PSYCHOLOGY

Combination: History-Literature in English-Psychology (HLP)

Senior **4** **Student Book**

For Experimental version

FOREWORD

Dear Student,

Rwanda Basic Education Board is honoured to present the Psychology Student Book for Senior Four, History-Literature in English-Psychology Combination. It was designed based on the Psychology curriculum to support its implementation.

This student book includes topics related to generalities in psychology as well as theories of human development that will equip you with basic knowledge, skills and attitudes that you need to understand human behaviour and mental processes of people; to sensitize parents and the community on the impact of home environment on child growth and development; to act as a role model in inculcating positive attitudes; to challenge negatives motives among individuals of different ages and in different social contexts.

The student book is made of seven (7) units designed in a way that facilitate self-study. Each unit starts with a key unit competence which represents abilities you are expecting to have by the end of the unit. This competence will be built progressively throughout the unit. The key unit competence is followed by an introductory activity that you are requested to attempt before any other contact with the content under the unit. The unit is then broken down into different sub-topics to help you to go step by step. Each sub-topic starts with an activity in which you are requested to engage. The content that follows each sub-topic is a summary that gives you clear definitions of concepts, explanations to complement what you have acquired through learning activities. At the end of each unit, there are assessment tasks/activities that give you an opportunity to demonstrate the level of achievement of the key unit competence.

For effective use of this textbook, your role is to: (i) Participate and take responsibility for your own learning: you are encouraged to engage in given activities to develop cooperation, communication, critical thinking, innovation and problem solving skills; (ii) Share with your classmates, relevant information through presentations, discussions, group work, videos, visits, lesson observation, field/ classroom visit, group discussions, brainstorming, role play, case studies, interpretation of illustrations, research etc; (iii) Conduct further research to enrich information provided under each topic (iv) Draw conclusions based on the findings from the learning activities.

Enjoy learning "Psychology, Senior Four" using your book!

Dr. MBARUSHIMANA Nelson
Director General, REB

ACKNOWLEDGEMENTS

TABLE OF CONTENT

Key unit competence: Analyze the nature and scope of Psychology

Introductory activity

Manzi was sitting under a tree relaxing and enjoying the weather in Gatsibo District waiting for the bus leading to the City of Kigali visit his uncle's family, when another passenger shows up and starts a conversation:

- How are you gentleman?
- I am fine, thank you!
- You look like waiting for a bus, where are going?
- I am going to pay a farewell visit to my uncle…next week I will go to Huye in Southern Province to start my second term of the secondary school studies.
- What are you studying?
- I am majoring in History, Literature in English and Psychology.
- Psychology!!! Uuuuuh!!! (The other passenger remains quiet for a moment)

So, you can read in peoples' mind. What do you think of me?

For this passenger and many other people whose exposure to psychology comes from common sense and mostly from popular books and magazines articles, psychology is the analysis of people's thoughts and emotions, the assessment of personality, the analysis of motives, the practice of psychotherapy, the study of child-rearing. Is it? Yes, and much more.

Consider some of psychology's questions, questions that from time to time may be your questions, too:

Have you ever questioned why and to what degree you are really like your mother or your father? To what extent is their influence transmitted through their genes and to what extent through the environment they provided for you?

Have you ever wondered why babies play alone, imitate everything you do, cry or smile? What do babies actually perceive and think?

Have you ever suffered periods of aggression or happiness with no prior provocation and wondered what triggers such emotions?

Have you ever wondered why people behave differently in various social settings, have different characters even if they belong to the same family, like joining social groups, getting into conflicts with some group members or siblings?

Such inquiries provide grist for psychology's mill, for psychology, is a science that seeks to answer all sorts of questions about how we think, feel, and react. All those inquiries will be covered throughtout the course of psychology from Senior 4 to Senior 6.

1.1: Key Concepts of Psychology

Activity 1.1

1) Observe your weekly timetable and identify how frequent the subject of Psychology is scheduled and periods' length it is taught in comparison with other subjects. How many periods of Psychology on your weekly timetable? Has anybody ever told you something about Psychology?

2) What perceptions and expectations do you have about the course of Psychology with regards to new knowledge and importance of it ?

1.1.1. Concepts of psychology: Psychology, mental processes, mind, behavior, personality and emotion

Activity 1.1.1

How do you perceive the importance of learning key concepts of a scientific discipline?

Psychology

The definition of Psychology has evolved with time and different psychologists provided different definitions about it. Psychology is a science of mental life. It is the study of mind and behavior and by this it can be defined as the study of how people (and animals) behave and how their minds work. Psychology is not easy to explain as it regards all mental processes and their influence on everyday thinking, emotion, motivation, personality, perception and sensation, etc.

Psychology is the study of the behavior, performance, and mental operations of people. It also refers to the application of knowledge, which can be used to understand events, treat mental health problems, and improve education, employment, and relationships.

The word psychology is derived from two Greek words "psyche" and "logos." Psyche means soul and logos means the study. Thus, originally psychology was defined as the study of "soul" or "spirit." But later on, philosophers defined psyche as mind. Because of this, psychology began to be regarded as the study of an individual's mind or mental process. Through time, this later definition of psychology was given up because the mind as an object does not exist: and cannot be observed and measured objectively. The most widely and accepted definition of psychology is: **the science of behavior and mental processes**

of both humans and animals. The subject is located at the intersection of applied, pedagogical and theoretical sciences.

Mental processes include all the things that the human mind can normally do. Common mental processes include memory, emotion, perception, thoughts, thinking, and reasoning. Since the human mind is constantly active, mental processes continue to matter and affect or take on daily life events.

Mental process and mental function are terms often used interchangeably for all the things that individuals can do with their minds. These include perception, memory, thinking (such as ideation, imagination, belief, reasoning, etc.), volition, and emotion. Sometimes the term cognitive function is used instead.

Essentially, psychologists study mental process because psychology helps people in large part as it can explain why people act the way they do. With this kind of professional insight, a psychologist can help people improve their decision making, stress management and behavior based on understanding of past behavior to better predict future behavior.

Mind is broadly all the intellectual and psychological phenomena of a creature, including systems of motivation, affection, behavior, perception and cognition; that is, the planned total of the mental and intellectual processes of an organism and the structural elements and cognitive functions that depend on it. The concept, however, is also used more broadly to refer to cognitive activities and functions, such as perceiving, attending, thinking, problem solving, language, learning and memory. The nature of the connection between the mind and the body, including the brain and its systems or activities, has been and continues to be the subject of much debate.

Behaviour refers to "the activity of an organism in its interaction with its environment". The term refers to all activities in general or to specific activities. It is any activity that can be observed, recorded, and measured. This includes, first, what living beings, or organisms, do-that is, their movement in space (motor). It also includes what people say or write. In addition, behaviour includes emotional, physiological, or bodly changes, such as changes in blood pressure or brain waves. Human behaviour refers to the full range of physical and emotional traits with which human beings engage; biological, social, intellectual and is influenced by culture, attitudes, emotions, values, authority, harmony, influence, coercion and/or genetics. All these behaviour patterns can be grouped as follows:

Examples of behaviour:
- Motor activities (Walking, speaking)
- Cognitive activities (perceiving, remembering, thinking, reasoning)
- Emotional activities (feeling happy, sad, angry, afraid)

Personality

The meaning of the term personality is quite arbitrary. In order to get to the meaning of the term personality, it is necessary to trace the historical root of the word. The term personality was derived from a Latin word "persona". The word persona meant a mask that was used by Greek actors to change their appearances when on stage. According to the belief held about the mask, the personality was thought to be the effect and influence which the individual putting on a mask left on the audience. It is widely believed that, from a layman's point of view, the term personality means the sum of characteristics of an individual which makes him/her different from others.

Personality encompasses all the thoughts, behavior patterns and social attitudes that affect how we see ourselves and what we believe about others and the world around us. Many will say that what make you unique are the characteristic patterns of thoughts, feelings, and behaviors that make up your personality. Although there is no single agreed definition of personality, it can be defined as the unique patterning of behavioural and mental processes that characterises an individual and the individual's interactions with the environment.

It comes out from different definitions of personality that it is not a fixed state but a dynamic totality, which is continuously changing due to interaction with the environment. The conduct, behaviour, activities, movement and everything else concerning an individual constitute one's personality.

Understanding personality allows psychologists to predict how people will respond to certain circumstances and the kinds of things they prefer and enjoy. To get an idea of how researchers study personality, it will be helpful to learn more about some of the most influential personality theories.

Emotion is both a very basic and primitive part of our existence and also a very sophisticated and important part of our survival. It provides us with information about ourselves that is essential in our struggle to deal with daily life. Emotion is a complex experience of consciousness, bodily sensation, and behavior that reflects the personal significance of a thing, an event, or a state of affairs. Emotion is always present in one form or another as a basic aid to our survival. It is our emotional reactions to the world that allow to us determine which parts of it are safe for us and which are dangerous, which will bring happiness and which will bring sadness or anger. Without emotion, our life would be dull.

Explain:
   a) Psychology
   b) Mental process
   c) Mind

1.1.2. Concepts of psychology: Intelligence, motivation, perception, sensation, memory and learning

Activity 1.1.2

Based on your general knowledge, match each key concept to a related explanation. Answer by writing numbers and corresponding letters:

Concepts	Explanation
1.Memory	A.Mental capacity
2.Sensation	B.It gives direction/purpose to the human behaviour
3.Intelligence	C.It involves sense organs to respond to the stimulus
4. Motivation	D.Capacity to retain information

Intelligence has been defined in many ways: higher level abilities (such as abstract reasoning, mental representation, problem solving, and decision making), the ability to learn, emotional knowledge, creativity, and adaptation to meet the demands of the environment effectively. It is the mental capacity necessary to adapt to any contextual environment, as well as to create and choose. It is the ability to think, learn from experience, solve problems and adapt to new situations. Intelligence is important because it affects many human behaviors.

Motivation is basic to everything we do. It is the process that initiates, guides, and maintains goal-oriented behaviors. It is what causes you to act, whether it is getting a glass of water to reduce thirst or reading a book to gain knowledge. Motivation involves the biological, emotional, social, and cognitive forces that activate behavior. We need motivation to get started on everything, from eating to working, from singing to playing a sport; and once we have started, we need again motivation to stop doing it and shift to another different one. Thinking about

motivation is thinking about what gives behavior its purpose and its direction. It is also about what sustains us in doing whatever we might be doing.

Sensation is the process by which the sense organs, such as the eyes, ears, nose, mouth and surface of the skin gather information about the environment. It is the process by which organism's sense organs respond to a stimulus and send nerve impulses to the brain. After reaching the brain they are registered as a touch, a sound, a taste, and a splash of color. Hence, sensation can be thought as an organism's first encounter with sensory stimuli.

Perception is the closely related process by which the brain selects, organises and interprets these sensations. It is the process whereby the brain interprets sensations, giving information order and meaning. It takes into account experiences stored in our memory, the context in which the sensation occurs and our internal state (our emotions and motivations).

Sensation is difficultly defined separately from perception. Sensation is the door to the physical world available to our sensory receptors, and perception is the process by which the brain selects, organizes and interprets these sensations. In other words, sensation is the psychological basis of perception.

Example : Hearing sounds and seeing colors are sensory processes ; whereas, listening sweet music and detecting depth in a two dimensional picture are perceptual processes. Without some kind of sensation, no perception could take place.

Memory refers to the processes used to acquire, store, retain, and then retrieve information. Three main processes are involved in memory: encoding, storage, and retrieval. Human memory involves the ability to retain and retrieve information that people have learned or experienced. Memory is essential to all of our lives. Without memory of the past, we cannot operate in the present or think about the future. We wouldn't be able to remember what we did yesterday, what we did today, or what we plan to do tomorrow. Without memory, we could learn nothing.

Learning is an adaptive function by which our nervous system changes in response to environmental stimuli, thereby altering our behavioral responses and allowing us to function in our environment. The process initially occurs in our nervous system in response to environmental stimuli. Neural pathways can be strengthened, pruned, activated, or redirected, leading to changes in our behavioral responses. Learning is hence a process leading to change, which occurs as a result of experience and increases the potential for improved performance and future learning. The change in the learner may happen at the level of knowledge, attitude or behavior.

Explain:
- a) Intelligence
- b) Motivation
- c) Perception
- d) Behavior
- e) Personality
- f) Emotion

1.2. History of Psychology

1.2.1. Background and Origin of Psychology

Activity 1.2.1.

a) Define the terms "origin" and "history".

b) Why is it important to talk about the history of psychology?

Before the emergence of psychology, philosophy and physiology were the ancient fields of that discipline. Philosophy is traced back to the Greek philosopher Socrates (470-399 B.C.). Socrates and neo-Socrates like Plato and Aristotle dealt with inquiries concerning human nature. Whether people are inherently good or evil; rational or irrational; can perceive reality correctly or not; can think properly, reason and plan; can make decisions or are forced by the environment to behave in a given way. The answers for these questions and others underlie several of the perspectives on psychology.

Physiology is as old as philosophy and identified among the backgrounds of psychology. Hippocrates (460-377 B.C.), the Greek physician, who lived at the same time as Socrates, is often referred to as the father of medicine. He extensively studied the functions of the body and is known as the first physiologist. He focused on human anatomy and the functioning of human organs. Through his works, Hippocrates anticipated the current biopsychologists by insisting on the connection between the body and the mind. His observations explained how the brain was the most powerful organ that controls other organs and thereby regarded as the "interpreter of consciousness". It was until nineteenth century that researchers developed appropriate ways to explore and explain the workings of human body methodically. The credit was given to the physiologist

Hermann von Helmholtz (1821-1894) with his influential neural science that focused on nervous system and on key aspects of vision, hearing and perception. He contributed much to the knowledge of how humans take in information about the external world, a query that had perplexed philosophers for centuries.

Based on the common interests of philosophers and physiologists, it should be no doubt that many of early psychologists including, Wilhelm Wundt and William James, derived from philosophy and physiology.

