least at school people treat you more like you are an adult... That gets confusing, though, I mean. Which am I, a kid or an adult? It is scary too, because I don't have an idea what I want to be when I grow up……I know I don't want to be a waitress or a secretary. But HOW do you decide all of this? I think about it a lot but I can't resolve it. There are days when I wish I could just become immune to myself."

As you see, this is an honest description depicting how an adolescent feel. From this description, you can learn about the various characteristics which generalize adolescence.

Growth spurt

Adolescents mature at varying rates of speed and are highly disturbed by body changes. They are physically vulnerable because of poor health habits or risky experimentation with drugs and sex.

Physical appearance decides self-image

"1 doesn't like my breasts. They are too small and look funny. I am afraid, guys won't like me if they don't get bigger" or "My nose is too big, my lips are too small……My body is a disaster" are the usual comments we hear from the adolescents. The rapid physical growth leave teenagers often feel awkward, self-conscious, uncoordinated, embarrassed and even confused. They frequently attempt to hide or constantly complain about whatever part of their body makes them most uncomfortable. Teasing and bullying further makes their life miserable.

Self-discovery

The adolescent is in the process of discovering self and it fluctuates across situations and times. In the quoted description by the girl above she remarks she could not understand how she can switch so fast! I mean, how I can be cheerful one minute and anxious the next, and then be sarcastic? The multiple roles played by adolescent in different relationship contexts are contradictory. The adolescent finds herself moody and understanding, ugly and attractive, introverted and fun loving.

Desire for independence and prove their identity

Adolescents have a great desire for independence and want to be treated like adults. Anxiously searching for identity, adolescents attach great importance to status symbols, as reflected by their possessions and clothing. Rebellion seems to be inevitable, so they can be different from their parents and defy them.

Egocentrism

This is the heightened self-consciousness of adolescents, which is reflected in their belief that others are as interested in them as they are themselves. They have attention seeking behaviour- the attempt to be noticed, visible and "onstage" and consider them unique. This, according to some writers, is responsible for drug use, suicides and failure to use contraceptives during sex (Dolcini & others, 1989).

Emotionally unstable

Their emotions outpace their rational thinking; they are so intertwined that adolescents have difficulty distinguishing between feeling and thinking. They experience mood swings often with peaks of intensity and unpredictability and are self-conscious. Hormones put them on a vulnerable emotional roller coaster ride overflowing with exaggerated and uncontrollable feelings. This causes conflicts and stress.

Curiosity and experimentation

Adolescents are curious, innovative, exploring and experimenting. Fascinated by "adult"

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behaviours; they are motivated to try out forbidden activities like rash driving, sex and experiments with drugs.

Peer influence outweighs parental affection
Adolescents need frequent validation by others and they desperately seek peer affiliation and acceptance. They are fiercely loyal to peer group values and peers' opinions become most influential and guide the flow of their life.

Changing focus of relationships
Parents no longer are the major focus of the teenagers' world. Adolescents shift from same-sex best-friend relationships to having close interactions and increasing interest in both sexes. They are often aggressive and argumentative.

Idealism and confrontation with religion, traditions and moral value
Adolescents are idealistic and have strong sense of fairness. They criticize, challenge and confront moral values and ask frequent, ambiguous questions about the meaning of life.

Absence of long-term thinking about life and the world
The absence of abstract thinking makes the present most precious and self – the most important. The future seems far away and immediate gratification becomes more important.

Desire to be considered as an asset rather than a problem
The moral and spiritual development leads the adolescent to find a bigger role for himself while questioning the behaviour of elders. It is beautifully described by an adolescent below: Many times, teenagers are thought of as a problem that no one really wants to deal with. People are sometimes intimidated and become hostile when teenagers are willing to change their authority. It is looked at as being disrespectful. Teenagers are, many a times, not treated like an assets and as innovative thinkers.

Thus, adolescence is characterized by turbulent changes in self and complex interaction with the environment. This shapes their personality and enables them to form relationships. On the other hand, it makes them vulnerable and often leads to conflicts and undesirable and socially unacceptable behaviour. The society needs to be empathetic and understand adolescents to harness their potential and energy

4.4 DEVELOPMENTAL TASKS OF ADOLESCENCE

A developmental task is a task that arises at or about a certain period in life, unsuccessful achievement of which leads to inability to perform tasks associated with the next period or stage in life.

- **Learning to get along with friends of both sexes:** To learn to look upon girls as women and boys as men; to become an adult among adults; to learn to work with others for a common purpose, disregarding personal feelings; to lead without dominating.
- **Accepting one's physical body and keeping it healthy:** To accept one's body; to keep it healthy through good nutrition, exercise, disease prevention, and other health practices.
- **Becoming more self-sufficient:** To develop affection for parents without dependence upon them; to develop respect for older adults without dependence upon them.

- **Making decisions about marriage and family life:** To explore attitudes toward family life and having children; to acquire the knowledge necessary for home management and, if desired, child rearing.
- **Preparing for a job or career:** To develop career/vocational goals and ways to reach these goals; to be able to make a living. To develop an outlook toward life based on what is important.
- **Becoming socially responsible:** To participate as a responsible person with friends at home, and in the community; to develop personal moral values to guide behaviour.

4.5 PHYSICAL CHANGES

Adolescence—the transition period between childhood and adulthood encompasses ages 12 to 19. It is a time of tremendous change and discovery. During these years, physical, emotional, and intellectual growth occurs at a dizzying speed, challenging the teenager to adjust to a new body, social identity, and expanding world view.

Perhaps no aspect of adolescence is as noticeable as the physical changes that teenagers experience. Within the span of a few years, a dependent child becomes an independent and contributing adult member of society. The start of adolescence also marks the beginning of Freud's final stage of psychosexual development, the genital stage, which pertains to both adolescence and adulthood.

Puberty is the time of rapid physical development, signalling the end of childhood and the beginning of sexual maturity. Although puberty may begin at different times for different people, by its completion girls and boys without any developmental problems will be structurally and hormonally prepared for sexual reproduction. The speed at which adolescents sexually mature varies; the beginning of puberty in both genders falls within a range of 6 to 7 years. In any grouping of 14-year-olds, for example, one is likely to see teenagers in assorted stages of development some appearing as older children and others as fully mature adolescents. Eventually, though, everyone catches up.

Hormones are responsible for the development of both primary sex characteristics (structures directly responsible for reproduction) and secondary sex characteristics (structures indirectly responsible for reproduction). Examples of primary sex characteristics are the penis in boys and the uterus in females. An example of secondary sex characteristics is the growth of pubic hair in both genders. During childhood, males and females produce roughly equal amounts of male (androgen) and female (estrogen) hormones. At the onset of puberty, the pituitary gland stimulates hormonal changes throughout the body, including in the adrenal, endocrine, and sexual glands. The timing of puberty seems to result from a combination of genetic, environmental, and health factors.

An early sign of maturation is the adolescent growth spurt, or a noticeable increase in height and weight. The female growth spurt usually begins between ages 10 and 14, and ends by age 16. The male growth spurt usually begins between ages 10 and 16, and ends by age 18.

Girls generally begin puberty a few years earlier than boys, somewhere around ages 11 to 12. Increasing levels of estrogen trigger the onset of puberty in girls. They grow taller; their hips widen; their breasts become rounder and larger; hair grows on the legs, under the arms, and around the genitals; the labia thicken; the clitoris elongates; and the uterus enlarges. Around the age of 12 or 13, most girls today begin menstruating, or having

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menstrual periods and flow. The onset of menstruation is termed menarche. At this time, females can become pregnant.

Increasing levels of the hormone testosterone trigger the onset of puberty in boys around ages 12 to 14. Boys become taller, heavier, and stronger; their voices deepen; their shoulders broaden; hair grows under the arms, on the face, around the genitals, and on other parts of the body; the testes produce sperm; and the penis and other reproductive organs enlarge. At this time, boys can impregnate sexually mature girls. Teenage boys may also experience the harmless release of semen during sleep, termed nocturnal emissions (wet dreams).

The resulting changes of puberty can have wide-ranging effects on teenagers' bodies. For both adolescent girls and boys, differences in height and weight, general awkwardness, emotional ups-and-downs, and skin problems (acne vulgaris, or pimples) are common. These and other changes, including the timing of sexual maturation, can be sources of great anxiety and frustration for the blossoming youth.

4.6 MATURATION IN ADOLESCENCE

This concept was pioneered by American Psychologist Arnold Gesell (1925). Maturation can be defined as the changes in thinking, sense of responsibility, and better ability to adjust to meet successfully the daily issues. Maturational development occurs in fixed sequences or stages that are governed by genes. This implicates that maturation is directly is linked to the genetic context of the humans. It is also be learned that role of the environment cannot be ignored. Here environment stands for social experiences, relationships, and social transactions where individual learn various rules and rituals, whereas this "genetic blueprint" for development determines the sequence, timing and form of emerging action-patterns.

Maturation is seen in human being that follows an orderly sequence and is largely dominated by genetic blue print which is responsible for producing commonalities in our growth and development. Maturation is the process of becoming mature overall, both psychological and behaviourally. The emergence of individual and behavioural characteristics through growth processes over time. In the process of maturation development can be observed to any of the following: Foetal development, Developmental biology, Psychological development.

According to Garry and Kingsley (1957), "Maturation is the process whereby behaviour is modified as a result of growth and physical structure." In simple words, maturation can be understood as the mental, physical, emotional growth and development which is essential for successful adjustment of all individual.

Concept of maturation is important in all the conditions no matter baby is in the uterus of the mother or is out. Maturation for a foetus becomes significant if we have to ascertain it upcoming healthy development. There are different stages and conditions which are considered essential before reaching to different stage for further achievements of skills. It is

important to note that maturation implies that sequence based and simultaneous occurrences of various psychological and physical changes in the individual are required.

Nature of Maturation:

Maturation is a stage of completion of growth and strengthening of acquired mental, social and emotional development. Maturation is essentially a process of refinement and modification from within and inborn ripening and progress of capacities of the organism.

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Maturation is an essential precondition of learning. Its absence will stop any further acquirement of skill. It is the basis of learning and it is via learning that makes human development complete. Maturity is essential for overall physical and intellectual training and expertise. Attainment of physical and mental maturity is essential to get proficiency in daily tasks and challenges. As maturity is an automatic process, there is no need of external arousing objects or stimulus.

There are mainly two types of Maturation:

a. Physical Maturation

Refers to the physical growth and development that human go through till old age. For example; a child mainly depends on his/ her reflexes in the early stages of development. Growth in weight, height, body mass, expansion of muscle tissue is seen in the process of maturation. Children as they grow older, develop their motor skills and co- ordination skills, control of gate, along with Gross motor skills and Fine motor skills.

b. Cognitive Maturation

This can be understood as the way we change our thinking patterns, problem solving, attitude, judgments throughout the lifespan. Some important aspects of cognitive maturation are information processing, language development, reasoning skills, memory, etc. Cognitive maturation begins right at Infancy and continues through adolescence (Turkheimer, 2003). Maturation and practical understanding continue even after completion of adolescent age and where individual keep learning new skill and enrich their fund of knowledge about self and environment.

Factors influencing the maturation:

- Physical health of the baby and mother
- Nutritional values in the food
- Exposure to various stimuli
- Training opportunities

Characteristics of Maturation:

1. Sum of gene effects:

   Maturation is the net sum of gene and its effects operating in a self-limiting life cycle. It is primarily based on heredity. It is the process of describing underlying potential capacity of an individual (Gottesman, 2005).

2. Automatic process:

   To great extent maturation is automatic process of transformation where various required changes occur to the baby. Maturation is an automatic process of somatic, physiological and mental differentiation and integration.

3. Growth and development:

   Maturation brings growth and development occuring simultaneously and in a time bound manner. Achievement of maturity is necessary either before any unlearned behaviour can occur or before baby has learned any particular behaviour (Gottlieb, 1991). It involves both structural and functional changes in the body as well as brain.

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4.7 PSYCHOLOGICAL IMPACT OF PHYSICAL CHANGES

Physiological impact could be understood by studying the following changes:

Sexual Identity, Orientation: Age 12–19

A part of discovering one's total identity is the firming of sexual orientation, or sexual, emotional, romantic, and affectionate attraction to members of the same sex, the other sex, or both. A person who is attracted to members of the other sex is heterosexual. A person who is attracted to members of the same sex is homosexual. Many use the term gay to refer to a male homosexual, and lesbian to refer to a female homosexual. A person who is attracted to members of both sexes is bisexual.

In the 1940s and 1950s, Alfred Kinsey and his associates discovered that sexual orientation exists along a continuum. Prior to Kinsey's research into the sexual habits of United States residents, experts generally believed that most individuals were either heterosexual or homosexual. Kinsey speculated that the categories of sexual orientation were not so distinct. On his surveys, many Americans reported having had at least minimal attraction to members of the same gender, although most had never acted out on this attraction. In short, Kinsey and colleagues brought to the attention of medical science the notion of heterosexuality, homosexuality, and bisexuality all being separate but related sexual orientations.

The etiology of heterosexuality, homosexuality, and bisexuality continues to elude researchers. Today's theories of sexual orientation fall into biological, psychological, social, and interactional categories.

Biological theories

Attempts to identify the specific physiological causes of homosexuality have been inconclusive. Traditional physiological theories include too little testosterone in males, too much testosterone in females, prenatal hormonal imbalances, prenatal biological errors due to maternal stress, differences in brain structures, and genetic differences and influences.

Psychological and social theories

Early childhood seems to be the critical period in which sexual orientation forms, suggesting that learning plays a part in causing homosexuality. Freudians have traditionally held that homosexuality is rooted in early childhood developmental conflicts, particularly the Oedipal conflict. Freudians believe homosexuality develops in response to troubled family relationships, an overly affectionate and dominant mother and a passive father, and/or the loss of one or both parents. However, these theories cannot explain why homosexuality occurs in individuals not coming from these types of families.

More recently, researchers have proposed that social-learning factors may be account for homosexuality. The sexual preference may develop when a child engages in early cross-gender behaviours (behaviours stereotypical of the other sex) or when a teenager's sexual drive emerges during a period of primarily same-gender friendships.

Interactional theories

Proponents of the interactional theory of homosexuality allege that sexual orientation develops from a complex interaction of biological, psychological, and social factors. John Money explains that prenatal hormones first act on the embryo's and fetus's brain, which creates a physiological predisposition toward a particular sexual orientation. During early childhood, social-learning factors influence the child, either facilitating or inhibiting the predisposition.

Sexuality: Age 12–19

Adolescents struggle to find appropriate sexual outlets for articulating their desires. They participate in the same sexual activities as do adults, while usually in the absence of a committed and long-term relationship. Sexually active teenagers may think they are in love and date one person exclusively for extended periods, but they lack the level of maturity necessary to maintain intimate and loving relationships. Adolescent promiscuity may be indicative of emotional problems, including low self-esteem, dependence, immaturity, insecurity, or deep-seated hostility.

Teenagers find a variety of means to express themselves sexually. Most young people relieve sexual tension through masturbation, which by this age is an erotically motivated behaviour. About 90 percent of males and 60 percent of females' report having masturbated at least once by age 17. A second sexual expression for teenagers is mutual petting, or sexual activities other than intercourse. Petting is either heavy (below the waist) or light (above the waist). A third sexual outlet for adolescents is intercourse. The mechanics of sex are the same whether the participants are teenagers or adults. However, although the passion of sex may be present, the commitment and intimacy of a mature relationship are usually missing from the teenage experience.

According to U.S. statistics, which may vary, the average age for a first sexual intercourse is between 16 and 17. Complicating matters is the fact that sexually active adolescents either use contraception on an irregular basis, or they do not use it all. They also do not consistently take precautions against sexually transmitted diseases, even in this day of HIV and AIDS. Five percent of adolescents' experiment with homosexual activity with same-age partners, according to one national survey. These data probably do not represent the number of teenagers who are truly homosexual, because many adolescent homoerotic experiences are nothing more than sexual experimentation.

Homosexual teenagers may be hesitant to reveal their perceived preferences, or come out of the closet, because of society's and their peers' negative attitudes about homosexuality. These teenagers may avoid homosexual experiences or, if they have them, worry about their significance. Homosexual teenagers may also avoid disclosure for fear of being victimized by heterosexual teenagers. Homophobia involves negative remarks, social ostracizing, and threats; it can also involve gay bashing, or violently attacking homosexuals. People probably gay bash because of peer pressure and discomfort with their own sexual identity.

Problems resulting from adolescent sex

Perhaps the greatest potential problem faced by sexually active teenagers is an unplanned pregnancy. With so many teenagers refusing to use contraception consistently, teenage pregnancy has reached an unimaginable level in the United States. Each year, about 500,000 babies are born to adolescent mothers, who typically face many serious problems. Medically, pregnancy and childbirth during adolescence are risky to both child and mother. An adolescent girl's body is not fully developed, and she may not have access to adequate medical care or understand the importance of proper nutrition. Thus, she is at higher risk of having a miscarriage or a premature, low birth-weight baby. The young mother also may die during childbirth.

Financially, many adolescent mothers are single and live in poverty. If they drop out of high school, they have limited earning power. With less money and more expenses, they are forced to accept welfare to support their children and themselves. Teenage mothers who are married face similar problems. About 50 percent of teenage mothers are married, and according to statistics they struggle financially just as much as unwed teenage mothers.

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Not surprisingly, teenage marriages are plagued by poverty, again because of limited education and earning power. They are also highly susceptible to divorce because of their emotional and financial instability, some of which is due to immaturity and marrying for the wrong reasons.

Adolescent fathers may be eager to help their partners and offspring, but they usually do not have the means to do so. Like teenage mothers, teenage fathers lack the education and skills needed to find suitable employment. Of course, other teenage fathers do not want the responsibilities of marriage and parenting. In turn, they abandon the mother and child, who then must struggle even more to survive.

Sexually transmitted diseases (STDs) are another serious consequence of teenage sex. Each year, more than 3 million teenagers contract an STD—an alarming figure given the current HIV/AIDS epidemic. Such figures underscore the importance of why teenagers must understand the medical and social implications of their sexually activity.

Juvenile Delinquency: Age 12–19

Peer pressure during adolescence is strong, sometimes so much so that teenagers engage in antisocial acts. Juvenile delinquency is the breaking of the law by minors. Two categories of delinquency are

Minors who commit crimes punishable by law (such as robbery).