Wilhelm Maximilian Wundt (/v nt/; German: [v nt]; August 16, 1832 – August 31, 1920) was a German physiologist, philosopher, and professor, known today as one of the fathers of modern psychology. Wundt, who distinguished psychology as a science from philosophy and biology, was the first person to call himself a psychologist. He is widely considered the "father of experimental psychology". In 1879, at the University of Leipzig, Wundt founded the first formal psychological research laboratory. This marked psychology as an independent field of study. By creating this laboratory, he was able to establish psychology as a separate science from other disciplines. He also formed the first academic journal of psychological research, Philosophische Studien (from 1881 to 1902), created to publish the research of the institute. A survey published in the American Psychologist in 1991 ranked Wundt's reputation first in "all-time eminence" based on ratings provided by 29 American historians of psychology. William James and Sigmund Freud were a distant second and third place.

William James (January 11, 1842 – August 26, 1910) was an American philosopher, historian, and psychologist, and the first educator to offer a psychology course in the United States. James is considered one of the leading thinkers of the late 19th century, one of America's most influential philosophers, and the "father of American psychology". Along with Charles Sanders Peirce, James created the philosophical school known as pragmatism and is also cited as one of the founders of functional psychology. An analysis in the Review of General Psychology, published in 2002, ranked James as the 14th most outstanding psychologist of the 20th century. A survey published in the American Psychologist in 1991 ranked James's reputation second, after Wilhelm Wundt, considered the founder of experimental psychology. James also developed the philosophical perspective known as radical empiricism. James's work has influenced philosophers and scholars such as Émile Durkheim, W. E. B. Du Bois, Edmund Husserl, Bertrand Russell, Ludwig Wittgenstein, Hilary Putnam, Richard Rorty, and Marilynne Robinson.

Born into a wealthy family, James was the son of the Swedish theologian Henry James Sr. and brother of the eminent novelist Henry James and columnist

Alice James. James trained as a doctor and taught anatomy at Harvard, but never practiced medicine. Instead, he pursued his interests in psychology and later philosophy. James has written extensively on many subjects including epistemology, education, metaphysics, psychology, religion, and mysticism. Among his most influential books are "The Principles of Psychology", a revolutionary text in the field of psychology; "Essays in Radical Empiricism", an important philosophy text; and "The Varieties of Religious Experience", a study of the different forms of religious experience, including theories on the healing of the mind.

The origin of psychology is linked with the works of Wilhelm Wundt and William James who are, independently, credited with founding psychology in 1875; and in 1900, the Russian physiologist Ivan Pavlov began to study the learning phenomenon which later was known as conditioning, while Sigmund Freud published his famous work *"The Interpretation of Dreams".*

Application activity 1.2.1

Chronologically, list key philosophers who contributed in the origin of psychology as a scientific discipline.

1.2.2. Key Figures in Psychology

Activity 1.2.2.

1) Can you recall the philosophers who introduced psychology?

2) Who is claimed to be the first psychologist?

In a philosophical context, psychology was around thousands of years ago in ancient Greece, Egypt, India, Persia, and China. In 387 B.C. , Plato

suggested that the brain is where mental processes take place, and in 335 B.C. Aristotle suggested that it was the heart; they all followed the ideas of Socrates.

Greek Philosophers

| Socrates | Plato | Aristotle |
| 470-399 B.C. | 428-348 B.C. | 384-322 B.C. |

Source: https://slideplayer.com/slide/13030639/
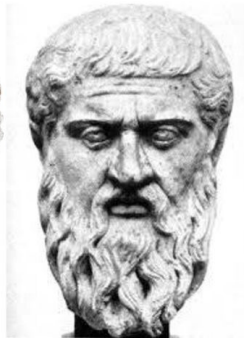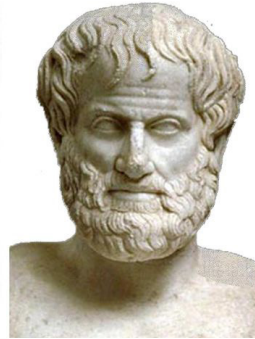
The ancient Greeks partially paved the way for the scientific study of psychology and the understanding of certain psychological problems. In fact, Aristotle can be credited with the formulation of the foundations of psychology. Since Greek philosophers studied how the personality and character of humans expressed themselves either as part of rational and deductive processes or as altered irrational processes, it should come as no surprise that Aristotle combined psychology with philosophy of mind, and therefore his empirical approach was a precursor to modern psychological approach.

Wilhelm Wundt (1832-1920)

Father of Psychology

Started the first laboratory to study humans in Leipzig, Germany 1879.

Tried to apply scientific method to the study of the mind.

Source: https://slideplayer.com/slide/10171045/

Wilhelm Wundt is largely credited with making psychology a separate science. The German psychologist wrote the first psychology textbook in 1874, *"Principles of Physiological Psychology"*. In 1879, Wundt opened the Institute for Experimental Psychology at the University of Leipzig. In doing so, he created the first laboratory to investigate solely psychological phenomena. Previous to his creation, psychology had been subsumed under the subjects of philosophy and biology. Wundt was the first to operationalize the process of self-examination, also known as introspection, for experimental use. He is often referred to as the father of experimental psychology and many see him as the father of psychology as a whole.

Sigmund Freud (1856-1939)

Sigmund Freud - History

- May 6, 1856-Sept 23, 1939

- "Father of Psychoanalytics"

- University of Vienna

- was an Austrian neurologist and psychiatrist who co-founded the psychoanalytic school of psychology.

- known for his theories of unconscious mind and redefinition of sexual desire as mobile and directed towards a wide variety of objects.

Source: https://www.pinterest.com/pin/749356825469971381/

No single figure in psychology is as famous as the Austrian Sigmund Freud. He is the father of psychoanalytic psychology and was the first to investigate the processes of the unconscious mind. He is thought to have invented talk therapy. He hypothesized that the mind's structure was made up of the id, ego, and superego. He also elucidated the process of transference and introduced the concept of defense mechanisms. He was the first to theorize on human development with his postulation of the psychosexual stages. Although much of his relevancy has been reduced by the wave of cognitive-behavioral techniques, his work set the stage for all of psychotherapy.

Mary Whiton Calkins (1863-1930)

- First female to complete all PhD requirements at Harvard

- Was denied degree because of gender

- First female president of the American Psychological Association

Source: https://slideplayer.com/slide/13017596/

It is no secret that women make up the majority of psychologists. The women in the early days of psychology paved the way for the women of today. Although there were several women pioneers none was more fundamental than Mary Whiton Calkins. She was the second woman to complete the work necessary for a PhD in psychology but was not awarded the degree because Harvard did not formally admit women at the time. She later became the first woman to serve as the president of the American Psychological Association. Besides being a trailblazer, her scientific contributions were robust. She invented the paired association technique of memory. In addition, she was one of the first to believe that the study of psychology should be based on the conscious self, seen in relation to its environment.

Kurt Lewin (1890-1947)

Source: https://www.slideserve.com/adeola/social-psychology

Lewin is known as the father of modern social psychology largely because of

his use of experimentation to study human behavior. He took a novel stance in the nature vs. nurture debate. His field theory posited that it is an interaction between a person and his/her environment that forms a human's personality.

He was one of the first to study organizational leadership styles and group interactions. Indeed, he coined the phrase "group dynamics". The field of Industrial/Organization psychology largely came out of his theories. Maybe most importantly, his "sensitivity training" was used to combat racial and religious prejudice far before the civil rights movement.

Jean Piaget (1896-1980)

Cognitive development theory

- Children "construct" their understanding of the world through their active involvement and interactions.
- Studied his 3 children to focus not on what they knew but how they knew it.
- Describe children's understanding as their "schemas" and how they use:
  – assimilation
  – accommodation

Source: https://www.jf21shop.top/ProductDetail.aspx?iid=89421546&pr=52.88

Piaget developed the first theory of child cognitive development. At the time it was groundbreaking. Before his work, children were believed to share the cognitive processes of adults. His theory directly led to the emergence of cognitive and developmental psychology. He believed cognitive development was an active process, not something that children passively acquired. Piaget coined the popular psychological phrases schema, accommodation, and assimilation. In addition, he was a fierce child advocate and fought for the education of children as vital to a society's success.

Carl Rogers (1902-1987) and Abraham Maslow (1908-1970)

Carl Rogers & Abraham Maslow
(1902-1987) (1908-1970)

- Helped to create Humanistic Psychology
- Stressed the study of conscious experience and an individual's free will
- Healthy individuals strive to reach their potential.

Source : https://www.slideserve.com/ashlyn/chapter-1-the-evolution-of-psychology

Rogers' client-centered therapy ushered in a new way of looking at the therapist-client relationship. He argued against the boundaries of psychoanalysis and behaviorism and instead trumpeted the importance of the interaction between therapist and client. Rogers believed in having unconditional positive regard for clients which foreshadowed the rise of positive psychology. He was one of the pioneers of the humanistic psychology movement and believed, like Abraham Maslow, that people strive toward self-actualization. Rogers' work set the stage for a more supportive therapeutic relationship and ushered in the development of most modern approaches to psychotherapy.

Erik Erikson (1902-1994)

Erik Erikson 1902-1994

. Born june 15, 1902 Frankfurt, Germany

.Died May 12, 1994 Massachusette, USA

.Nationality American/ German

.Fields Development psychology

.Influences Sigmund Freund/ Anna Freud

.Coined the term Lifespan Development

.Key idea theories of social Psychological Development

Source: https://www.pinterest.com/pin/856106210410400591/

Although a Neo-Freudian, Erikson was the first psychologist to postulate that personality developed over a lifetime, eschewing Freud's psychosexual theory of development. His eight-stage theory posited a conflict each person must overcome in order to continue the developmental process. He had a keen interest in identity formation and coined the term "identity crisis". Unlike Freud, Erikson emphasized adolescence and adulthood. It is thought that the notion of a mid-life crisis developed from the conflict of Erikson's seventh stage: generativity vs. stagnation.

B.F. Skinner (1904-1990)

Source: www.britannica.com/biography/Sidney-William-Bijou

The American psychologist B.F. Skinner built upon the work of John Watson and Edward Thorndike in popularizing behavioral psychology and operant conditioning. Behaviorism postulates that human actions are a response to environmental cues. It does not take into account individual cognition and feelings. Indeed, Skinner did not believe in free will.

For a large chunk of the 20th century, behaviorism was the most influential school of thought in psychology and Skinner was at its forefront. His work familiarized the general public with positive and negative reinforcement. He created the Skinner box to study operant conditioning in animals. Although behaviorism is not as popular as it was 50 years ago, operant conditioning still influences everything from parental discipline to work incentives.

Aaron Beck (July 18, 1921 – November 1, 2021)

Source: https://slideplayer.com/slide/13302604/
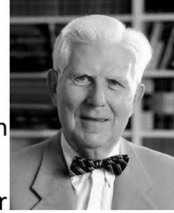
Cognitive Behavioral Therapy (CBT) is the most popular and well-researched form of psychological treatment today. Although it can be argued that Albert Ellis was the first to introduce CBT concepts, it was the work of Aaron Beck that formed the practice of CBT as we know it today. He popularized the link between thoughts, feelings, and behavior, especially as they pertained to the study of depression. Besides cognitive concepts, he also emphasized the therapeutic relationship and created one of the most popular depression assessment instruments, the Beck Depression Inventory (BDI).

Albert Bandura (December 4, 1925 – July 26, 2021)

Source: https://www.explorepsychology.com/albert-bandura/

Bandura's work was one of the first to bridge behaviorism with cognitive psychology. His social cognitive theory posits that we can learn by watching other people's behavior, not just by responding to external stimuli. His famous Bobo doll experiments exhibited how aggression could be learned simply through modeling. He is a leading voice in the study of self-regulation, marking a person's ability to mediate their behavior in different situations. In addition, he coined the term self-efficacy, which is an essential concept in the study of motivation and achievement.

Application activity 1.2

a) Chronologically, list key philosophers who contributed in the origin of psychology as a scientific discipline.

b) Identify key prominent psychologists and their contributions.

1.2.3. Psychology as a Science

Activity 1.2.3

Source: https://studiousguy.com/psychology-and-other-disciplines/
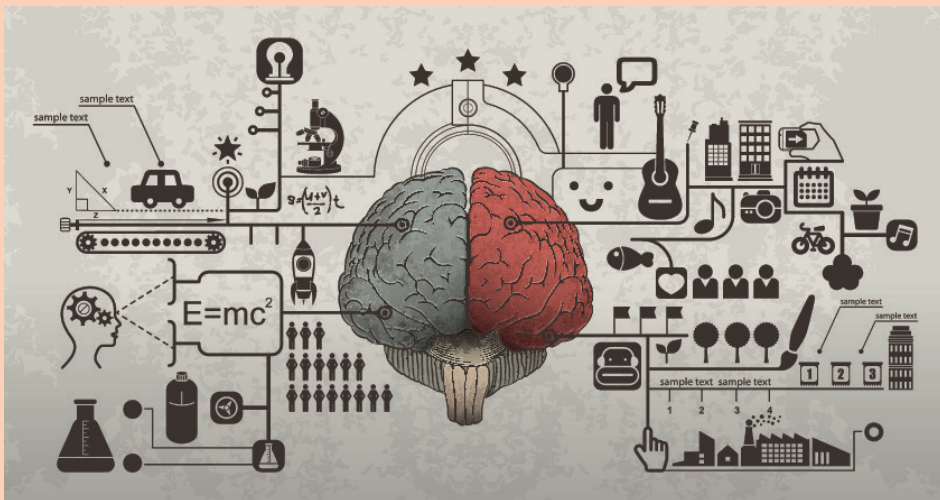
- *Learners observe the above illustration, and discuss about what they see.*

As a science, psychology has come a long way in the century or so since the early work of Wundt and James. Psychology has gone beyond asking broad philosophical questions about human nature and abilities and has developed

into a science. But even today, psychologists have different philosophical perspectives on their work. They have different ideas about the nature of humanity, the nature of science, and the topics and methods that psychologists should emphasize.