Minors who commit offenses ordinarily not considered criminal for adults (such as truancy). Adolescents, especially males, are responsible for nearly half of crimes committed, especially against property.

The likelihood of a teenager becoming a juvenile delinquent is determined more by lack of parental supervision and discipline than socioeconomic status. Adolescent rebellion may grow out of tension between adolescents' desire for immediate gratification and parents' insistence on delayed gratification. Parents who are unwilling or unavailable to socialize younger children may be setting them up for problems later in adolescence.

While some offenders are sent to juvenile reform facilities, others are given lesser punishments, such as probation or community service. Still others are court-mandated to seek mental health therapy. Fortunately, most juvenile delinquents eventually grow up to be law-abiding and contributing citizens.

The Search for Identity: Age 12–19

Adolescence is the period of transition between childhood and adulthood. Developmentalists have traditionally viewed adolescence as a time of psychosocial storm and stress—of bearing the burdens of wanting to be an adult long before becoming one. Developmentalists today are more likely to view adolescence as a positive time of opportunities and growth, as most adolescents make it through this transition without serious problems or rifts with parents.

Freud termed the period of psychosexual development beginning with puberty as the genital stage. During this stage, sexual development reaches adult maturity, resulting in a healthy ability to love and work if the individual has successfully progressed through previous stages. Because early pioneers in development were interested only in childhood, Freud explained that the genital stage encompasses all of adulthood, and he described no special difference between adolescent and adult years.

In contrast, Erikson noted that the chief conflict facing adolescents at this stage is one of identity versus identity confusion. Hence, the psychosocial task for adolescents is to develop individuality. To form an identity, adolescents must define a personal role in

society and integrate the various dimensions of their personality into a sensible whole. They must wrestle with such issues as selecting a career, college, religious system, and political party.

Researchers Carol Gilligan and Deborah Tannen have found differences in the ways in which males and females achieve identity. Gilligan has noted that females seek intimate relationships, while males pursue independence and achievement. Deborah Tannen has explained these differences as being due, at least in part, to the dissimilar ways in which males and females are socialized. The hormonal changes of puberty affect the emotions of adolescents. Along with emotional and sexual fluctuations comes the need for adolescents to question authority and societal values, as well as test limits within existing relationships. This is readily apparent within the family system, where adolescents' need for independence from the parents and siblings can cause a great deal of conflict and tension at home.

Societal mores and expectations during adolescence now restrain the curiosity so characteristic of young children, even though peer pressure to try new things and behave in certain ways is also very powerful. Added to this tug-of-war are teenagers' increasing desires for personal responsibility and independence from their parents, along with an ever-growing, irresistible interest in sexuality.

CHECK YOUR PROGRESS

1. **Define cognitive maturation.**
2. **List any three characteristics of adolescence.**
3. **Describe characteristics of maturation.**
4. **What do you understand by Egocentrism?**
5. **Explain the biological theories related to adolescence.**

4.8 CHALLENGES OF ADOLESCENCE

The period of adolescence usually is an eventful one. However, it poses various challenges for the adolescents and society. Let us understand these challenges.

a. Challenges related to Physical Development

Physical changes are an essential part of adolescence. While these changes are part of a normal process of maturation, it is a challenging process for the individual especially when these changes are early or late compared to their peers. The process of physical maturation often creates problems for adolescents.

- The changes in height, weight and development of secondary sexual characteristics happen at different ages and variable rates. These pose a dilemma of normality
- Bullying by peers and comparison with the peers who are developing at a different rate makes them anxious about their appearance. The adolescent may be stressed and there may be a lowering of self-esteem.
- Taking poor nutrition may cause poor growth in height and anaemia is a common problem in adolescents. This may have bad effects on health and even in future generations in the form of low birth weight babies.
- The adolescents and their parents may not be aware of the variability in the developmental changes. The adolescents may take harmful drugs like steroids for increasing their height and muscles and suffer from their bad effects.

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b. Challenges related to Cognitive Development

The adolescents develop a capacity for abstract thinking, discover how to think about relationship issues, discerns new ways of processing information and learns to think creatively and critically.

- The adolescents move from concrete thinking to dealing with ideas, concepts and abstract theories. They become passionately interested in abstract concepts and notions and are able to discern what is real from what is ideal. They understand information and act on that understanding to solve problems passing through phases of success and failure.
- Egocentricity or self-interest is the hall mark of adolescents. They may have the idea that everyone is watching them as though they were on stage and tend to draw other's attention by their particular behaviour. They feel unique and think that no one is capable of understanding them and their feelings. This has important implications for counsellors.
- The ability to think creatively on one hand helps adolescents to make innovations, getting away from difficult situations and, on the other hand invites troubles due to innovative and potentially risky experiments like rash driving, unsafe sex, taking alcohol and drugs etc.

c. Challenges related to Psychosexual Development

The adolescent is no longer a child. He is a new person emerging into an adult. This process of understanding self and seeking meaning and direction leads to identity formation. The adolescent constructs concepts of self within the context of relations with others, yet he is also seeking to establish an independent entity. This journey of self-discovery is both stressful and anxiety-provoking for them.

- The formation of personal identity and integration with society gives rise to conflicts.
- Emotional reactivity and instability make it difficult for adolescents to control their behavioural responses, which at times may be inappropriately extreme viz., excitement, anger, sadness, depression and embarrassment. This often gives rise to feelings of ridicule, humiliation and embarrassment and adolescents feel disgusted and ashamed of themselves.
- The adolescents who belong to underprivileged and minority groups have difficulty in establishing personal identity. The prejudice leads to emotions such as anger and outrage may be directed towards the majority society.
- Exploration of personal sexuality and sexual identity lead them into serious relationships, heart breaks and resulting stress.
- Sexual hormones during puberty trigger an increase in sexual arousal, desire and urge in both males and females. These are managed through fantasy and masturbation but often lead to sexual experimentation with their friends.
- Unsafe sex may lead to unwanted pregnancies, sexually transmitted diseases and HIV/AIDS.

d. Challenges related to Social Development

Adolescents need to find their place in society and gain a sense of fitting in it. This is a process of socialization involving an adolescent's integration with society. This process socialization enhances the sense of personal identity, and the development of personal identity helps the adolescent to deal with society's

expectations and standards and norms. This challenges the adolescent to make changes in social behaviour.

- Society's expectations pose a challenge for adolescents and are valuable in helping them to progress along the path to adulthood. The fulfilment of these expectations helps to develop a positive sense of self.
- Adolescents who are over-whelmed by society's expectations may revert to anti-social behaviour ranging from low-level delinquency to serious crimes.
- Parental expectations to perform and confirm to their standards are abnormally high or unrealistic. They may generate negative feelings, communication gap and anti-social behaviour.
- Adolescent expectations in relationships with peers, parents and society are often not fulfilled and cause conflicts.
- Moving away from dependence on parents and family and having close relationships with friends is a major social change. Parental control leads to conflicts and communication gap. Peers determine the flow of an adolescent's life and develop their personality too. However, negative peer pressure leads to high risk behaviours.

e. Moral and spiritual challenges

The processes of social development and the formation of a personal identity go hand in hand with moral and spiritual development. The adolescent finds it difficult to choose between self-sacrifice and social conformity. The process of identity formation, peer pressure, desire to form relationships and exploration of their sexuality pose difficult challenges.

- The motives for doing well or avoiding wrong depend on the approval of elders and society in general. Lack of clear direction confuses adolescents.
- Decision making is difficult based upon the moral teaching and therefore adolescents often come in confrontation with law and order.
- Formation of personal identity goes hand in hand in adolescents with finding meaning in their lives. They look within themselves to examine thoughts and feelings and to reason about them. This leads them to seek answers to questions of a spiritual nature. Those adolescents who are struggling with identity formation and are striving to find their place in society, may come into conflicts with the social norms and need direction, understanding and empathy.

Thus, adolescence by virtue of its nature of change, pose innumerable challenges both for adolescents as well as society. Awareness generation, providing correct and scientific information may help to face these challenges up to a great extent. An understanding of the world of adolescents will help the adolescents to pass through this turbulent phase of life and will also help them to make a positive and constructive contribution to make a healthy and harmonious social environment

4.9 HEALTH CONCERNS OF ADOLESCENCE

Adolescents (ages 10 to 17) and young adults (ages 18 to 25) make up 22% of the United States population. The behavioural patterns established during these developmental periods help determine young people's current health status and their risk for developing chronic diseases during adulthood.

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Although adolescence and young adulthood are generally healthy times of life, some important health and social problems either start or peak during these years. Examples include:

- Mental disorders
- Substance use
- Smoking/nicotine use
- Nutrition and weight conditions
- Sexually transmitted infections, including human immunodeficiency virus (HIV)
- Teen and unintended pregnancies
- Homelessness
- Academic problems and dropping out of school
- Homicide
- Suicide
- Motor vehicle collisions

Because they are in developmental transition, adolescents and young adults (AYAs) are particularly sensitive to influences from their social environments. Their families, peer groups, schools, and neighbourhoods can either support or threaten young people's health and well-being. Societal policies and cues, such as structural racism and media messages, can do the same. Older adolescents and young adults, including those with chronic health conditions, may face challenges as they transition from the child to the adult health care system, such as changes in their insurance coverage and legal status and decreased attention to their developmental and behavioural needs. Bolstering the positive development of young people facilitates their adoption of healthy behaviours and helps ensure a healthy and productive adult population.

Why Is Adolescent and Young Adult Health Important?

Adolescence is a critical transitional period that includes the biological changes of puberty and developmental tasks such as normative exploration and learning to be independent. Young adults who have reached the age of majority also face significant social and economic challenges with few organizational supports at a time when they are expected to take on adult responsibilities and obligations.

There are significant disparities in outcomes among racial and ethnic groups. In general, AYAs who are African American, American Indian, or Latino, especially those living in poverty, experience worse outcomes in a variety of areas such as obesity, teen and unintended pregnancy,14 tooth decay, and educational achievement, compared to AYAs who are Caucasian or Asian American. In addition, sexual minority youth have a higher prevalence of many health risk behaviours.

The financial burdens of preventable health problems are large and include the long-term costs of chronic diseases resulting from behaviours begun during adolescence and young adulthood. For example, the annual adult health–related financial burden of cigarette smoking, which usually starts during these years, was calculated as $289 billion for 2009–2012.

There are many examples of effective policies and programs19 that address AYA health issues:

- Access to health care
- School-based health care services
- State graduated driver licensing programs
- Prevention of alcohol, marijuana, and tobacco use,
- Violence prevention,
- Delinquency prevention,
- Mental health and substance use interventions,
- Teen pregnancy prevention,
- HIV prevention,

4.10 ASPECTS OF INTELLECTUAL DEVELOPMENT

School-age children think systematically about multiple topics more easily than pre-schoolers. Older children have keener metacognition, a sense of their own inner world. These children become increasingly skilled at problem solving.

Piaget referred to the cognitive development occurring between ages 7 and 11 as the concrete operations stage. Piaget used the term operations to refer to reversible abilities that the child has not yet developed. By reversible, Piaget referred to mental or physical actions that can occur in more than one way, or in differing directions. While in the concrete operations stage, older children cannot think both logically and abstractly. School-age children are limited to thinking concretely—in tangible, definite, exact, and uni-directional terms—based on real and concrete experiences rather than on abstractions. Older children do not use magical thinking and are not as easily misled as younger children. Unlike pre-schoolers, school-age children know better than to ask their parents to take them flying in the air just like the birds do.

Piaget noted that children's thinking processes change significantly during the concrete operations stage. School-age children can engage in classification, or the ability to group according to features, and serial ordering, or the ability to group according to logical progression. Older children come to understand cause-and-effect relationships and become adept at mathematics and science. Comprehending the concept of stable identity—that one's self remains consistent even when circumstances change—is another concept grasped by older children. For example, older children understand the stable identity concept of a father maintaining a male identity regardless of what he wears or how old he becomes.

In Piaget's view, children at the beginning of the concrete operations stage demonstrate conservation, or the ability to see how physical properties remain constant as appearance and form change. Unlike pre-schoolers, school-age children understand that the same amount of clay molded into different shapes remains the same amount. A concrete operational child will tell you that five golf balls are the same number as five marbles, but the golf balls are larger and take up more space than the marbles.

Piaget believed that preoperational cognitive abilities are limited by egocentrism—the inability to understand the point of view of others. But egocentrism is not found in children in the concrete operations stage. By the school years, children have usually learned that other people have their own views, feelings, and desires.

Piaget's model of cognitive development has come under increasing attacks in recent years. Modern developmentalists have frequently referred to experimental research

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that contradicts certain aspects of Piaget's theories. For example, cognitive theorists like Robert Siegler have explained the phenomenon of conservation as a slow, progressive change in the rules that children use to solve problems, rather than a sudden change in cognitive capacities and schemas. Other researchers have shown that younger and older children develop by progressing through a continuum of capacities rather than a series of discrete stages. In addition, these researchers believe that children understand far more than Piaget theorized. With training, for instance, younger children may perform many of the same tasks as older children. Researchers have also found that children are not as egocentric, suggestible, magical, or concrete as Piaget held, and that their cognitive development is largely determined by biological and cultural influences.

School-age children are better at the skill of remembering than are younger children. Experiencing more of the world, older children have more to draw upon when encoding and recalling information. In school, older children also learn how to use mnemonic devices, or memory strategies. Creating humorous lyrics, devising acronyms, chunking facts (breaking long lists of items into groups of three's and four's), and rehearsing facts (repeating them many times) helps children memorize increasingly complicated amounts and types of information.

Youngsters may remember more when participating in cooperative learning, in which adult-supervised education relies on peers interacting, sharing, planning, and supporting each other. Develop-mentalists disagree on the relative value of cooperative learning versus didactic learning, in which a teacher lectures to students.

Memory

School-age children also begin to evince metamemory, or the ability to comprehend the nature of memory and predict how well one will remember something. Metamemory helps children sense how much study time is needed for next week's math test.

Childhood intelligence

Psychologists and other authorities are keenly interested in childhood intelligence. Intelligence is an inferred cognitive capacity that relates to a person's knowledge, adaptation, and ability to reason and act purposefully. Around the beginning of the twentieth century, Alfred Binet and Theophile Simon measured perception, memory, and vocabulary in children. These researchers divided a child's mental age, or level of intellectual attainment, by his or her chronological age, or actual age, to yield the child's intelligence quotient (IQ). Years later, the average IQ for a child was set at 100. Today, the two most famous IQ tests for children are the Stanford-Binet Intelligence Scale and the Wechsler Intelligence Scale for Children (WISC), both of which have been updated numerous times.

Some psychologists indicate that the multifaceted nature of intelligence necessitates a distinction between basic intelligence (academic IQ) and applied intelligence (practical IQ). For instance, Howard Gardner proposed that children exhibit multiple intelligences, including musical ability, complex movement, and empathy. Similarly, Robert Sternberg proposed the triarchic theory of intelligence, which states that intelligence consists of three factors: information-processing skills, context, and experience. These three factors determine whether cognition or behavior is intelligent.

An individual's intelligence, at least as measured by IQ tests, remains fairly constant throughout life. Yet considerable differences in IQ scores exist across a range of individuals. These individual differences are probably the result of some combination of genetics,

home and educational environment, motivation, nutrition and health, socioeconomic status, and culture.

Critics repeatedly question the value of measuring intelligence, especially when the most commonly used testing instruments are inherently culture-specific. Critics point out that minorities score lower on IQ tests that are devised and standardized using white, middle-class subjects. These same minorities score higher on IQ tests devised and standardized using subjects from their own cultural background. Proponents of IQ tests suggest that it is possible to develop culture-fair (fair for all members in a culture) and culture-free (without cultural content) IQ tests, such as Raven's Progressive Matrices Test. This IQ test gauges the subject's ability to solve problems that are presented in unfamiliar designs. Proponents also claim that IQ scores effectively predict future academic performance—what these tests were originally designed to measure.

A great deal of uproar occurred in the 1970s in response to schools placing minorities into special education classes based on their IQ scores. These scores were obtained from culturally biased IQ tests. Today, IQ tests cannot be used as academic achievement or placement tests.

4.11 CHAPTER SUMMARY

In this unit you have read that: Adolescence is a phase of transition between childhood and adulthood. This phase of adolescence extends from 10-19 years of age and is characterized by rapid physical, psycho sexual and social changes. It poses various opportunities and challenges. You have also learnt that curiosity, exploration and experimentation are hall marks of adolescence. These, coupled with poor information and skills lead to high risk-taking behaviour like substance abuse, unsafe sex causing unwanted pregnancies HIV and sexually transmitted infections. You have also read that adolescence is divided into Early adolescence (10-14 years), Middle adolescence (15-17 Years) and Late adolescence (18-19 years). However, there is no clear-cut demarcation between these stages and changes in these stages often overlap with each other. Now you have got an idea that adolescents constitute around 1.2 billion of the total population in the world and one-fifth of India's population. The diversity of adolescents needs to be considered in various policies and programmes. And we need to invest in adolescents not only for long term health and economic benefits to the nation but also as an obligation to human rights.