> *For instance, some psychologists believe we should only study behavior and leave the mind to philosophers. Others think that we must study human experience and feeling even if these are more difficult to observe and measure than action and reaction.*

The status of psychology as a science is based on the use of the scientific method. Psychologists base their professional practice on knowledge obtained through verifiable evidence of human behavior and mental processes. Psychological studies are designed like studies in other scientific fields. It is through these studies that psychologists contribute to the body of research in their field. "Professionals in the field who 'do psychology' (eg, research, teaching, psychotherapy) understand psychology to be a scientific discipline."

Despite their differences in interests, fields of study and approaches, all psychologists have one thing in common: they are based on scientific methods. Research psychologists use scientific methods to create new knowledge about the causes of behavior, while practitioner psychologists, such as clinical, counseling, industrial-organizational, and school psychologists, use existing research to improve everyday life of others. The science of psychology is important to researchers and practitioners.

Application Activity 1.2.3.

a) List four prominent philosophers who contributed in the origin of psychology.
b) Specify the contributions of four key figures in psychology.
c) How is psychology considered as a science?

1.3. Importance of Psychology

Activity 1.3

Define psychology and its application in scientific world.

Psychology is the scientific study of human behavior and mental processes. It has existed since the ancient civilizations of Egypt and Greece, primarily as a branch of philosophy, but it broke out as an independent branch of scientific study in the 1870s. The effects of psychological studies are more relevant and respected than any period in the past, and the best researchers are always discovering new issues and applications for psychology.

Many of the major modern applications of psychology revolve around protecting people from emotional and physical harm, while providing them with the mental bandwidth to deal with the psychological dangers many people face on a daily basis. Problems such as relationships, job stress, and financial difficulties can be affected by psychological symptoms that require diagnosis and management, which is where modern psychology comes in and why it is so important.

Despite the popular stereotype of the therapist in private practice popularized by the media, psychology professionals actually have access to a wide variety of industries and fields, from education and criminal justice to marketing and politics.

Essentially, psychology **helps people in large part because it can explain why people act the way they do**. With this kind of professional insight, a psychologist can help people improve their decision making, stress management and behavior based on understanding past behavior to better predict future behavior.

The goals of psychology

Like other science, psychology exists because people are curious, because they want to have an accurate knowledge, and they want to improve their lives. Psychologists attempt to meet these needs by setting four goals: to describe, explain, predict, and modify behavior and mental processes.

GOALS OF PSYCHOLOGY

Describe
– first goal of psychology is to describe the different ways
  that organisms behave

Explain
– second goal of psychology is to explain the cause of
  behavior

Predict
– third goal of psychology is to predict how organisms will
  behave in certain situations

Control
– the fourth goal of psychology is to control an organism's
  behavior

MORRIS 1e © 2006 Prentice Hall

https://slideplayer.com/slide/255327/

Describe

The first and fundamental goal of psychology is to describe. That is, to observe and measure behavior and mental processes. If we want to understand children's behavior at play, we must watch them playing and observe their interactions. Through describing the behavior of humans and other animals, we are better able to understand it and gain a better perspective on what is considered normal and abnormal.

While playing, children talk to one another, engage efforts to win, and rivalry conduct. They use their intelligence and skills and sometimes they form groups. In forming groups, they select individuals who are likely in good position to

facilitate them win. They discretely measure their colleagues' knowledge and capabilities that are required by the type of the game.

Explain

The second goal of psychology is to explain the meaning of the information gathered. As you might imagine, in addition to merely describing it, psychologists are also interested in explaining behavior. Why do people do the things they do? What factors contribute to development, personality, social behavior, and mental health problems?

Psychologists normally accomplish this goal by formulating a theory, a coherent group of assumptions that can explain the data. However, this is a challenging exercise because various factors can influence behavior and mental processes. This can be understood while you want to enumerate the reasons why your best friend might not answer when you tell them "good morning". Maybe your fiend is busy with psychology paper preparation. Maybe he/she is angry because last time you refused to borrow him/her money. Maybe his/her mother is sick and he/she does not feel well.
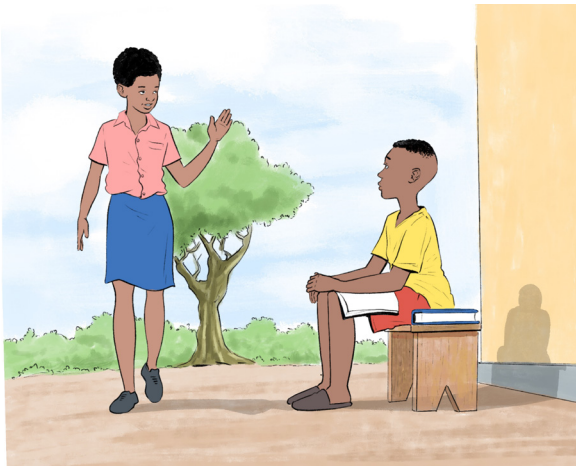
Keza passes and greets Mucyo, but he seems deepely absorbed in his mind thinking of tomorrow's exam and cannot notice the Keza's greeting gesture.

Psychologists sometimes offer many different theories to explain various behaviors or mental processes because so many factors are involved. Psychologists rely on the scientific method to test the accuracy of their theories and the ability to predict behavior and mental processes.

Prediction

Thirdly, another primary goal of psychology is to make predictions about how we think and act. Once we understand more about what happens and why it happens, we can use that information to make predictions about when, why, and how it might happen again in the future. Successfully predicting behavior

is also one of the best ways to know if we understand the underlying causes of our actions.

Modify behavior and mental processes: The final goal of psychology is the application of knowledge in the promotion of human welfare. Marketers and businesses often use the understanding gained from psychological research to try to influence and persuade buyers to behave in certain ways. For example, they might design advertising campaigns designed to make a message appeal to a target audience. By tailoring their messaging to specifically appeal to a certain type of buyer, those individuals are often more likely to respond.

Our knowledge of behavior and mental process would be used to help individuals prevent or manage psychological disorders. Knowledge gained through psychological research touches almost every aspect of life, ranging from the way we raise and teach our children to the tests they take for college enrollment , from advertising we see on television, to the design of airplane cockpits, and from the way leaders make decisions to the way nations resolve conflicts.

The use of psychology on a daily basis

The importance of psychology is seen through different examples of how psychology is studied and how it is applied in our daily lives. Psychology is the scientific study of mind and behavior, which can literally be applied to every field from health to business and social behavior. In an effort to improve our lives, psychology seeks to collect and understand the data that surrounds our daily lives. And when we have maladaptive behaviors and thoughts, psychology seeks to diagnose and treat.

Everyone uses psychology on a daily basis, whether it's about talking to friends, arguing with a partner, or disciplining one's children. Most people just don't realize the importance of the science behind their decisions. Understanding how your mind works helps in everyday life by allowing you to build strong relationships and make the best decisions. Here are four ways to do it:

- **Building relationships**: Psychology facilitates coexistence with others by understanding them better and working with their behavior.
- **Improve communication**: A better understanding of how humans think and behave will help people communicate better. They will be more effective in understanding what a person really means with their gestures and actions.
- **Build self-confidence**: By better understanding yourself and your personality, you can gain more self-confidence. You will learn more about your weaknesses and be able to exploit them.

- **Enriching careers**: You will be able to better understand your colleagues and have more chances to make friends. It helps to deal with your actions to enrich your career.

Application activity 1.3

a) What are the goals of psychology?
b) What are the uses of psychology?

1.4. Relationship between Psychology and Other Sciences

1.4.1. Psychology and Natural Sciences

Activity 1.4.1.

Observe the image below and explain the application of psychology in scientific world.

https://www.politicalscienceview.com/relationship-of-political-science-with-other-disciplines/

Psychology is also commonly called as the science of behaviour and often consists of observing the overt (physical behaviour) and covert (mental cognitive processes) behaviour. It is due to this characteristic that is more concerned with the nature of our brain and its functions. Psychological researchers study genetics in order to better understand the biological basis that contributes to certain behaviors. While all humans share certain biological mechanisms, we are each unique. Genetic psychology, also known as behavioral biology, is a

field of study exploring how genes influence personality. Genetic psychologists typically conduct research on how specific genes influence human behavior and personality; hence psychology is scientifically linked to other natural sciences.

Psychology and Physical Sciences

Psychology is the science of the human experience. But experience precedes both the subject and the object, and indeed. Psychology deals with cognitive processes such as cognition, emotion, and freedom, and to describe them properly it must study the type of physical stimuli in terms of cognition and desire. But there is a difference between the psychology and the physical sciences in the matter of material things. Physical science studies the types of physical stimuli that do not depend on their interactions with humans. But psychology studies the nature of the relationship between man and physical stimuli.

Psychology does not affect the nature of physical stimuli individually, regardless of their relationship to humans. It often affects a person's behavior and indirectly with external stimuli.

Physical science studies the nature of the body and thus helps the psychologist to interpret the person's experience and behavior, which is a reaction to the physical and social stimuli.

Psychology and Biology

Psychology is the science of experience and practice. However, the experience cannot be fully explained if the physiological system is interconnected. The environment is influenced by the environment; and the mind responds to the environment through muscle. The sensory organs in the muscles are part of the body. The mental system is therefore closely linked to the physical system.

In fact, many psychologists consider the psychological system to be the work of life. They are tools for the better transformation of the spiritual body and environment. Many modern psychologists deal with psychology from the perspective of life.

They argue that consciousness occurs when the natural response does not make the object environmentally friendly, and that a higher mental system is designed to improve the organism in a complex environment.

The relationship between mental science and science fiction is very close. Individual experiences and actions can be defined in terms of some basic concepts of biological science. E.R. Hess has shown that there is a close relationship between the spiritual system and the nervous system and the human form. According to him, there is likely to be a link between "mental performance and coordination of the brain". Personal experience is closely

linked to brain structure as well as the characteristics of its structure. There is a close relationship between the structure of the brain and the regulation of the content of consciousness. It is clear, therefore, that the relationship between psychology and life is vast.

Psychology and Physiology

Psychology is the science of experience. Everyone's experience is closely linked to the physiological system, especially of the nervous system. Therefore, psychologists study these physiological disciplines to obtain a detailed explanation for the psychiatric system.

It does not study physiological processes that have nothing to do with mental processes, since it primarily affects mental processes and behavior.

Psychology should not be confused with physiology. Psychology is about experience, that is, knowledge, feelings and desires. These factors are related to the physiological process studied by psychology. Psychology also talks about behavior which is a reflection of experience.

Behavior is a physical and social reaction to the physical and social environment. Thus, psychology studies the nature of different types of behavior. It does not study the nature of the entire physiological system. Physiology, on the other hand, studies the nature of all forms of physiological processes - the function of all organs and organs.

Behaviors want to reduce the psychology and physiology that is the science of life. They take away mental or emotional consciousness. Psychology refers to behavior as the reaction of the whole body to stimuli, not its components. But physiology studies the reactions of different parts or parts of the body.

The relationship between spiritual science and physiology is so strong that critical discipline began four centuries ago known as "physiological psychology".

Psychology Physiology has grown by leaps and bounds by accepting ideas and procedures from other related disciplines such as neuroanatomy, neurophysiology, endocrinology, pharmacology, cell physiology, and biochemistry. Research in the field of physiological psychology has shed valuable light on human nature and telic behavior.

Application activity 1.4.1

How is Psychology related to Natural Sciences?

1.4.2. Psychology and social sciences

Activity 1.4.2

a) Which sciences do you think might be in the category of social sciences?

b) Do you think that psychology is related to social sciences?

Psychology is also a social science, which studies people within society and looks at how a particular society influences how people think and behave. It recognises that behaviour is influenced by a person's motives (what's in it for them) and their reactions to other people and situations.

Psychology and Sociology

Psychology refers to the moral and behavioral aspects of human behavior in relation to the environment. The outside world or light, sound, taste, smell, heat, cold, etc., comprises the physical environment.

Everyone's spirit grows through its interactions with society. He/she develops his/her character through public relations. There is a constant bond between the individual and society.

Sociology refers to the nature, origin and development of a city. It explores the events, culture and public institutions throughout their development, from the hostile state to the urban sprawl/spread. Thus, behavior is closely linked to sociology.

Sociology is a major factor influencing the study of the relationship between individuals and groups. It is a study of the connections between individuals and society. The nature of interpersonal relationships has become increasingly well understood through research in the field of psychology.

Thus, it is clear that there is a great correlation between the psychology and sociology disciplines. However, despite the close relationship between psychology and sociology, there are some major differences between the two. Psychology is at the core of a person's experience and actions. Sociology, on the other hand, focuses on the role of human beings in society.Social psychology speaks of collective behavior. It examines the identities of individuals they have acquired as members. It studies demographics and demographics. It studies the psychological principles of civil society. It is a meeting place of psychology and sociology.

Psychology and Education

Psychology is the science of one's behavior in relation to one's environment. Education is the science of putting the student's potential into action and molding his or her character and behavior to be useful and relevant to the community. Education involves the development of an individual's ability to change and transform his or her environment. Thus, academic learning affects the general principles of psychology and the practical importance of education. It provides a mental and educational basis and makes it worthwhile.

The educator should use the principles of psychology to develop the child's ability to focus, attention, memory, thinking, reasoning, emotions, independence and character.

Psychology assists the teacher by informing him about the child's natural gift, the rules of mental development, the influence of the environment on his mind. She helps the teacher by telling her how one person affects the other, how one's life affects that person, and how school life affects children's behavior. It assists educators by explaining how to implement a curriculum and how to acquire new knowledge and incorporate it into an established curriculum.

Psychology and Logic

Logic, as a discipline, is part of philosophy (which is not considered to be a social science but has a big impact on social transformation and people's reasoning). That said, it is quite useful in many fields involving human beings. Psychology is wider in scope than Logic, because it deals with all kinds of mental processes, viz., knowing, feeling and willing. But Logic deals with thinking only, which is a kind of knowing. It does not deal with feeling and willing. But Logic is not identical with the psychology of thinking, because psychology is a positive science, while Logic is a normative science. Psychology tells us how we actually think while Logic- tells us how we ought to think in order to arrive at truth.