4.12 REVIEW QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. **List out all the characteristics of adolescence.**
2. **What are the different aspects of intellectual development?**
3. **What do you understand by the term 'childhood intelligence'?**
4. **State the different health concerns of adolescence.**
5. **Explain the psychological and social theory.**

LONG ANSWER TYPE QUESTIONS

1. **"Adolescence is a period of changes." Discuss various changes during adolescence.**
2. **Do the changes in the three Developmental Stages of adolescence overlap with each other? Highlight the main points in the three stages of Adolescence.**

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3. **"Adolescence poses challenges to adolescents as well as society." Discuss various challenges during Adolescence.**
4. **Describe the different developmental tasks of adolescence in detail.**
5. **Discuss the characteristics of maturation.**

4.13 MULTIPLE CHOICE QUESTIONS

1. **What is the full form of WISC?**
   a. Wechsler Intelligence Scale for Children
   b. Wechsler Intelligent Scale for Children
   c. Wechsler Intelligence System for Children
   d. None of these

2. **_____ is a phase of transition between childhood and adulthood.**
   a. Puberty
   b. Adolescence
   c. Toddlerhood
   d. Infancy

3. **What is the full form of AYAs?**
   a. Adolescents and Younger Adults
   b. Adolescence and Young Adults
   c. Adolescents and Young Adults
   d. None of these

4. **_____ is the net sum of gene and its effects operating in a self-limiting life cycle.**
   a. Maturation
   b. Adolescence
   c. Infancy
   d. Toddlerhood

5. **_____is the time of rapid physical development, signalling the end of childhood and the beginning of sexual maturity.**
   a. Maturation
   b. Adolescence
   c. Infancy
   d. Puberty

6. **_____Refers to the physical growth and development that human go through till old age.**
   a. Cognitive Maturation
   b. Physical Maturation
   c. Nature of Maturation
   d. None of these

7. **_____ are responsible for the development of both primary sex characteristics and secondary sex characteristics.**
   a. Hormones
   b. Enzymes

c. Stimulant
d. Impulse

8. Piaget used the term _____ to refer to reversible abilities that the child has not yet developed.

a. Operations
b. Applications
c. Cognitive
d. None of these

9. What is the full form of STDs?

a. Sexually Transferred Diseases
b. Sexually Transformed Diseases
c. Sexually Transmitted Diseases
d. None of these

10. _____ is the process of becoming mature overall, both psychological and behaviourally

a. Adolescence
b. Infancy
c. Toddlerhood
d. Maturation

♦♦♦♦♦

UNIT V

PERSPECTIVES ON ADOLESCENCE, IDENTITY FORMATION AND TRANSITIONS

STRUCTURE

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5.1 LEARNING OBJECTIVE

After studying this lesson, you will be able to:

- Understand the social changes during adolescence.
- Learn about the theoretical perception in adolescence.
- Understand about identity formation.
- Learn about the hazards of adolescence.

5.2 INTRODUCTION

Adolescence is a transitional period marked by substantial changes in physical maturation, cognitive abilities and social interactions, usually associated with puberty and the transition from childhood into legal adulthood and citizenship. There have been many differing psychological theories of adolescence over the last hundred years. This unit discusses the theories connected with adolescence, identity formation and transitions to adulthood based on the literature and prior work on youth and social capital and youth work transitions. One perspective on the topic comes from James Cotes identity capital theory, as informed by comparative research on the identities of postsecondary students in Finland, Japan and Northern American.

This unit discusses different cultural meanings of adolescence, as well as the obstacles and opportunities that have impact on adolescent identity formation and transition to adulthood, with particular reference to the increasing time spent by young people with digital media such as video streams, messaging, blogs or social media. This unit will point out some structural opportunities for adolescents in their transition to adulthood and how these affects contemporary adolescence.

5.3 SOCIAL CHANGES DURING ADOLESCENCE

The process of social development moves adolescents from the limited roles of childhood to the broader roles of adulthood. For young people, this transition includes:

Expanding their social circles. Young children mostly spend time with their family. Their social circle expands slightly as they enter school. By the time they reach adolescence, their networks also can include people from team sports, student organizations, jobs, and other activities. As their social circles expand, adolescents spend less time with their families and may focus more on their peers. Young people also develop a greater capacity to form stronger relationships with adults outside of their families who may function as mentors.

Expanding their social roles. The changes adolescents experience in their brain, emotions, and bodies prime them to take on more complex social roles. Cognitive and emotional development work together to help adolescents have deeper conversations and express their emotions better. Physical development signals that adolescents are becoming adults and that they may become entrusted with greater responsibility. Adolescents may assume new roles, such as taking on a leadership position in school, on a team, or at church; serving as a confidante; or being a romantic partner.

Building new connections and establishing identities outside of the context of the family is a normal part of healthy development. Interacting with people outside of the family circle can teach adolescents how to maintain healthy relationships in different contexts and identify roles they can play in the broader community. Still, it is important to remember that adolescents will need support as they experience these new roles. Engaging in

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role-playing and rehearsing strategies modelled by peer and adult mentors may help adolescents practice cooperation, communication, problem-solving, and decision-making skills, as well as tactics to resist peer pressure.

One aspect of social development that promotes having a broad social network is the tendency of adolescents to become more aware of how other people feel. The ability to empathize and to appreciate the unique differences among people increases in adolescence. Adolescents often learn to take other people's feelings into account, be compassionate about the suffering of others, listen actively, and interpret nonverbal cues. Although youth typically begin to express some complex emotions early in life, adolescents start to examine their inner experiences and express their emotions verbally. However, because the prefrontal cortex is not fully developed until early adulthood, adolescents often find it challenging to interpret body language and facial expressions. As the prefrontal cortex develops and the capacity for abstract thinking grows, adolescents will be able to empathize more deeply with others.

Unique Issues in Social Development

The way adolescents develop socially largely depends on their environment. For example, some youth live in neighbourhoods and attend schools where violence is relatively common. These adolescents must develop different coping strategies than do those who live in neighbourhoods with more physical security. Some adolescents also experience trauma. These experiences can evoke stress reactions across all developmental areas. Some survivors of trauma have difficulty regulating emotions, sleeping, eating, and acting on or making decisions. In any case, all adolescents need caring adults in their lives who offer them support, provide opportunities for them to test their new skills, and offer guidance on how to be successful. The key role that environment plays in adolescent development means that adolescents of the same age will differ greatly in their ability to handle diverse social situations.

Here are some other factors that differ among adolescents and can affect their social development:

Varying rates of physical development

Adolescents' bodies change and develop at different rates, and this process does not always happen in sync with other areas of development. For instance, those who develop physically at a relatively young age may be seen and treated more like adults or they may end up spending more time with older youth because of how they look, a pattern that increases their potential for engaging in sexual relationships. However, these more mature-looking adolescents may not be emotionally and cognitively ready to handle those new roles. On the other hand, adolescents who develop later may be seen and treated more like young children.

Friends

Evolving groups of friends. Acceptance by a peer group is crucial to adolescents, especially those who are younger. Seeking acceptance might spur them to change the way they think, speak, dress, and behave to make them feel they belong to the group. As a result, younger adolescents tend to hang out with peers who are similar to them (e.g., same race, ethnicity, family income, religion, or class schedule). Older adolescents may branch out to other groups as their social worlds diversify and expand.

Peers

Differing types of peer pressure. Peer pressure sometimes gets a bad reputation. The stereotype about this pressure stems from perceptions of delinquent and risky behaviors,

including sexual activity and substance abuse, which some adolescents think will earn them greater acceptance among their peers. However, peer pressure can be beneficial, and peer relationships can be largely positive. Positive peer groups practice behaviors such as cooperating, sharing, resolving conflicts, and supporting others. The accepted standards, or norms, of positive peer groups can help adolescents build relationship skills, hold favorable views of themselves, and have the confidence to take positive risks.

Interaction

Changing ways to interact. As with all technologies, using social media carries both potential risks and potential benefits for adolescents. Text messaging, social networking platforms, blogs, email, and instant messaging can help adolescents stay connected to each other, and express who they are to the world. Today's adolescents have such large social networks that it is not uncommon to have virtual friendships with peers they have never met face-to-face. This digital interaction may curtail nonverbal communication and cues that occur in person that are important for developing social skills; but these interactions are still social and meaningful to the adolescents who participate in them. At the same time, technology and social media have also provided a new forum for harassment. In addition to the 20 percent of high school students who reported being bullied in school the previous year, another 16 percent reported being bullied online.

5.4 THEORETICAL PERCEPTION IN ADOLESCENCE

Theories have uncovered advances in reasoning, emotional expression and regulation, physical maturation, self-understanding, and the expansion of social roles and interpersonal relationships. Theories have led the way by focusing attention on the capacity of adolescents to direct the course of their development through their emerging sense of purpose, self-regulation, and the formation of a personal identity. Yet, no theory of adolescent development addresses all these domains.

It is probably not surprising that there is no one agreed-upon theory that accounts for all aspects of adolescent development. The families of theories differ in their emphasis on domains of development, focusing to a greater or lesser extent on physical, cognitive, social, and emotional processes. The theories differ in their emphasis on particular periods of life, some more attuned to early, middle or later adolescence. The theories differ in their emphasis on universal patterns as compared to unique cultural and historical contexts that influence development. The theories also differ in their level of analysis. Some theories focus on very specific moments in daily life; others focus on broad, system changes that may occur gradually over long periods of time.

One of the intriguing features of the science of adolescent development is the ambiguity surrounding its definition. Adolescence is typically viewed as beginning with puberty. However, research regarding pubertal development finds that for some children the biological beginnings of puberty are in evidence as early as ages 8 or 9, earlier than we typically associate with the term adolescence. The period of adolescence is viewed as ending with maturity or adulthood. But that term is also ambiguous as it is linked with biological, social/cultural, legal, historical, and religious meanings.

Not only is the definition of adolescence ambiguous, but there is a lack of agreement about the terms used to refer to this period of life. Terms including youth, teen or teenager, pre-teen, adolescent, and emerging adult are examples of words used to denote this stage of life. Studies that claim to focus on adolescent development may include young people in middle school, high school, or college. They may focus on young people who are not in school, employed or not employed, or in the military. Studies about adolescents often do

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not include information about pubertal status, thereby ignoring important developmental differences that may exist among children of the same chronological age. The concept of adolescence has different connotations in different societies. Cultural groups differ in their recognition of adolescence as a distinct period of life, the status or power allocated to adolescents, and the tightness or looseness of cultural constraints regarding their behavior.

Understanding adolescent development requires a multidisciplinary perspective. This period of comparatively rapid biological change is accompanied by numerous changes in family, school, peer group, community, government, and technology resulting in a cascade of transformations. The period brings new physical and reproductive capacities, new cognitive abilities and insights, new understandings about oneself and the nature of one's society, one's role in the community, and new opportunities to express one's talents, formulate meaningful goals, and achieve clarity of purpose. At the same time, complex demands of post-industrial societies make entry into the full enactment of adult roles more difficult, prolonging adolescence and delaying the sense of oneself as fully "adult" (Furstenberg, 2010).

Theories change over time. New evidence and observations have resulted in the expansion, revision, or rejection of aspects of earlier theories. Many contemporary theories take a probabilistic view of development, conceptualizing the dynamics of the changing person engaged in multiple environments that are also changing. The diversity of youth, including racial, ethnic, gender, social class, and cultural variations as well as international studies, cast a new light on normative expectations about pathways from childhood to adulthood. The diversity of settings has also received new attention through the study of families, peer groups, schools, and communities, resulting in an appreciation for the challenges adolescents face as they traverse multiple environments.

Adolescents' decisions and behaviors have significant physical, social and mental health consequences. Attitudes formed regarding gender roles, educational goals, career aspirations, religious/moral values, and family formation can impact future opportunities and resources. Theories can be useful in guiding applications and interventions including: human services, education, health, mental health, recreation, arts and music, sports, family life, social welfare, civic engagement, religious education, consumer science, the law and juvenile justice.

Adolescence is a time that links generations. Theories help account for how the history of a person's infancy and childhood contribute to the unfolding of a young person's self-understanding, values, morality, and desires for the future. Theories further understanding of the role adolescents play in the transformation of cultures as they encounter new technologies and social messages that guide them toward changing values. What is happening for youth serves as a precursor for the future of the society. Do young people come of age in a time of civility, productivity, and openness, or a time of fearfulness, cautiousness, and a survival orientation? Characteristics of the historical period as well as features of the immediate environment guide adolescents' adaptations. Adolescents' definitions of what it means to be successful, moral, and fulfilled, and their access to resources and opportunities guide the outlook for each new generation of adults.

PERSPECTIVES ON ADOLESCENCE, IDENTITY FORMATION AND TRANSITIONS

5.5 IDENTITY FORMATION

Identity development is a stage in the adolescent life cycle. For most, the search for identity begins in the adolescent years. During these years, adolescents are more open to 'trying on' different behaviors and appearances to discover who they are. In an attempt

to find their identity and discover who they are, adolescents are likely to cycle through several identities to find one that suits them best. Developing and maintaining identity (in adolescent years) is a difficult task due to multiple factors such as family life, environment, and social status. Empirical studies suggest that this process might be more accurately described as identity development, rather than formation, but confirms a normative process of change in both content and structure of one's thoughts about the self.

Self-Concept

Two main aspects of identity development are self-concept and self-esteem. Self-concept is the idea of self-constructed from opinions and beliefs about one's self. These concepts are defined confidently, consistently, and with stability. Early in adolescence, cognitive developments result in greater self-awareness, greater awareness of others and their thoughts and judgments, the ability to think about abstract, future possibilities, and the ability to consider multiple possibilities at once. As a result, adolescents experience a significant shift from the simple, concrete, and global self-descriptions typical of young children; as children, they defined themselves by physical traits, whereas adolescents define themselves based on their values, thoughts, and opinions.

Adolescents can conceptualize multiple "possible selves" that they could become and long-term possibilities and consequences of their choices. Exploring these possibilities may result in abrupt changes in self-presentation as the adolescent chooses or rejects qualities and behaviors, trying to guide the actual self toward the ideal self (whom the adolescent wishes to be) and away from the feared self (whom the adolescent does not want to be). For many, these distinctions are uncomfortable, but they also appear to motivate achievement through behavior consistent with the ideal and distinct from the feared possible selves.

Further distinctions in self-concept, called "differentiation," occur as the adolescent recognizes the contextual influences on their behavior and the perceptions of others, and begin to qualify their traits when asked to describe themselves. Differentiation appears fully developed by mid-adolescence. Peaking in the 7th-9th grades, the personality traits adolescents use to describe themselves refer to specific contexts, and therefore may contradict one another. The recognition of inconsistent content in the self-concept is a common source of distress in these years, but this distress may benefit adolescents by encouraging structural development.

Cooley's Looking-Glass Self

Charles Horton Cooley (1964) suggested that our self-concept comes from looking at how others respond to us. This process, known as the looking-glass self involves looking at how others seem to view us and interpreting this as we make judgments about whether we are good or bad, strong or weak, beautiful or ugly, and so on. Of course, we do not always interpret their responses accurately so our self-concept is not simply a mirror reflection of the views of others. After forming an initial self-concept, we may use our existing self-concept as a mental filter screening out those responses that do not seem to fit our ideas of who we are. So, compliments may be negated, for example.

Think of times in your life when you felt more self-conscious. The process of the looking-glass self is pronounced when we are pre-schoolers. Later in life, we also experience this process when we are in a new school, new job, or are taking on a new role in our personal lives and are trying to gauge our own performance. When we feel surer of who we are we focus less on how we appear to others.

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Mead's I and Me

George Herbert Mead (1967) offered an explanation of how we develop a social sense of self by being able to see ourselves through the eyes of others. There are two parts of the self: the "I" which is the part of the self that is spontaneous, creative, innate, and is not concerned with how others view us and the "me" or the social definition of who we are.

When we are born, we are all "I" and act without concern about how others view us. But the socialized self begins when we are able to consider how one important person views us. This initial stage is called "taking the role of the significant other." For example, a child may pull a cat's tail and be told by his mother, "No! Don't do that, that's bad" while receiving a slight slap on the hand. Later, the child may mimic the same behavior toward the self and say aloud, "No, that's bad" while patting his own hand. What has happened? The child is able to see himself through the eyes of the mother. As the child grows and is exposed to many situations and rules of culture, he begins to view the self in the eyes of many others through these cultural norms or rules. This is referred to as "taking the role of the generalized other" and results in a sense of self with many dimensions. The child comes to have a sense of self as a student, as a friend, as a son, and so on.

CHECK YOUR PROGRESS

1. **Define adolescence.**
2. **What do you understand by 'self-concept'?**
3. **Briefly state the social changes that occur during adolescence.**
4. **What do you understand by identity formation?**
5. **Describe the unique issues in social development.**

5.6 APPROVED SEX ROLES

Sex roles, or gender roles, consist of the social expectations about the typical and appropriate behavior of men and women. Generally, the female gender role includes the expectation that women and girls exhibit communal traits and behaviors, which focus on interpersonal skill, expressivity, and emotional sensitivity. In contrast, the male gender role includes the expectation that men and boys exhibit agentic traits and behaviors, which focus on self-orientation, independence, and assertiveness. In addition, gender roles include expectations about other elements, such as cognitive skills, hobbies and interests, and occupational choice. Because gender roles transcend many different situations, they can exert considerable influence, and thus studying them is critical to understanding the psychology of men and women.

Gender roles include both descriptive norms, which describe the behavior that is typically observed in men and women, and injunctive or prescriptive norms, which mandate the behavior that is socially approved for men and women. These beliefs are often consensually held: Studies of gender stereotypes, or beliefs about men and women, across a wide range of cultures have found that although some variability exists, people of different cultures generally agree about what men and women are like. In general, people believe that women tend to be more communal than men, and men tend to be more agentic than women. Regardless of the accuracy of such beliefs, this widespread consensus lends them considerable power. Moreover, gender roles tend to be socially approved; not only do people agree that men and women differ, but they also agree that such differences are good.

Writers and philosophers have long considered the impact of different expectations for men and women (for example, Mary Wollstonecraft's Vindication of the Rights of Woman,

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published in 1792). The scientific study of sex roles began in earnest during the second wave of feminism in the 1970s, when psychologists began to document and explain sex differences in behavior and cognitive skills. Explanations of sex-related differences include a wide range of social and biological causes. Although the general convention is to use the term gender to describe the social and cultural systems (e.g., socialization) and sex to describe the biological groupings of men and women, growing consensus suggests that these causes may not be easily separated. For instance, biological differences (e.g., pregnancy) can assume greater or lesser meaning in cultures with different social or economic demands.

Roots of Gender Roles:

Gender roles are closely intertwined with the social roles of men and women. In the traditional division of labor, men occupy high status or leadership roles more than women do, and women occupy caretaking and domestic roles more than men do. When a group of people occupies a particular type of social role, observers infer that the group possesses the internal qualities suited to such roles, thereby failing to account for the power of the role to affect behavior. In the case of the gender groups, the observation that men occupy leadership roles and women occupy care-taking roles leads to the assumption that each group possesses role-congruent personality traits. Initial evidence supporting this inferential process came from a series of experiments in which respondents read brief scenarios about individuals who were described as:

a. Male, female, or sex-unspecified, and

b. An employee, homemaker, or occupation-unspecified. When no occupation was specified, inferences followed traditional gender stereotypes (i.e., that women were more communal and that men were more agentic).