There are some differences between Psychology and Logic. Psychology is concerned with the study of mental processes, e.g., conception, judgment, and reasoning, while Logic is concerned with mental products, e.g., concepts, judgments and inferences. Psychology deals with the process of reasoning or mental exploration of data whereas Logic deals with the result of mental exploration or finding a new relationship among the data.

Logic, as a normative science, is based on Psychology which is a positive science. In order to know how we ought to reason, we should know how we do reason. We should know the nature of reasoning before we can investigate the conditions of its validity. Psychology deals with the actual process of reasoning. Logic deals with the validity of reasoning and the conditions of its validity. Nevertheless, the laws of logic are conditioned by the laws according

to which the human personality thinks. All types of logical thinking are limited by the limitations of the human mind.

Psychology and Philosophy

Most colleges consider philosophy a humanities subject rather than a social science. Philosophy emphasizes foundational questions about reality, human nature, and the relationship between mind and matter. Philosophy majors use logic and critical theory to address topics such as morality, the external world, art, and objectivity. Many social science disciplines look to the principles of philosophy to try to understand human behavior, morality's impact on decision-making, and the development of social institutions.

Philosophy has two aspects, epistemology and ontology. Psychology is related to epistemology. Psychology is interested in the nature of knowing, feeling and seeking. It speaks of knowledge as fact, as well as the nature and development of knowledge of the individual mind. It was interested in the accuracy of the information. Psychology thinks it will have knowledge and only discover its growth and development in the mind of everyone.

But epistemology questions the position of possible knowledge and speaks to the accuracy of knowledge.

It seeks to answer the following questions:
- Is it possible to know the truth?
- Does knowledge represent truth?
- What is the source of accurate knowledge? Is it an experience or a reason or two?
- What is the status of accurate information?
- What is the size, scope or limit of knowledge?

Psychology is therefore the basis of epistemology. It rejects the nature of knowledge as truth. Epistemology, on the other hand, questions the validity of knowledge. To evaluate the accuracy of information, we need to know how we really know.

Psychology originated from philosophy like every other science. However, as psychology developed as an autonomous science, it got itself separated from philosophy. Recently it has discovered that there are certain theoretical problems in psychological science which are of speculative nature. These speculative problems of psychological science fall within the range of philosophy. Philosophical psychology deals with those problems in psychological science which has philosophical overtones.

Psychology and History

Psychology and history are also directly related. As studies, psychology and history combine a fundamental element with the human condition. The historian must demonstrate some psychological knowledge by analyzing the intentions and actions of people and society. The work of the historian would only be a myth if he/she did not use the invention of modern psychology. A historian's personal life and environment have a direct impact on decision making, often preferring narrative and preventing the expected objectivity.

The influence of psychology on history is evidenced by the fact that in the past a historian considered carefully the origins of war and ignored its consequences. Under the influence of psychologists, historians studied the atrocious outcomes and effects of war. An understanding of group psychology may enable a historian to define the role of the masses in various revolutions so that national patriotisms have been described as the cause of a particular war, but a historian can discuss this cause through social psychology.

Application activity 1.4.2

How is Psychology related to Social Sciences?

1. Link the psychological concepts with their meaning using arrows (➝)

Psychology	Study of mental life
Mind	Acquiring new behaviours
Sensation	Without it, we cannot recall anything
Motivation	Basis of perception
Intelligence	Sensory experience of the world
Learning	Sustains us in everything we do
Mental processes	Ability to learn
Memory	Happiness is an example
Perception	Helps predict people's bahaviours
Behavior	Reaction to environment
Personality	Intellectual and psychological phenomena of a creature
Emotion	All things that human mind can do

2. List five key prominent psychologists and their contributions in psychology
3. List the goals of psychology
4. How is psychology related to sociology?

🔑 **Key unit competence:** Justify thoughts imbedded in Schools of Psychology

2.1. Structuralism

> **Activity 2.1**
>
> What do you remember about Wilhelm Wundt?

2.1.1. Origin

Structuralism is considered the first school of thought in psychology, and was established in Germany by Wilhelm Wundt, and mainly associated with Edward B. Titchener (England). Structuralism looked to examine the adult mind in terms of analyzing the basic elements of thoughts and sensations, and afterward to discover the manner by which these segments fit together in complex structures.

Wundt's aim was to record thoughts and sensations, and to analyze them into their constituent elements, in much the same way as a chemist analyses chemical compounds, in order to get at the underlying structure. The school of psychology founded by Wundt is known as voluntarism, the process of organizing the mind. Titchener, the Wundt's student, built upon his ideas and introduced the concept of structuralism and the analysis of the basic elements that constitute the mind.

Structuralism is *a school of psychology whose goal was to identify the basic elements or "structures" of psychological experience*. Wundt limited the subject matter of psychology to the study of conscious experience. The elements of conscious experience were considered to be of two kinds. These are:

- **Sensations:** sights, sounds, tastes, smells and touch, which arise from stimulation of the sense organs;
- **Feelings:** love, fear, joy, and so on

Structuralists used the method of **introspection** to attempt to create a map of the elements of consciousness. **Introspection involves *asking research participants to describe exactly what they experience as they work on mental tasks***, such as viewing colors, reading a page in a book, or performing a math problem.

The structuralist approach marked the beginning of psychology as a science, because it demonstrated that mental events could be quantified, but the structuralists also discovered the limitations of **introspection**. Even highly trained research participants were often unable to report on their subjective experiences. When the participants were asked to do simple math problems, they could easily do them, but they could not easily answer how they did them. Thus, the structuralists were the first to realize the importance of unconscious processes, that many important aspects of human psychology occur outside our conscious awareness, and that psychologists cannot expect research participants to be able to accurately report on all their experiences. Consequently, the structuralist approach is no longer used.

In introspection people are taught, trained to observe and report the 'content' or 'elements' of awareness in a particular situation. For example; people are presented with stimulus such as a sentence on a card and asked to describe in their own words their own experiences. Introspection is detailed description and how people perceive things in the world.

2.1.2. Wilhelm Wundt and Voluntarism

Wundt was a German physiologist who later came to be known as the Father of experimental psychology. He is one of the founders of modern psychology. Wundt established the first psychological laboratory in Leipzig, Germany, in the year 1879. He was the first person ever to call himself a psychologist. He distinguished between psychology from philosophy and biology.

Wundt's main theory was of psychological voluntarism. This theory suggested that the power of the will organizes the contents of the mind. It gets organized into thought processes of the higher level. Wundt focused on and proposed the theory of human perception and consciousness. This is why Titchener's ideas were concerned with the structure of consciousness.

Wundt's experimental technique was known as introspection, which we discussed above. The introspection Wundt used was a highly practiced manifestation of self- examination. He called introspection **internal perception**. He believed that the conscious experience has to be observed so objectively, that it should seem like a scientist is observing it.

2.1.3. Introspection: Structuralism's Main Technique

Introspection is the process by which a person looks inward at their own mental processes to gain insight into how they work. It is the self-observation of one's consciousness.

Wundt's introspection was not a casual affair, but a highly practiced form of self-examination. He trained psychology students to make observations that were biased by personal interpretation or previous experience, and used the results to develop a theory of conscious thought.

Highly trained assistants would be given a stimulus such as a ticking metronome and would reflect on the experience. They would report what the stimulus made them think and feel. The same stimulus, physical surroundings and instructions were given to each person.

Wundt's method of introspection did not remain a fundamental tool of psychological experimentation past the early 1920's. His greatest contribution was to show that psychology could be a valid experimental science.

Titchener trained his students to become skilled at trained introspection, and to report only the sensations as they were experienced without reliance on "meaning words", which he called a stimulus error. Using this approach, Titchener's students reported various visual, auditory, tactile, etc experiences: In *An Outline of Psychology* (1899), he reported over 44,000 elements of sensation, including 32,820 Visual, 11,600 Auditory, and 4 Taste.

2.1.4. Titchener's Structuralism: Elements of the Mind

Edward Titchener (1867-1927)

- □ Titchener refined Wundt's technique of introspection and to study sensation and it Structuralism.
- □ He defined this as the study of the structure of the conscious mind.
- □ Titchener translated Wundt's major work "Principles of Physiological Psychology" into English.
- □ He considered himself a "true Wundtian" all his career.

Source: http://slideplayer.com/slide/14138348/

Eduard Titchener's ideas of how the mind works were influenced by Wundt's voluntarism. He attempted to classify the mind into structures. Introspection was the major tool used by him for this classification. For approximately 20 years Titchener remained a major dominant in American psychology.

Titchener was curious about what are the elements of the mind. He concluded his research by discovering three elements of the mind. He named them **sensations** (elements of perception), **images** (elements of ideas), and **affection** (elements of emotions). These elements could be further broken down into various properties.

Elements of the Consciousness According to Titchener

Sensations (elements of perception)

Images (elements of thoughts)

Affection (elements of emotion)
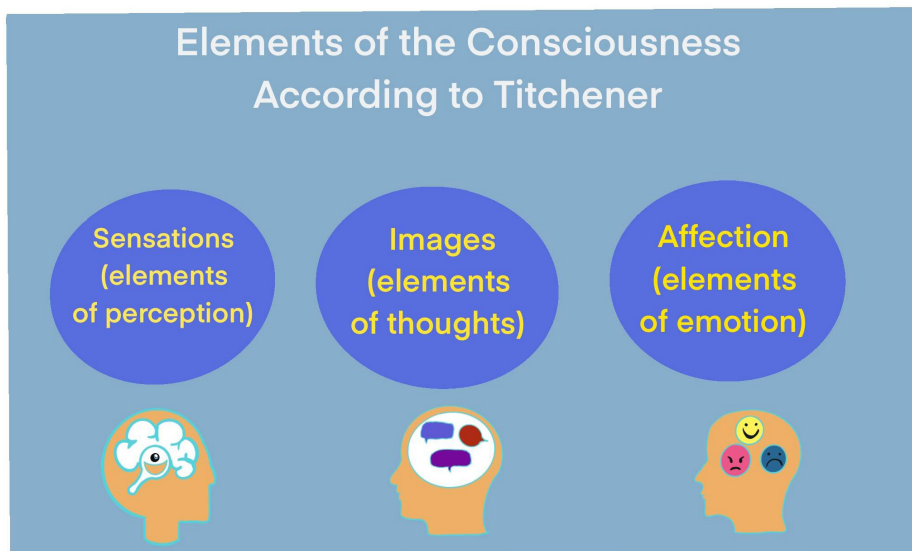
Titchener concluded that there were three kinds of mental components that could be considered to constitute conscious experience:

a) Sensations (components of discernments),

b) Images (components of thoughts),

c) Affections (expressions of warmth which are components of emotions).

These components could be block quoted into their particular properties, which he decided were quality, intensity, duration, clearness, and extensity.

a) Quality – "cold" or "red": distinguishes each element from the others.

b) Intensity – how strong, loud, bright etc. the sensation is.

c) Duration – course of a sensation over time; how long it lasts.

d) Clearness (attensity) – role of attention in consciousness – clearer if attention is directed toward it.

Pictures and expressions of warmth could be separated further into just bunches of sensations. It can therefore be concluded that by following this train of reasoning all of the thoughts in question were pictures, which being developed from rudimentary sensations implied that all perplexing thinking and thought could in the end be separated into simply the sensations which he could get at through introspection.

2.1.5. Influence of structuralism on Psychology

Despite the fact that structuralism spoke to the development of psychology as a field separate from reasoning, the basic school lost significant impact when Titchener eventually passed away.

Over the years Titchener's approach using introspection became more rigid and limited. By today's scientific standards, the experimental methods used to study the structures of the mind were too subjective; the use of introspection led to a lack of reliability in results.

Other critics argue that structuralism was too concerned with internal behavior, which is not directly observable and cannot be accurately measured. Also, because introspection itself is a conscious process it must interfere with the consciousness it aims to observe. The development drove, nonetheless, to the advancement of a few counter movements that would in general respond firmly to European patterns in the field of exploratory psychology.

Application activity 2.1.

Explain the aim of Wundt's voluntarism and Titchener's structuralism in psychology.

2.2. Functionalism

2.2.1. Origin

Functional Psychology or functionalism refers to a psychological school of thought that was a direct outgrowth (branch) of Darwinian thinking which focuses attention on the utility and purpose of behavior that has been modified over years of human existence. Edward L. Thorndike, an America Psychologsy, best known for his experiments with trial-and-error learning, came to be known as the leader of the loosely defined movement. This movement arose in the U.S. in the late 19th century in direct contrast to Edward Titchener's structuralism, which focused on the contents of consciousness rather than the motives and ideals of human behavior. Functionalism denies the principle of introspection, which tends to investigate the inner workings of human thinking rather than understanding the biological processes of the human consciousness.

It arose as a response to structuralism and focused on the contents of consciousness. It was heavily influenced by the theory of evolution of Charles Darwin (an English naturalist). This school of psychology completely denied the principle of introspection.

William James (American Psychologist and Philosopher) is the founder of Functionalism. It was not based on strict and controlled experiments. The focus was on empirical and rational thoughts. The focus of functionalism was not on the process of thought, but rather on the capability of the mind. It heavily emphasized individual differences.

James was the first American psychologist and wrote the first general textbook regarding psychology. In this approach he reasoned that the mental act of consciousness must be an important biological function. He also noted that it was a psychologist's job to understand these functions so they can discover how the mental processes operate. This idea was an alternative approach to Structuralism, which was the first paradigm in psychology (Gordon, 1995).

In opposition of Titchener's idea that the mind was simple, William James argued that the mind should be a dynamic concept.

William James (1842–1910)

- First American psychologist
- Started psychology at Harvard in 1870s
- Opposed Wundt and Titchener's approach
- Author of the first psychology textbook
- Founder of Functionalism
  - functionalism – influenced by Darwin to focus on how behaviors help us adapt to the environment

Source: https://www.slideserve.com/ashlyn/chapter-1-the-evolution-of-psychology
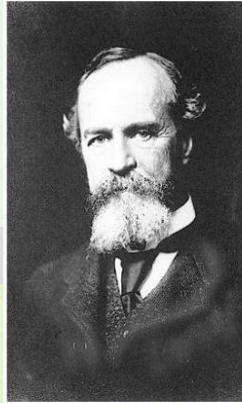
James's main contribution to functionalism was his theory of the subconscious. He said there were three ways of looking at the subconscious in which it may be related to the conscious. First, the subconscious is identical in nature with states of consciousness. Second, it's the same as conscious but impersonal. Lastly, he said that the subconscious is a simple brain state but with no mental counterpart.

According to *An Illustrated History of American Psychology*, James was the most influential pioneer. In 1890, he argued that psychology should be a division of biology and adaptation should be an area of focus. His main theories that contributed to the development of functional psychology were his ideas about the role of consciousness, the effects of emotions, and the usefulness of instincts and habits.

2.2.2 Description of the functionalism school of Psychology

The American psychologist William James pioneered the school of functionalism. The goal of **functionalism** was *to understand why animals and humans have developed the mental processes that they currently possess* (Hunt, 1993). For James, one's thinking was relevant only to one's behavior as he puts it in his psychology textbook, "My thinking is first and last and always for the sake of my doing" (James, 1890).

James and the other members of the functionalist school were influenced by Charles Darwin's (1809–1882) theory of natural selection, which proposed that the physical characteristics of animals and humans evolved because they were useful, or functional. The functionalists believed that Darwin's theory applied to psychological characteristics too. Just as some animals have developed strong

muscles to allow them to run fast, the functionalists thought the human brain must have adapted to serve a particular function in human survival. Although functionalism no longer exists as a school of psychology, its basic principles have been absorbed into psychology and continue to influence it in many ways.

In brief functionalism:

    a) Focused on what the mind does on the functions of mental activity and the role of behavior in allowing people to adapt to their environment.

    b) Functionalism was strongly influenced by biology. The work and ideas of Charles Darwin had a great impact on the emergence of functional psychology. According to Darwin's theory of evolution, living organisms change and develop over time through a process of natural selection. Organisms whose characteristics were best suited to their environment survived and reproduced. While organisms whose characteristics were less adaptable died out. Survivors would transmit to the next generation those characteristics that enabled them to survive.

    c) William James was greatly influenced by Darwin. James held that the function of consciousness was to enable humans to behave in ways that would act survival through adaptation to the environment. Where these adaptive behaviors were repeated frequently they became habits. Habits provide stability and predictability in society.

These structuralist and functionalist schools of psychology do not exist today. But they laid important groundwork for the development of behaviorism which is still used today. Structuralism was the beginning of modern psychology and the name of Wundt will always stay important in the study of Psychology.

2.2.3. Concepts of Functionalism

A number of key concepts underpin **Functionalism. The primary concepts within Functionalism are collective conscience, value consensus, social order, education, family, crime and deviance** and the media.

The concept of function:

Functionalist sociologists like Parsons and Durkheim (French sociologist) have been concerned with the search for functions that institutions may have in society. However, another functionalist sociologist R. Merton (American sociologist) has adopted a concept of dysfunction – this refers to the effects of any institution which detracts from the conservation of society. An example of a function which helps maintain society is that of the family, its function is to ensure the continuity of society by reproducing and socialising new members. Another institution which performs an important function is religion. Functionalist sociologists believe that it helps achieve social solidarity and shared norms and values.

Collective conscience and value consensus:

Functionalists believe that without collective conscience/shared values and beliefs, achieving social order is impossible and social order is crucial for the well-being of society. They believe that value consensus forms the basic integrating principle in society. And if members of society have shared values, they therefore also have similar identities, this helps cooperation and avoids conflict. Value consensus also ensures that people have shared: – Goals, Roles and Norms. Norms can be described as specific guidelines of appropriate behaviour; for example, queuingin a taxi car park .

Social Order: Functionalists believe that there are four main basic needs that an individual requires in order to exist in society. They also believe that these four basic needs are essential for maintaining social order. They are: food, shelter, money and clothing.

Functionalism and Education: Durkheim believes that education transmits society's norms and values. Education brings together a mass, and changes them into a united whole which leads to social solidarity. It was believed that education leads to universalistic values and that education performs a link between family and the wider society which in turn leads to secondary socialization. Education also allows people to train for their future roles in society. Schools instil the value of achievement and the value of equality of opportunity. Education helps match people with jobs suited to them.

Functionalism and Family: George Peter Murdock believes that the family provides four vital functions for society: sexual, reproductive, economic and educational.

The family is the primary point of socialization in that it provides children with values and norms. Family also stabilizes adult personalities. A family unit provides emotional security for each person in the relationship.

Functionalism and Media: The media operate in the public interest by reflecting the interests of the audience. It portrays public opinion. The media understands that society has a wide diversity of culture and this is shown by the different amounts of stories it covers.

Functionalism and Crime and Deviance: Durkheim shows us that there is such a thing as society, and that it is this entity called society that creates crime and deviance. Crime and deviance are socially constructed – they are not natural, obvious, or theologically inspired categories. They are concepts that were brought into the world solely by humankind. Moreover, Durkheim goes beyond this and shows us how socially constructed definitions of crime and deviance are linked into a wider social structure.

Functionalism and Religion: Religion contributes to the social structure and well-being of society. It does this by teaching values and consensus. Emile Durkheim argued that all society's divide into the sacred and the profane (non-religious). Durkheim found that totenism was the most basic form of religion with small groups using symbols such as plants or animals. Durkheim saw social life as impossible to achieve without the shared values and norms achieved through collective conscience. Religion comes with values and norms that are shared between groups. This helps strengthen the integration of society. Parsons argued that religious beliefs provide guidelines and that these guidelines establish general principles and moral beliefs which provide stability and order for society.

Functionalism and Politics: Talcott Parsons believed in value consensus. Power is used to achieve collective goals, e.g. material prosperity. Everybody benefits from power (a variable sum of power). Authority is usually accepted as legitimate by the majority as it helps to achieve collective goals.

2.2.4. Difference between structuralism and functionalism

Structuralism and functionalism are two schools of thoughts in psychology. With functionalism immediately following and completing structuralism, they form together the two earliest psychological schools that have developed theories explain human behavior in different ways.

Structuralism is recognized of being the first formal theory in psychology that separated it from biology and philosophy into its own scientific discipline. The structural psychology was first described by Tichener, a student of Wilhelm Wundt who created the first psychological laboratory and thereby known as the father of psychology. So, Tichener's ideas were highly influenced by the work done by Wundt.

Structuralism or structural psychology was an approach that attempted to analyze the human mind by establishing basic units within it. The focus was on these basic units. The study of the mind was done through introspection to establish the link between different inner experiences, like feelings or sensations. Structuralism was the approach that led to the creation of the first psychological laboratory and the first attempts at a scientific study of the human mind. However, the issue with structuralism was that it was based on an inherently subjective technique – introspection. The participants had to focus on their feelings and sensations to report them to the experimenters; however, this approach was based on subjective measures only, which limited the accuracy of this approach.

Functionalism, on the other hand, proposes that consciousness could not have a basic structure, so it would not be useful to study it from this point of view. Rather, the idea behind functionalism is that it would be effective to study the functions and roles of the human mind rather than its structure. Functionalism was more focused on behavior.

Functionalism appeared as a reaction to structuralism, which was not accepted in America. Psychologists like William James criticized structuralism and proposed alternatives. James suggested that the mind and consciousness existed for a purpose, which should be the focus of the study. He also suggested that psychology needed to be practical rather than purely theoretical as was proposed in the structuralist approach. Functionalism also was focused on more objective aspects rather than introspection. James believed in consciousness, however, he could not find a scientific way to study it, so he chose to focus on behavior, which could be studied objectively. With its practical approach, functionalism laid the groundwork for behaviorism, a theory that was very focused on objective measures of human behavior and on seeing the function rather than the structure of the human mind.

Both structuralism and functionalism were important theories in their time and were among the first formal psychological theories. Structuralism influenced the development of experimental psychology and was a theory that began shaping psychology as a separate field. Functionalism appeared as an answer to structuralism. It also influenced the development of behaviorism, a theory that was very significant in psychology. It can be said that the main difference between structuralism and functionalism is in what they study. Structuralism studies the human mind and the basic units that can be identified through introspection. Functionalism focuses on more objective forms of study and argues that it's necessary to study aspects of the mind and behavior in terms of function. Both approaches have an important historical significance and have influenced the development of psychology.

Application activity 2.2

How does functionalism differ from structuralism?

2.3. Behaviorism

2.3.1. Origin

Behaviorism being regarded as a school of thought in the 1950s and was mainly based upon the ideas of John B. Watson, Ivan Pavlov and B. F. Skinner, according to which, all behaviors can be explained by environmental causes rather than by internal forces. Behaviorism is focused on *observable behavior*; hence behavior is acquired and not innate.

Ivan Pavlov (1849-1936)

- Behaviorist
- Russian Physiologist
- Studied learning through associations in animals
- Emphasized the study of observable behaviors

Source: https://www.slideserve.com/ashlyn/chapter-1-the-evolution-of-psychology
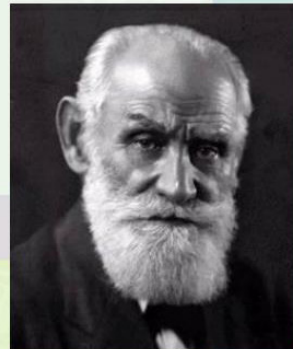
The behavioral school of psychology had a considerable impact on the course of psychology, and majority of the ideas and techniques that emerged from this school of thought are still widely used today.

2.3.2 Description of the school of Behavioursim

Although they differed in approach, both structuralism and functionalism were essentially studies of the mind. The psychologists associated with behaviorism, on the other hand, were reacting in part to the difficulties psychologists encountered when they tried to use introspection to understand behavior.

Behaviorism *is based on the premise that it is not possible to objectively study the mind, and therefore psychologists should limit their attention to the study of behavior itself*. Behaviorists believe that

the human mind is a black box into which stimuli are sent and from which responses are received. They argue that there is no point in trying to determine what happens in the box because we can successfully predict behavior without knowing what happens inside the mind. Furthermore, behaviorists believe that it is possible to develop laws of learning that can explain all behaviors.

John Broadus Watson (1878-1958) revolutionized psychology by changing the subject matter of psychology from the study of conscious experience to the study of behavior. He is considered the first behaviorist in the field of psychology. Watson believed that the study of psychology should be about **observable behavior** and its aim should be to describe, predict, understand and control behavior. He contended that psychologists should never use the terms consciousness, mental states, introspection, imagery and the like.

Watson was influenced in large part by the work of the Russian physiologist Ivan Pavlov (1849–1936), who had discovered that dogs would salivate at the sound of a tone that had previously been associated with the presentation of food. Watson and the other behaviorists began to use these ideas to explain how events that people and other organisms experienced in their environment, called **stimuli,** could produce *specific behaviors* called **responses**. For instance, in Pavlov's research the stimulus*,* either the food or tone, would produce the response of salivation in the dogs.

The most famous behaviorist was Burrhus Frederick (B. F.) Skinner (1904–1990), who expanded the principles of behaviorism and also brought them to the attention of the public at large. Skinner used the ideas of stimulus and response, along with the application of rewards or reinforcements, to train pigeons and other animals. Additionally, he used the general principles of behaviorism to develop theories about how best to teach children and how to create societies that were peaceful and productive (Skinner, 1957, 1968, 1972).

The behaviorists made substantial contributions to psychology by identifying the principles of learning. Although the behaviorists were incorrect in their beliefs that it was not possible to measure thoughts and feelings, their ideas provided new ideas that helped further our understanding regarding the nature-nurture debate, as well as the question of free will. The ideas of behaviorism are fundamental to psychology and have been developed to help us better understand the role of prior experiences in a variety of areas of psychology.

Followers of behaviorism did not reject the existence of mind and consciousness. Rather, they viewed these concepts as impossible to observe and contributing little to a scientific approach to psychology. Watson's focus on the study of observable behavior enabled to formulate clear hypotheses, which could be tested by experimentation. Watson's view of learning relied to a great extent on Pavlov's account of classical conditioning. Accordingly, it is possible to break

down and analyze a certain behavior into stimulus-response units. Much of the behaviorists' research into learning was carried out on animals, rather than humans; partly because animals were easy to obtain and greater control could be exercised over their environment, and partly because they accepted the idea that humans and animals are related both physiologically and behaviorally. The work of John Watson contributed much to the use of more objective and systematic methods to the study of human behavior.

2.3.3. Uses for Behaviorism

The behaviorist perspective has a few different uses, a couple of which are related to education and mental health.

Education

Behaviorism can be used to help students learn, such as by influencing lesson design. For instance, some teachers use consistent encouragement to help students learn (operant conditioning) while others focus more so on creating a stimulating environment to increase engagement (classical conditioning).

One of the greatest strengths of behavioral psychology is the ability to clearly observe and measure behaviors. Because behaviorism is based on observable behaviors, it is also sometimes easier to quantify and collect data when conducting research.

Mental Health

Behavioral therapy was born from behaviorism and originally used in the treatment of autism and schizophrenia. This type of therapy involves helping people change problematic thoughts and behaviors, thereby improving mental health.

Effective therapeutic techniques such as intensive behavioral intervention, behavior analysis, token economies, and discrete trial training are all rooted in behaviorism. These approaches are often very useful in changing maladaptive or harmful behaviors in both children and adults.

2.3.4. Impact of Behaviorism

Several thinkers influenced behavioral psychology. In addition to those already mentioned, there are a number of prominent theorists and psychologists who left an indelible mark on behavioral psychology. Among these are Edward Thorndike, a pioneering psychologist who described the law of effect, and Clark Hull, who proposed the drive theory of learning.

There are a number of therapeutic techniques rooted in behavioral psychology. Though behavioral psychology assumed more of a background position after 1950, its principles still remain important.