However, when the target individual was described as a homemaker, the respondents inferred that the individual was highly communal and not very agentic whether the target individual was male or female. Conversely, when the target individual was described as an employee, the respondents inferred that the individual was highly agentic and not very communal—again, regardless of the sex of the target individual. Thus, gender stereotypes stem from the assumption that men and women occupy different types of social roles. The expectation that men and women possess gender-stereotypic traits is then elaborated into broader gender roles, including beliefs that men and women are especially suited for their social roles and approval for gender-stereotypic traits.

Effects of Gender Roles:

Because of the consensual and widely approved nature of gender roles, they have considerable impact on behavior. Expectations related to gender may begin to exert an influence extremely early in life. Indeed, within 24 hours of birth, parents have been found to describe male and female infants in gender-stereotypic terms, although the infants did not differ on any objective measures. Such expectations elicit confirming behavior, as demonstrated in several experiments studying the self-fulfilling prophecy.

In a classic experiment, each participant was asked to complete a set of males- and female-stereotypic tasks along with a partner, whom they did not meet. The experimenters varied whether participants believed they were interacting with a male or female partner. Task assignments followed gender-stereotypic lines: When participants believed they were interacting with a partner of the other sex; they negotiated a more traditional division of labor. Importantly, this gender-stereotypic division of labor occurred regardless of the

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actual sex of the partner. The simple belief that someone is a man or a woman even if incorrect can elicit behavior that conforms to gender role expectations.

The power of expectations to elicit confirming behavior within one specific situation is compelling, but even more so is the consideration of the power of expectations culminated over a lifetime. A wide variety of sources, including parents, teachers, peers, and the media, convey these expectations, which can have considerable impact on life choices. For example, the Eccles model of achievement choices has explicated how parent and teacher expectations about gender differences in ability lead to boys' greater tendency to excel in achievement-related domains. Moreover, repeated experience in certain activities may lead to the development of congruent personality characteristics, which then may guide behaviors across different situations.

Gender Roles Implications:

Despite widespread persistence, gender roles have also shown malleability. Since the mid-20th century, these expectations have changed a great deal in the United States and many other cultures. Women's entry into the paid labor force, and especially into formerly male-dominated professions, has resulted in the relaxation of many restrictions placed on women's behavior. People generally believe that women have adopted many male-stereotypic qualities from the past to present, and they expect women to continue to adopt these qualities in the future. Men's roles also reveal some signs of change, although less so than women's roles. Time-use data suggest that men have increased their time spent caring for children since the 1960s, and expectations of more involved fatherhood continue to grow. Even so, men or women who transcend the boundaries of their gender roles still meet with resistance in many domains. Nonetheless, the belief that gender roles are changing may ultimately provide more men and women with the opportunity to follow their individual preferences and desires, rather than be bound by societal expectations.

5.7 FAMILY RELATIONSHIPS, RELATIONSHIP WITH PEERS, PERSONALITY CHANGES

How Parents and Caring Adults Can Support Social Development

Although adolescence is a time when young people try to manage their lives on their own, they still depend on their families and caring adults for primary support, affection, and decision-making, as well as for help establishing their identities and learning about skills and values. Here are some ways parents and other adults can support youth thriving in social development.

- Set examples of healthy relationships. Relationships can be strong when you're aware of your own feelings as well as aware of other's emotions. In healthy relationships, both partners should treat each other with respect, give each other space, talk through problems, and communicate honestly. Modeling positive friendships and relationships with co-workers and neighbours also is important.
- Monitor and get to know adolescents' friends and dating partners. Find out whom they spend time with, what they are doing, and where they are going. Ask about how the adolescent picks their friends and what they enjoy about the people with whom they spend their time.
- Encourage participation in activities adolescents care about. Help adolescents make friends by getting them involved in activities that match their interests (e.g., art, music, computer science, sports).

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- Exhibit empathetic behavior. Show empathy by acting on concern for other people, using statements that describe how people might feel, and talking about being compassionate toward diverse groups of people. Adults and adolescents also can work together on community service projects.
- Build connections by talking to adolescents about your interests and learn about theirs. Take the time to learn about your adolescent's hobbies and interests and expose them to new activities to help you find mutual interests and have more meaningful interactions.
- Teach adolescents how to deal with peer pressure. Help adolescents understand which risks will enable them to test their skills and which risks may have harmful consequences, even if their peers encourage those behaviors.

5.8 HAZARDS OF ADOLESCENCE

TEENAGE PREGNANCY

Complications linked to pregnancy and childbirth are the second cause of death for 15-19-year-old girls globally.

Some 11% of all births worldwide are to girls aged 15 to 19 years, and the vast majority are in low- and middle-income countries. The 2014 World Health Statistics put the global adolescent birth rate at 49 per 1000 girls this age – country rates range from 1 to 229 births per 1000 girls. This indicates a marked decrease since 1990. This decrease is reflected in a similar decline in maternal mortality rates among 15-19-year olds.

One of the specific targets of the health Sustainable Development Goal (SDG) is that by 2030, the world should ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Better access to contraceptive information and services can reduce the number of girls becoming pregnant and giving birth at too young an age. Laws that specify a minimum age of marriage at 18 and which are enforced can help. Girls who do become pregnant need access to quality antenatal care. Where permitted by law, adolescents who opt to terminate their pregnancies should have access to safe abortion.

JUVENILE DELINQUENCY

Delinquency is unwelcomed action, omission or moral behaviour of a juvenile which is socially not permitted in any society. Generally, it means that if the 19 people, then he is considered to be delinquent. The juvenile delinquent is behavioral disorder which is generally defined as "a child trying or pretending to act like a grown up or adult".

Juvenile delinquency refers to criminal acts performed by juveniles. Most legal systems prescribe specific procedures for dealing with juveniles, such as juvenile detention centers. There are a multitude of different theories on the causes of crime, most if not all of which can be applied to the causes of youth crime. Youth crime is an aspect of crime which receives great attention from the news media and politicians. Crime committed by young people has risen since the mid-twentieth century, as have most types of crime.

The level and types of youth crime can be used by commentators as an indicator of the general state of morality and law and order in a country, and consequently youth crime can be the source of 'moral panics' Theories on the causes of youth crime can be viewed as particularly important within criminology. This is firstly because crime is committed disproportionately by those aged between fifteen and twenty-five. Secondly, by definition

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any theories on the causes of crime will focus on youth crime, as adult criminals will have likely started offending when they were young. A Juvenile Delinquent is one who repeatedly commits crime; however, these juvenile delinquents could most likely have mental disorders/behavioral issues such as schizophrenia, post-traumatic stress disorder or bipolar disorder.

Juvenile delinquency has traditionally been defined as behavior exhibited by children and adolescents that has legal ramifications, such as engaging in illegal activity (statutory and criminal). Juvenile delinquents include youth who have contact with law enforcement and those who are adjudicated through juvenile court for a crime. These are behaviors that violate the rules of a society and result in contact with the juvenile justice system. Originally, the juvenile justice system was created as a separate entity from the adult legal system in recognition of the developmental differences between children and adults.

As such, the juvenile justice system was primarily concerned with early intervention and rehabilitation of children and adolescents. It is generally acknowledged, however, that the system has become more punitive, which has led to increasing calls for reform of the system. For example, the U.S. Surgeon General has recently asked that youth involved in delinquent behavior be identified appropriately and that empirically validated treatment programs be implemented with them and their families.

Rates of delinquency are often under-representations of actual behavior. Because most statistics rely solely on official contacts with law enforcement, all other illegal activity that is undetected remains unreported. To enhance information obtained from official records, self-report data from children and adolescents have become a beneficial component of juvenile delinquency research. Arrest rates for violent crimes, including criminal homicide, robbery, aggravated assault, and forcible rape, increased from 1983 to 1993–1994. Factors hypothesized to have played a significant role in this increase were youth involvement in gangs, increased drug use, and access to and use of guns. Data from 1993 to 1999 have shown a decline in arrests.

The overall arrest rate for all crimes committed by juveniles was 2.4 million in 1999. During this time period, juveniles were involved in 16% of all violent crime arrests and 32% of all property crime arrests. Another indicator of juvenile violence, self-report of crime, showed no decrease in the amount of violent behavior between 1993 and 1999. One potential reason for this discrepancy between arrest rates and self-report of problem behavior may be that there has been a decline in youth's use of firearms and some decline in gang membership that has resulted in less severe problem behavior that may not be detected by the authorities. Other statistics show that 30% to 40% of boys and 16% to 32% of girls have committed a serious violent offense by the age of 17. There are differences in arrest rates across gender and race, with significantly more boys than girls arrested and significantly more African Americans arrested than whites or other minority groups.

Research examining risk and protective factors involved in juvenile delinquent behavior has typically focused on four core domains: individual, family, peer, and school/community. A summary of key risk and protective factors for each domain is presented in Table 1.