Even today, behavior analysis is often used as a therapeutic technique to help children with autism and developmental delays acquire new skills. It frequently involves processes such as shaping (rewarding closer approximations to the desired behavior) and chaining (breaking a task down into smaller parts, then teaching and chaining the subsequent steps together).

Law of effect - *If an association is followed by a "satisfying state of affairs" it will be strengthened and if it is followed by an "annoying state of affairs " it will be weakened.*

Edward Lee Thorndike

Application activity 2.3.

a) What are the uses of behaviorism?
b) What is the impact of behaviorism?

2.4. Gestalt Psychology

Activity 2.4.

Recall what they learnt about structuralism.

2.4.1. Origin

Originating in the work of Max Wertheimer, Gestalt psychology formed in part as a response to the structuralism of Wundt and Titchener. While followers of structuralism were interested in breaking down psychological matters into their smallest possible parts, Gestalt psychologists wanted instead to look at the totality of the mind and behavior. Guided by the principle of holism, Wertheimer and his followers identified instances where perception was based on seeing things as a complete whole, not as separate components.

Gestalt psychology is a school of psychology based on the idea that we experience situations as a whole not as individuals. This approach to psychology began in Germany and Austria in the late 19th century in response to the mystical philosophy of structuralism. Instead of compromising thinking and behavior in

the smallest detail, Gestalt psychologists agreed to look at the whole experience. According to Gestalt thinkers, the whole is greater than the sum of its parts.

2.4.2. Gestalt Psychologists

Gestalt Psychology
(Max Wertheimer, Wolfgang Kohler, Kurt Koffka) Believed that the human mind imposes meaning to related experiences. It advocates that the study of human behavior should be wholistic. *"The whole is greater than the sum of its parts."*

Source: https://slideplayer.com/slide/12514471/

Wertheimer's observations of the phi phenomenon are widely credited as the beginning of Gestalt psychology and he went on to publicize the core principles of the field. Other psychologists also had an influence on this school of psychology.

Wolfgang Köhler: Köhler connected Gestalt psychology to the natural sciences, arguing that organic phenomena are examples of holism at work. He also studied hearing and looked at problem-solving abilities in chimpanzees.

Kurt Koffka: Together with Wertheimer and Köhler, Koffka is considered a founder of the field. He applied the concept of Gestalt to child psychology, arguing that infants first understand things holistically before learning to differentiate things into parts. Koffka played a key role in bringing Gestalt principles to the United States.

2.4.3. Principles of Gestalt Psychology

Gestalt psychology helped introduce the idea that human perception is not just about seeing what is actually present in the world around us. It is also heavily influenced by our motivations and expectations. Wertheimer created principles to explain how Gestalt perception functions. Some of the most important principles of Gestalt theory are:

Conciseness: This foundational principle states that we naturally perceive things in their simplest form or organization.
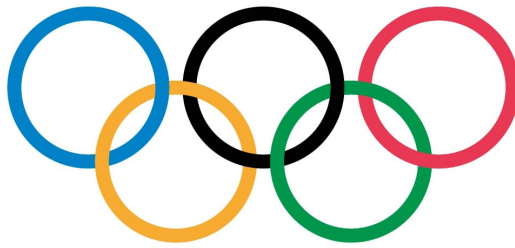
Olympic logo
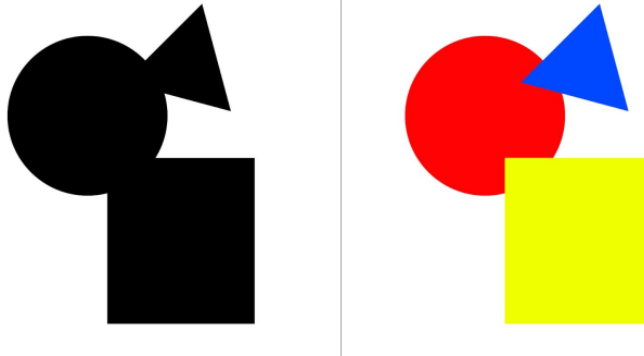
Geometrical shapes

The law of symmetry and order is also known as *prägnanz*, the German word for "good figure." What this principle says is that your brain will perceive ambiguous shapes in as simple a manner as possible. For example, on one side, a monochrome version of the Olympic logo is seen as a series of overlapping circles rather than a collection of curved lines. On the other side, your brain will interpret the image on the left as a rectangle, circle, and triangle, even when the outlines of each are incomplete because those are simpler shapes than the overall image.

Similarity: This Gestalt principle suggests that we naturally group similar items together based on elements like color, size, or orientation.

Grouped squares

It's human nature to group like things together. In gestalt, similar elements are visually grouped, regardless of their proximity to each other. They can be grouped by color, shape, or size. Similarity can be used to tie together elements that might not be right next to each other in a design.

Proximity: The principle of proximity states that objects near each other tend to be viewed as a group.
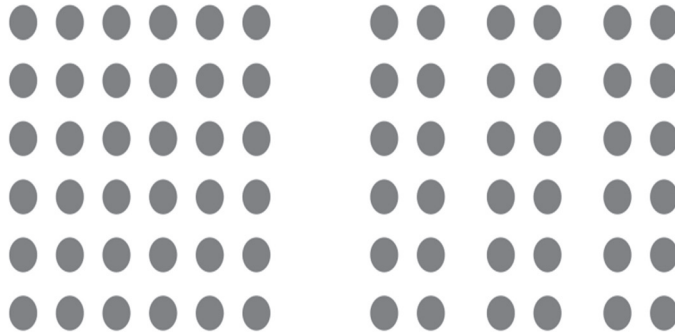
Grouped rounds

Proximity refers to how close elements are to one another. The strongest proximity relationships are those between overlapping subjects, but just grouping objects into a single area can also have a strong proximity effect. The opposite is also true, of course. By putting space between elements, you can add separation even when their other characteristics are the same.

Continuation: According to this principle, we will perceive elements arranged on a line or curve as related to each other, while elements that are not on the line or curve are seen as separate.

Straight and curved lines

The eye tends to want to follow the straight line from one end of this figure to the other, and the curved line from the top to the bottom, even when the lines

change color midway through. This continuation can be a valuable tool when the goal is to guide a visitor's eye in a certain direction. They will follow the simplest path on the page, so make sure the most vital parts they should see fall within that path.

Closure: This suggests that elements that form a closed object will be perceived as a group. We will even fill in missing information to create closure and make sense of an object.
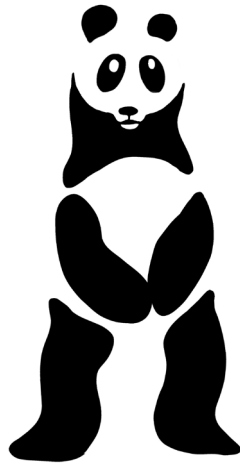
A standing Panda

Closure is one of the coolest gestalt principles and one I already touched on at the beginning of this piece. It's the idea that your brain will fill in the missing parts of a design or image to create a whole.

In its simplest form, the principle of closure allows your eye to follow something like a dotted line to its end. But more complex applications are often seen in logos, like that for the World Wildlife Fund. Large chunks of the outline for the panda are missing, but your brain has no problem filling in the missing sections to see the whole animal.

Common region: This Gestalt psychology principle states that we tend to group objects together if they're located in the same bounded area. For example, objects inside a box tend to be considered a group. Another example is found in nature; we see this in things like flocks of birds or schools of fish. They are made up of a bunch of individual elements, but because they move seemingly as one, our brains group them together and consider them a single stimulus.

A flock of birds

A flock of birds is viewed as a single unit when flying in the same direction and thereby sharing a common fate.

Figure/Ground : The figure/ground principle is similar to the closure principle in that it takes advantage of the way the brain processes negative space. You've probably seen examples of this principle floating around in memes on social media, or as part of logos.

Your brain will distinguish between the objects it considers to be in the foreground of an image (the figure, or focal point) and the background (the area on which the figures rest). Where things get interesting is when the foreground and background actually contain two distinct images, like this:

Some people will immediately see the tree and when viewing the logo for the above figue, while others will see a cow and a dog staring at each other. For you, what do you see in the above image?

2.4.4. Impact of Gestalt Psychology

Gestalt psychology has largely been subsumed by other types of psychology, but it had an enormous influence on the field. Researchers like Kurt Lewin and Kurt Goldstein were influenced by Gestalt concepts before going on to make important contributions to psychology.

The idea that the whole is different than its parts has influenced our understanding of the brain and social behavior. Gestalt theory still impacts how we understand vision and the ways that context, visual illusions, and information processing impact our perception.

Application activity 2.4

a) What are the contributions of key gestalt psychologists?

b) Spell out the principles of gestaltism.

2.5. Psychoanalytic school

Activity 1.1

What do you remember about Sigmund Freud?

2.5.1. Origin

Psychoanalysis is a school of psychology founded by Sigmund Freud. This school of thought emphasized the influence of the unconscious mind on behavior. Psychoanalytic theories explain human behavior in terms of the interaction of various components of personality. Sigmund Freud was the founder of this school of thought. Freud drew on the physics of his day (thermodynamics) to coin the term psychodynamics. Based on the idea of converting heat into mechanical energy, he proposed psychic energy could be converted into behavior. Freud's theory places central importance on dynamic, unconscious psychological conflicts.

2.5.2. Human Personality Components

Source : https://www.indiatoday.in/education-today/gk-current-affairs/story/sigmund-freud-338418-2016-09-23
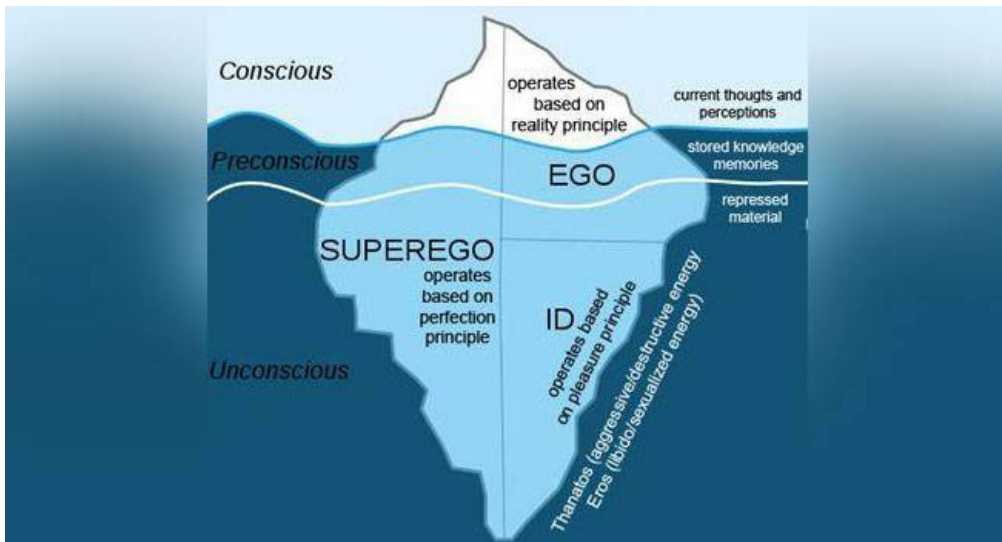
Freud believed that the human mind was composed of three elements: the id, ego, and superego. The **id** consists of primal urges and is currently referred to as the *pleasure principle*. The pleasure principle is the driving force of the id that seeks immediate gratification of all needs, wants, and urges. In other words, the pleasure principle strives to fulfill our most basic and primitive urges, including hunger, thirst, anger, and sex. When these needs are not met, the result is a state of anxiety or tension. Sometimes referred to as the pleasure-pain principle, this motivating force helps drive behavior but it also wants instant satisfaction. As you might imagine, some needs simply cannot be met in the moment we feel them. If we satisfied our every whim whenever we felt hunger or thirst, for example, we might find ourselves behaving in ways that are not appropriate for the given moment.

The **ego** is the component of personality charged with dealing with reality. As children mature, the ego develops to help control the urges of the id. The ego is concerned with reality. It helps ensure that the id's needs are met, but in ways that are acceptable in the real world. The ego operates through what Freud referred to as the *reality principle*. This reality principle is the opposing force to the instinctual urges of the pleasure principle.

Imagine that a very young child is thirsty. They might simply grab a glass of water out of another person's hands and begin guzzling it down. The pleasure principle dictates that the id will seek out the most immediate way to gratify this need. Once the ego has developed, however, the reality principle will push the ego to look for more realistic and acceptable ways to fill these needs. Instead of

simply grabbing someone else's water, the child will ask if they can also have a glass. While the pleasure principle plays an essential role in motivating actions, the reality principles help ensure that our needs are met in ways that are safe and socially acceptable.

The **superego** is the part of the personality that holds all of the ideals and values we internalize from our parents and culture. Freud believed that the interaction of these three elements was what led to all of the complex human behaviors. The superego is the ethical component of the personality and provides the moral standards by which the ego operates. The superego's criticisms, prohibitions, and inhibitions form a person's conscience, and its positive aspirations and ideals represent one's idealized self-image, or "ego ideal."

The superego (*perfection principle)* develops during the first five years of life in response to parental punishment and approval. This development occurs as a result of the child's internalization of his parents' moral standards, a process greatly aided by a tendency to identify with the parents. The developing superego absorbs the traditions of the family and the surrounding society and serves to control aggressive or other socially unacceptable impulses. Violation of the superego's standards results in feelings of guilt or anxiety and a need to atone for one's actions. The superego continues to develop into young adulthood as a person encounters other admired role models and copes with the rules and regulations of the larger society.

Freud's school of thought was enormously influential, but also generated considerable debate. This controversy existed not only in his time but also in modern discussions of Freud's theories. Other major psychoanalytic thinkers include: Anna Freud (Freud's daughter), Carl Jung, and Erik Erikson.

2.5.3. Implications of psychoanalytic theories

Psychoanalytic theories and therapies strive to understand the unique phenomenology of a person. In doing so, the meaning and values that give significance to our lives are honored and supported. In our modern era of brain research, a person's experience of living is sometimes reduced to a discussion of biochemicals and brain structures. Love, happiness, sadness, or misery can be simplistically "explained" by neuropathways, select brain regions, and neurotransmitters. While the remarkable advances of science have allowed researchers to understand how biological systems function during the experience of such emotions, they actually offer descriptions of how they happen, not explanations for these phenomena. By reducing the essence of the human experience (or any living creature's experience, for that matter) to an objectified mechanistic system, we deny the most salient of human abilities, our

imagination! Our capacity to create seemingly limitless ideas and stories has allowed the mind to be emancipated from the constraints of sensory reality. We imagine, invent, create, and transcend beyond the material world toward a world of potentialities.

All civilized societies require that persons conform to the standards, rules, and expectations that are necessary to live cooperatively. Our socialization begins at birth and requires that a person learn to adapt to social demands and to internalize those demands as one's own. The primary task for mental health is to achieve this conformity while preserving one's personal integrity. This integrity requires us to respect our diversity in many forms, such as ethnic, religious, sexual, etc., while balancing our needs for social connection and acceptance. Psychoanalytic therapies have kept these existential considerations central to the mission of advancing human understanding and promoting personal growth.

As today's technology has allowed us nearly immediate gratification for many of our needs, such convenience can undermine a person's emotional maturity by circumventing the ability to tolerate frustration. Tolerating frustration involves the ability to delay gratification, self-containment of tension states, inhibiting reflexive action, and the ability to engage in thoughtful, reflective planning. Lacking in this capacity, one is prone toward impulsive and potentially addictive lifestyles. No wonder, then, that these addictive and impulsive styles have historically been seen as characteristic of adolescence, where mature brain development has not yet been achieved. If, however, needs and demands can be satisfied in nanoseconds, there is little motivation to cultivate self-containment. Psychoanalytic therapies are not quick fixes, intentionally, so as to allow for the facilitation of the maturing processes to unfold. So, while some might call this old-fashioned, it is actually a principle aligned with how nature works. The emergence and unfolding of the mind is better supported by engaging our internal emotional and cognitive potentials to grapple with life's challenges, than by adopting canned answers from the internet or random facts from Google searches.

Psychoanalytic therapies strive to enhance self-awareness. Patients are encouraged and empowered to seek their personal truths through introspection and insight. The role of the therapist serves as a guide who accompanies the patient through the exploration and examination of one's private mind. As a guide, the therapist offers some protection from the fear of self-knowledge and, most importantly, serves as a witness to the self-truths that may need to be proclaimed. Guiding and witnessing are among the most important interpersonal functions as they offer a secure acceptance and validation of the individual. These functions establish the conditions for healthy attachment and honor a person's value and purpose.

As a system for understanding mental illness, or human suffering, psychoanalytic models provide a compassionate and normalizing perspective. Whereas symptoms are expressions of suffering, they also represent a person's best effort at retaining whatever sanity that person has achieved. Psychoneuroses are distinguished from other forms of misery by referring to the mental suffering derived from conflicts within and between persons. The gift of our imagination can also be a curse when it comes to facing unfathomable thoughts, fantasies, and recollections. Psychoanalytic therapy allows the patient to distinguish perceptions from fantasies, desires from needs, or speculations from truths. Insight and corrective emotional experiences with the therapist can help us regain our ability to care for ourselves and our loved ones.

Why do critics of psychoanalysis say that it is not a science and that it does not stand up to rigorous empirical validation from scientific testing? This criticism is partially true, but misleading. In psychoanalytic therapies, the focus of inquiry and treatment is exclusively upon a person's unique subjective experience and thus each treatment is unique in itself. Therefore, every therapy is tailored to the specific needs of the individual based upon his/her personality, background, abilities, and maturity. One person's therapy cannot be accurately compared to another's, precluding the meaningful comparisons needed for scientifically controlled research studies. Simply put, psychoanalytic therapies treat people, not diagnoses. This approach to therapy values the person over the diagnosis. That is, the focus of treatment is to help a patient achieve an improved quality of life, not simply to reduce problematic symptoms. This goal may be achieved by reducing symptoms to some degree but may also include acceptance of one's self and that some of life's issues need to be survived rather than "fixed." Furthermore, many studies have shown that the single most important factor for any successful psychotherapy, regardless of type, is the quality of the relationship between the therapist and the patient. The therapeutic relationship has been the cornerstone of psychoanalysis since its inception.

Nobel laureate, Eric Kandel, has stated that psychoanalytic theory offers the most comprehensive understanding of the mind among all other psychological theories. The ideas and concepts have undergone over a century of revisions and modifications aimed at helping to understand the human condition. As complex and multi-faceted creatures we are endowed with an incessant curiosity and remarkable resilience. We not only invented science, but also the humanities. Art, music, literature, and dance are methods humans have created to express the enormity of our shared lives and the drive to understand the essential meaning of our existence. Psychoanalytic theories also examine our relationship to these humanities as they may hold personal significance for the individual. Psychoanalysis evolved from Freud's devotion to understanding

himself and others as members of a dominant world species. All of our methods for expression serve to approximate, but never fully elucidate, human uniquenes

2.6. Humanism

2.6.1. Origin

This school of thought emerged during the 1950s as a reaction to psychoanalysis and behaviorism, which had dominated psychology during the first half of the century. Psychoanalysis was focused on understanding the unconscious motivations that drive behavior while behaviorism studied the conditioning processes that produce behavior. Humanist thinkers such as Abraham Maslow and Carl Rogers felt that both psychoanalysis and behaviorism were too pessimistic, either focusing on the most tragic of emotions or failing to take into account the role of personal choice.

Humanistic psychology developed as a response to psychoanalysis and behaviorism. Humanistic psychology instead focused on individual free will, personal growth and the concept of self-actualization. While early schools of thought were primarily centered on abnormal human behavior, humanistic psychology differed considerably in its emphasis on helping people achieve and fulfill their potential. Humanism is a philosophy that stresses the importance of human factors rather than looking at religious, divine, or spiritual matters. Humanism is rooted in the idea that people have an ethical responsibility to lead lives that are personally fulfilling while at the same time contributing to the greater good for all people. Humanism stresses the importance of human values and dignity. It proposes that people can resolve problems through the use of science and reason. Rather than looking to religious traditions, humanism instead focuses on helping people live well, achieve personal growth, and make the world a better place.

Humanistic psychology remains quite popular today and has had a significant influence on other areas of psychology including positive psychology. This particular branch of psychology is centered on helping people living happier, more fulfilling lives.

2.6.2. Use of Humanism

Humanism focuses on each individual's potential and stresses the importance of growth and self-actualization. The fundamental belief of humanistic psychology is that people are innately good and that mental and social problems result from deviations from this natural tendency. Humanism also suggests that people possess personal agency and that they are motivated to use this free will to pursue things that will help them achieve their full potential as human beings. The need for fulfillment and personal growth is a key motivator of all behavior. People are continually looking for new ways to grow, to become better, to learn new things, and to experience psychological growth and self-actualization.

Some of the ways that humanism is applied within the field of psychology include:

a) **Humanistic therapy**: A number of different types of psychotherapy have emerged that are rooted in the principles of humanism. These include client-centered therapy, existential therapy, and Gestalt therapy.

b) **Personal development**: Because humanism stresses the importance of self-actualization and reaching one's full potential, it can be used as a tool of self-discovery and personal development.

c) **Social change**: Another important aspect of humanism is the betterment of communities and societies. In order for individuals to be healthy and whole, it is important to develop societies that foster personal well-being and provide social support.

2.6.3. Impact of Humanism

The humanist movement had an enormous influence on the course of psychology and contributed new ways of thinking about mental health. It offered a new approach to understanding human behaviors and motivations and led to developing new techniques and approaches to psychotherapy.

Some tips from humanism that can help people pursue their own fulfillment and actualization include:

- Discover your own strengths
- Develop a vision for what you want to achieve
- Consider your own beliefs and values
- Pursue experiences that bring you joy and develop your skills
- Learn to accept yourself and others

- Focus on enjoying experiences rather than just achieving goals
- Keep learning new things
- Pursue things that you are passionate about
- Maintain an optimistic outlook

One of the major strengths of humanistic psychology is that it emphasizes the role of the individual. This school of psychology gives people more credit in controlling and determining their state of mental health. It also takes environmental influences into account. Rather than focusing solely on our internal thoughts and desires, humanistic psychology also credits the environment's influence on our experiences.

The humanistic approach has been applied to relatively few areas of psychology compared to the other approaches. Therefore, its contributions are limited to areas such as therapy, abnormality, motivation and personality.

Client-centered therapy is widely used in health, social work and industry. This therapy has helped many people overcome difficulties they face in life, which is a significant contribution to improving people's quality of life.

A possible reason for this lack of impact on academic psychology perhaps lies with the fact that humanism deliberately adopts a non-scientific approach to studying humans.

Humanistic psychologists rejected a rigorous scientific approach to psychology because they saw it as dehumanizing and unable to capture the richness of conscious experience.

As would be expected of an approach that is 'anti-scientific', humanistic psychology is short on empirical evidence. The approach includes untestable concepts, such as 'self-actualisation' and 'congruence'.

However, Rogers did attempt to introduce more rigour into his work by developing Q-sort – an objective measure of progress in therapy.

In many ways, the rejection of scientific psychology in the 1950s, 1960s and 1970s was a backlash to the dominance of the behaviorist approach in North American psychology. For example, their belief in free-will is in direct opposition to the deterministic laws of science.

Application activity 2.6

a) Discuss the use of humanistic approach.
b) What is the impact of humanism?

2.7. Cognitive School of Psychology

Activity 2.7

What do you know about Cognitive Psychology?

2.7.1. Origin

Cognitive psychology is the school of psychology that studies mental processes including how people think, perceive, remember and learn. The **cognitive approach** in psychology is a relatively modern approach to human behaviour that focuses on how we think. It assumes that our thought processes affect the way in which we behave. In contrast, other approaches take other factors into account, such as the biological approach, which acknowledges the influences of genetics and chemical imbalances on our behavior.

There is some dispute as to who created the cognitive approach, but some sources attribute the term to the 1950s and 1960s, with Ulric Neisser's book *Cognitive Psychology*, which made allusions of the human mind working in a similar fashion to computers. This period is sometimes referred to as the "cognitive revolution" as a wealth of research on topics such as information processing, language, memory, and perception that began to emerge. The approach came about in part due to the dissatisfaction with the behavioral approach, which focused on our visible behaviour without understanding the internal processes that create it. It is based on the principle that our behaviour is generated by a series of stimuli and responses to these by thought processes.

One of the most influential theories of this school of thought was the stages of cognitive development theory proposed by Jean Piaget, which will be described in later lessons.

2.7.2. Comparison to other Approaches

Cognitive (meaning "knowing") psychologists attempt to create rules and explanations of human behavior and eventually generalize them to everyone's behaviour. The Humanistic Approach opposes this, taking into account individual differences that make us each behave differently. The cognitive approach attempts to apply a scientific approach to human behaviour, which is reductionist in that it doesn't necessarily take into account such differences. However, popular case studies of individual behaviour have led cognitive psychology to take into account idiosyncrasies of our behaviour. On the other hand, cognitive psychology acknowledges the thought process that goes into

our behaviour, and the different moods that we experience that can impact on the way we respond to circumstances.

2.7.3. Impact of cognitive psychology

The field of cognitive psychology is both broad and diverse. It touches on so many aspects of daily life. There are numerous practical applications for this cognitive research, such as providing help coping with memory disorders, increasing decision-making accuracy, finding ways to help people recover from brain injury, treating learning disorders, and structuring educational curricula to enhance learning.

Current research on cognitive psychology helps play a role in how professionals approach the treatment of mental illness, traumatic brain injury, and degenerative brain diseases.

Thanks to the work of cognitive psychologists, we can better pinpoint ways to measure human intellectual abilities, develop new strategies to combat memory problems, and decode the workings of the human brain—all of which ultimately have a powerful impact on how we treat cognitive disorders.

The field of cognitive psychology is a rapidly growing area that continues to add to our understanding of the many influences that mental processes have on our health and daily lives.

Application activity 2.7

a) How does Jean Piaget explain cognitive development?
b) What is the impact of cognitive school of thought?

End Unit Assessment

1. Discuss and contrast the structuralism and functionalism schools of thought.

2. Discuss and contrast psychoanalytic and gestalt schools of toughts.

3. What are the implications of cognitive school of thought?

4. How does behaviorism impact on psychology?

UNIT 3 ▷ BRANCHES OF PSYCHOLOGY

🔑 **Key unit competence:** Relate branches of Psychology to different working and living fields.

💡 **Introductory activity**

Use internet and other books from the library and find the main branches of psychology?

Psychology is divided in many branches. Divisions are caused by differences like methods, aspects of behavior to be studied, objectives, interest, training and background of psychologist.

There exist many branches of psychology. In this course we limit of some which are well explained in the field of psychology.

3.1. Developmental psychology

Source:https://www.scientificworldinfo.com/2019/04/developmental-psychology-characteristics-objectives-and-principles.html
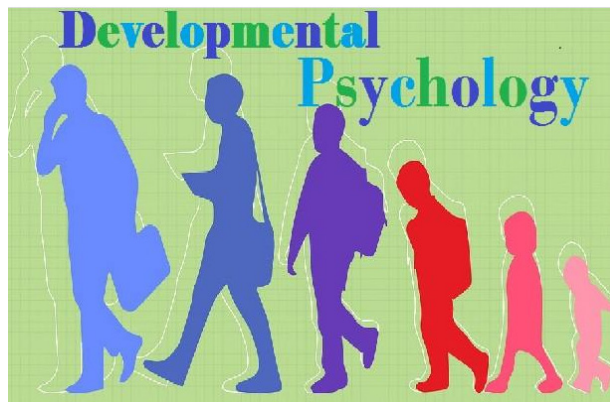
3.1.1. What is developmental psychology?