Table 1 Risk and Protective Factors Associated with Delinquent Behavior in Juveniles

Domain	Risk Factor	Protective Factor
Individual	Low intelligence Early problem behavior Substance use Hyperactivity/risk taking behavior	High intelligence Prosocial behavior

Family	Proverty Abusive parents Antisocial parents Poor parent-child relations	Parental monitoring Supportive, nurturing relationships with parents/ adults
Peer	Antisocial peers Peer rejection	Nondeviant peers
School/ community	Poor academic performance Low academic goals Neighborhood disorganozation Access to weapons	Commitment to school Involvement in prosocial activities

Youth who display delinquent behavior often have significant co-occurring problems. Comorbid mental health disorders and substance abuse have been found to be more prevalent among delinquent youth, as well as early sexual activity, truancy, and school failure. Family correlates of delinquent behavior include family conflict, marital conflict, and parental inconsistency with rules and consequences. Assessments of children and adolescents who exhibit delinquent behavior are often court ordered and have a primary focus of assessing the youth's potential for future harm and his or her amenability to treatment. Evaluations are used to assist officials in planning probation requirements for the youth as well as potential placement decisions. A standard evaluation should assess the risk factors associated with future behavior, including past behavior, substance use, social stressors and support, opportunity to commit problem behavior, and characteristics of a future residence.

In addition, there are several key areas that should be evaluated in order to accurately assess delinquents, including individual, family, peer, and community factors. Individual factors include the range of antisocial behavior, cognitive skills, and personality functioning of the youth. In addition, vocational skills may also be assessed to see how the youth may be able to adapt to his or her environment. Another important area is family dynamics, including parenting strategies, family conflict, and warmth. Deviant peer relationships are one of the best predictors of delinquent behavior and as such ought to be included in any assessment. Finally, community factors need to be considered, such as support systems for the youth and family, as does neighborhood cohesion or support of delinquent behaviors.

Treatment

Effective treatment of juvenile delinquents has historically been a challenge. During the past decade, however, several programs have been empirically validated for the prevention and treatment of delinquent behavior. In general, studies have shown that programs targeting multiple systems that are short term, family based, and intensive are more effective in treating difficult behavior. Particular programs identified to show change in juvenile behavior and that are cost-effective include Functional Family Therapy, Multidimensional Treatment Foster Care, Multi-systemic Therapy, Prenatal and Infancy Home Visitation by Nurses, and the Seattle Social Development Project. Unfortunately, many communities continue to fund programs that have not been shown to be effective, such as gun buy-back programs, boot camps, residential programs, milieu treatment, waivers to adult court, and individual counseling.

Other infectious diseases

Thanks to improved childhood vaccination, adolescent deaths and disability from measles have fallen markedly – for example, by 90% in the African Region between 2000 and 2012. But diarrhoea, lower respiratory tract infections and meningitis are among the top 10 causes of death for 10 to 19-year olds.

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PROBLEMS OF ADOLESCENCE

Mental health:

Depression is the top cause of illness and disability among adolescents and suicide is the third cause of death. Violence, poverty, humiliation and feeling devalued can increase the risk of developing mental health problems. Building life skills in children and adolescents and providing them with psychosocial support in schools and other community settings can help promote good mental health. Programmes to help strengthen ties between adolescents and their families are also important. If problems arise, they should be detected and managed by competent and caring health workers.

Violence:

Violence is a leading cause of death. An estimated 180 adolescents die every day as a result of interpersonal violence. Around 1 of every 3 deaths among adolescent males of the low- and middle-income countries is due to violence. Globally, some 30% of girls aged 15 to 19 experience violence by a partner. Promoting nurturing relationships between parents and children early in life, providing training in life skills, and reducing access to alcohol and firearms can help to prevent violence. Effective and empathetic care for adolescent survivors of violence and ongoing support can help deal with the physical and the psychological consequences.

Alcohol and drugs:

Harmful drinking among adolescents is a major concern in many countries. It reduces self-control and increases risky behaviours, such as unsafe sex or risky driving. It is a primary cause of injuries (including those due to road traffic accidents), violence (especially by a partner) and premature deaths. It also can lead to health problems in later life and affect life expectancy. Setting a minimum age for buying and consuming alcohol and regulating how alcoholic drinks are targeted at the younger market are among the strategies for reducing harmful drinking. Drug use among 15 to 19-year olds is also a concern.

Malnutrition and obesity:

Many boys and girls in developing countries enter adolescence undernourished, making them more vulnerable to disease and early death. The number of adolescents who are overweight or obese is increasing in both low- and high-income countries.

Developing healthy eating and exercise habits at this age are foundations for good health in adulthood. Reducing the marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt and providing access to healthy foods and opportunities to engage in physical activity are important for all but especially children and adolescents.

Tobacco use:

The vast majority of people using tobacco today began doing so when they were adolescents. Prohibiting the sale of tobacco products to minors and increasing the price of tobacco products through higher taxes, banning tobacco advertising and ensuring smoke-free environments are crucial. Globally, at least 1 in 10 younger adolescents (aged 13 to 15) uses tobacco, although there are areas where this figure is much higher. Cigarette smoking seems to be decreasing among younger adolescents in some high-income countries

Rights of adolescents:

The rights of children (people aged between 0-17 years) to survive, grow and develop are enshrined in international legal documents. The Committee on the Rights of the Child (CRC), which oversees the child rights convention, in 2013 published guidelines on the

right of children and adolescents to the enjoyment of the highest attainable standard of health, and a General Comment on realizing the rights of children during adolescence is under development, building on existing CRC guidelines on states' obligations to recognise the special health and development needs and rights of adolescents and young people.

5.9 CHAPTER SUMMARY

Identity formation is an influential issue significantly influencing adolescents' lives and schools play a major role in shaping and reshaping adolescent students' identities. A great deal of research in disciplines of psychology on identity formation confirms that this as an important issue for adolescents and has uncovered significant aspects of this developmental process and factors involved and their interrelationships. In addition, there have been efforts within the realm of education to examine its implications for schooling. Nevertheless, little is known about the contributions of school environments to adolescent identity formation. The review outlined in this chapter was mainly carried out to begin to fill this knowledge gap and identify some potential areas for further and future inquiries.

5.10 REVIEW QUESTIONS

SHORT ANSWER TYPE QUESTIONS

1. **List the problems in the adolescence phase of development.**
2. **Define Juvenile delinquency.**
3. **What are the implications of gender roles?**
4. **What do you understand by approved sex roles?**
5. **Discuss some factors that differ among adolescents that affect their social development.**

LONG ANSWER TYPE QUESTIONS

1. **How parents and caring adults can support social development?**
2. **Describe the hazards of adolescence in detail.**
3. **Discuss Cooley's Looking-Glass Self in detail.**
4. **What are the risks and protective factors associated with delinquent behavior in juveniles?**
5. **Discuss the varying rates of physical development.**

5.11 MULTIPLE CHOICE QUESTIONS

1. **_____ is the top cause of illness among adolescents.**
   a. Depression
   b. Disability
   c. Suicide
   d. Violence
2. **_____ refers to criminal acts performed by juveniles.**
   a. Self-Concept
   b. Juvenile Delinquency
   c. Identity Formation
   d. None of these

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3. _____ suggested that our self-concept comes from looking at how others respond to us.

a. Carl Jung
b. Jean Piaget
c. Maria Ressa
d. Charles Horton Cooley

4. _____ is the idea of self-constructed from opinions and beliefs about one's self.

a. Self-Concept
b. Juvenile Delinquency
c. Identity Formation
d. None of these

5. The process of _____ moves adolescents from the limited roles of childhood to the broader roles of adulthood.

a. Social Development
b. Self-Concept
c. Juvenile Delinquency
d. Identity Formation

6. _____ are closely intertwined with the social roles of men and women.

a. Social Development
b. Self-Concept
c. Juvenile Delinquency
d. Gender roles

7. _____ is a transitional period marked by substantial changes in physical maturation, cognitive abilities and social interactions, usually associated with puberty and the transition from childhood into legal adulthood and citizenship

a. Maturation
b. Adolescence
c. Infancy
d. Toddlerhood

8. What is the full form of CRC?

a. Community on the Rights of the Child
b. Committees on the Rights of the Children
c. Committee on the Rights of the Child
d. None of these

9. _____ is a time that links generations.

a. Puberty
b. Adolescence
c. Infancy
d. Toddlerhood

10. What is the full form of SDG?

a. Sustainable Development Goal
b. Sustainable Development Government
c. Systematic Development Goal
d. None of these

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ANSWER KEY

UNIT I

QUESTION	ANSWER	QUESTION	ANSWER
1	a.	6	a.
2	a.	7	b.
3	a.	8	a.
4	b.	9	a.
5	d.	10	d.

UNIT II

QUESTION	ANSWER	QUESTION	ANSWER
1	a.	6	d.
2	b.	7	a.
3	c.	8	a.
4	a.	9	c.
5	d.	10	d.

UNIT III

QUESTION	ANSWER	QUESTION	ANSWER
1	b.	6	a.
2	d.	7	c.
3	a.	8	b.
4	a.	9	b.
5	d.	10	d.

UNIT IV

QUESTION	ANSWER	QUESTION	ANSWER
1	a.	6	b.
2	b.	7	a.
3	c.	8	a.
4	a.	9	c.
5	d.	10	d.

UNIT V

QUESTION	ANSWER	QUESTION	ANSWER
1	a.	6	d.
2	b.	7	b.
3	d.	8	c.
4	a.	9	b.
5	a.	10	a.

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