This is a scientific approach which aims to explain growth changes and consistency through the life span. It looks at how thinking, feeling and behaviour change through a person's life. It is also known as child development or human development. It studies developmental processes involved in human physical, social, emotional and intellectual changes from conception through adolescence including numerous biological and cultural factors that influence these processes. It studies how human being grows and changes through the life span, domains of development which are physical and motor, intellectual, personal, emotional, moral and social, sequences and rate of maturation, size and ability in relation to age. Precisely, it is the study of progressive changes in behaviour and abilities of an individual from conception to death.

The three goals of developmental psychology are **to describe, explain, and to optimize development** (Baltes, Reese, & Lipsitt, 1980). To describe development, it is necessary to focus both on typical patterns of change (normative development) and individual variations in patterns of change (i.e. idiographic development). Although there are typical pathways of development that most people will follow, no two persons are exactly alike.

Developmental psychologist studies a wide range of theoretical areas such as biological, social, emotion, and cognitive processes. They must also seek to explain the changes they have observed in relation to normative processes and individual differences. They are concerned with human development from before birth right through the life span including young adulthood, middle age and old age because early development affects later development.

Developmental psychologists typically diagnose developmental delays. While many focus their practice on children and adolescents, there are developmental psychologists who work with adults and study aging. Among the areas a developmental psychologist may treat are:

- Cognitive development (the ability to think, explore, and reason) for children adolescents, and older adults
- Learning disabilities
- Intellectual disabilities
- Developmental delays
- Emotional development
- Motor skill development
- Speech and language delays
- Developmental challenges
- Auditory processing (hearing) disorders
- Autism spectrum

3.1.2. When to see a developmental Psychologist?

Intervening as soon as possible on behalf of a child demonstrating a delay or challenge in development will significantly improve the issue. At most routine medical checkups, healthcare providers will ask parents about their child's developmental milestones. If the healthcare provider believes milestones are not being reached within a predictable time frame, they may recommend early intervention programs and a more thorough assessment by a developmental psychologist.

3.1.3. Implication of developmental psychology

– The study of developmental psychology is essential to understanding how humans learn, mature and adapt throughout their lives as they go through various stages of development.

– Developmental psychology helps to know how people grow, develop and adapt at different life stages

1) What is the goal of developmental psychology?

2) Identify areas of development treated by developmental psychologists?

3) State one implication of developmental psychology?

3.2. Educational psychology

Activity 3.2

Observe the picture below. Use internet and other books from the library to explain in few words educational psychology.

Source: https://medium.com/@haroon909pk/what-is-educational-psychology-fb104c976d41
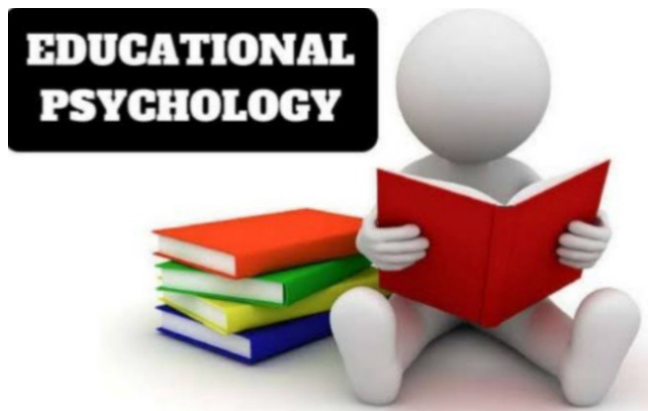
3.2.1. What is Educational psychology?

Educational psychology is a very broad field of applied psychology that utilizes the theories, methods, and instruments of psychological science for educational purposes. It is a combination of two different fields: education and psychology. This branch involves the study of how people learn, including teaching methods, instructional processes and individual differences in learning. Educational and school psychology concerns with application of scientific method to the study of the behaviour of people in instructional settings. This branch studies all aspects of the educational process from techniques of instruction of normal learning to learning disabilities.

It enables teachers to know what method of teaching can produce effective learning since children differ in their capacities to learn. Some are gifted and talented while others may be mentally disadvantaged. It is concerned with the processes of learning. Teachers often involve looking at both behavioral and cognitive methods of learning as well the motivational, intellectual and societal factors that impact the learning process. Educational Psychology is concerned with: Studying growth and development of children, finding ways of facilitating teaching and learning, classifying children according to their behaviour, and treating people suffering with emotional disorders.

The major leader in the field of educational psychology, however, was the American educator and psychologist Edward Lee Thorndike, who designed methods to measure and test children's intelligence and their ability to learn. Psychologists working in the field of education study how people learn and retain knowledge. They apply psychological science to improve the learning process and promote educational success for all students.

3.2.2. Importance of Educational Psychology for teachers

a) Teacher is like a philosopher who guides his students. He is responsible to be aware about growth and development of the students. It is educational psychology which enables the teacher to use various techniques.

b) Educational psychology helps the teacher to know how learning takes place.

c) Educational psychology enables the teacher to know how learning process should be initiated, how to motivate and how to learn.

d) Educational psychology helps the teacher to guide the students in right direction in order to canalize the student's abilities in right direction.

e) Educational psychology enables the teacher to know about the nature of the learners and his potentialities.

f) Educational psychology helps the teacher to develop a student personality because the whole educational process is for the development of student's personality.

g) Educational psychology helps the teacher to adjust his methods of teaching based on the nature or demand of the learners.

h) It enables the teacher to know the problems of individual differences and treats every student on his or her merit.

i) It helps the teacher to solve the learning problems of the students.

j) Educational psychology helps the teacher in evaluating the students that whether the purpose of teaching and learning has been achieved.

3.2.3. Importance of educational psychology in learning

a) Educational psychology helps the learners in the task of knowing themselves. They may thus be acquainted with their abilities and capacities, interests and aptitudes, liking and disliking, attitudes and dispositions etc.

b) The theories, principles and techniques related to motivation, ways of learning and remembering may help them well in their tasks of learning.

c) The knowledge of the processes and factors may helpful in paying attention and staying away from the forces of distraction may help them in attending to their studies and learning processes as effectively as possible.

d) The knowledge of educational psychology may also equip them with the facts and principles of behaviour modification and other therapeutic techniques-how to acquire desirable habits and proper ways of learning and how to break the bad habits and unlearn the improper ways and means of learning can thus be acquired through the study and practices of educational psychology.

e) The knowledge of educational psychology makes the learners aware of the developmental stages of human life and the needs and characteristics of the learners at these specific stages of life.

f) Educational psychology makes the learner realise the importance and facts related to the all-round growth and development of the personality in order to become successful in the realization of the success in the processes and products of learning.

Application activity 3.2

1. Who is the major leader in the field of educational psychology?
2. What is the main concern of educational psychology?
3. State 2 importance of educational psychology to teachers?

3.3. Cognitive Psychology

Source:https://www.viquepedia.com/disciplines/cognitive-psychology
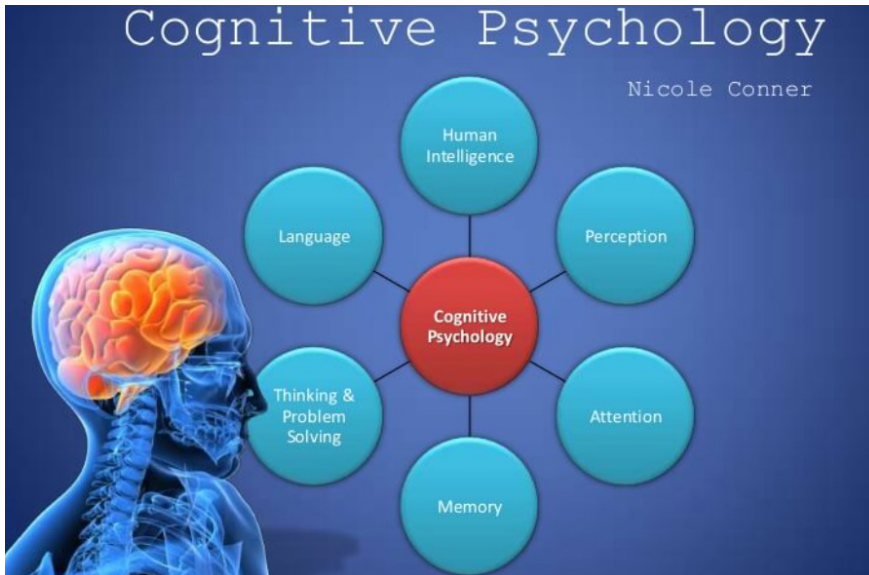
3.3.1. What is Cognitive Psychology?

This branch involves the study of mind and how people think. It also involves the study of internal mental processes such as attention, language use, memory, perception, problem solving, creativity and reasoning.

Cognitive psychologists think of the mind as a system of handling information because we receive information from the external environment, interpret it in the light of existing information in our memory and think about it and then respond to the information.Many cognitive psychologists find it helpful to think of the mind as operating in the same way as a computer handles information; it has an input of information from the senses through the transmission of information in the form of memory, thought, and language, and an output in the form of decision-making, speech, and action.

Cognitive psychologists are concerned with the internal operations of the mind. These are collectively called cognitive processes or cognition which includes:

Perception: The way in which we take information via the senses and make sense of it and memory the processes of storing and retrieving information and thinking. The mental manipulation of information that allows us to have ideas, hold opinions and decide on courses of action.

Intelligence: An intelligent person is able to learn, adapt to new situations, think, rationally and abstractly. Therefore, intelligence is defined as the capacity to understand the world, think rationally, and use resources effectively when faced with challenges or new situations.

Memory: Memory is an organism's ability to store, retain, and recall information and experiences. It is our ability to encode, store, retain and subsequently recall information and past experiences in the human brain.

Attention: Attention is the cognitive process of selectively concentrating on one aspect of environment while ignoring other things. Attention is the process or act of concentrating on one or more environmental factors that your five senses experience (Barkley, 1997). For example, listening carefully to what someone is saying while ignoring other conversations.

Reasoning: Reasoning is the process of thinking in which conclusions are drawn from a set of facts. It is also thinking directed towards a given goal or objective. To reason is the ability to think critically, logically and analytically.

Cognitive psychologists explore other wide variety of topics related to thinking processes like:

- Choice-based behaviour
- Decision making
- Information processing
- Forgetting
- Language acquisition
- Problem solving
- Speech perception
- Visual perception

3.3.2. Reasons to consult a cognitive psychologist

People can consult a cognitive psychologist in one of the following cases:

– Brain trauma treatment

– Memory loss

– Cognitive therapy for a psychological illness

– Interventions for learning disabilities

– Perceptual or sensory issues

– Therapy for a speech or language disorder

3.3.3. Implication of cognitive psychology

– Findings from cognitive psychology help us understand how people think, including how they acquire and store memories. By knowing more about how these processes work, psychologists can develop new ways of helping people with cognitive problems.

– Cognitive Psychology provides the basis for questioning some of our assumptions about the nature of mental abilities and in understanding the processes that play a role in memory, attention, and learning.

Application activity 3.3

1. Who is the pioneer/father of cognitive psychology? In your own words, explain the cognitive psychology?
2. Write a short note on the following mental processes: Attention, memory, perception, and reasoning.
3. For which reasons a person can consult a cognitive psychologist?

3.4. Social psychology

Activity 3.4

Observe the image below and use internet or other books from the library to explain in few words social psychology.

Source:https://www.pearson.com/store/p/social-psychology-seventh-canadian-edition/
P100002789163

3.4.1. What is Social Psychology?

This is the field of psychology that studies the nature and cause of people thoughts, feelings and behaviours in social situation. In other words, social psychology studies the behaviours of the individual as a member of a crowd, group or society. It is concerned with the ways in which people affect one another.

We are affected at all times by the social situation in which we find ourselves. The social situation is the result of the influence of individuals, groups and of our wider culture and society. The influence of other people on us is not limited to the individuals and groups we encounter directly our culture also exerts more influence of which we might not normally be aware.

Example: our culture will affect who has the authority to give us orders. It may also affect our general tendency for obedience. Our culture will also affect our attitudes to particular group.

Social psychologist studies how the behavior of a person or a group influences the behavior of another person or group. How people learn attitude and emotions, skills, actions, new perceptions, new ways of speaking and of living with others. These behaviors are learnt through interaction, communication and interpersonal relationships. In school setting children learn new behavior, perceptions, beliefs, thoughts, actions and attitude as a result of interaction and communication with teachers and other children.

Social psychologists are employed, or used as consultants in:
- setting up the social organization of businesses and psychiatric communities
- some work to reduce conflict between ethnic groups
- to design mass communications (e.g., advertising)
- advise on child rearing.
- They have helped in the treatment of mental patients and in the rehabilitation of convicts.

3.4.2. Social Psychology vs. Sociology

The fields of social psychology and sociology are sometimes confused. This is understandable, because both fields of study are broadly concerned with the way human behavior shapes and is shaped by society.

The primary difference between the two is this: Social psychologists study individuals within a group; sociologists study groups of people. Sociology is the science of the origin, development, structure and functioning of groups. Social psychology is the study of the individual psychological origins involved in

the development, structure and functioning of social groups. Social psychology and sociology share an interest in many issues, such as violence, prejudice, cultural differences, and marriage. Sociology focus on the group level and social psychologists are more likely to focus on the individual level.

3.4.3. Importance of social psychology

Learning more about social psychology can enrich your understanding of yourself and the world around you.

By learning more about how people view others, how they behave in groups, and how attitudes are formed, you can gain a greater appreciation for how social relationships influence individual functioning.

Application activity 3.4

1. How can social psychologist help in the society?
2. How is social psychology important in our daily life?

3.5. Health psychology

Activity 3.5

Using internet and other books from the library explain in few words health psychology.

3.5.1. What is Health Psychology?

Health Psychology is a specialty area that focuses on how biology, psychology, behaviour, and social factors influence health and illness.It is the application of psychological knowledge to the promotion and maintenance of health, the avoidance, diagnosis and treatment of illness and the improvement of health care provision. It explores those motivations in the pursuit of getting people to embrace health promotion and illness prevention. It also examines how biological, social and psychological factors influence the choices we make about our health.

One way to study health psychology is to use a biological approach and this allows psychologists to explain problems and to understand their effect using physiological concepts.

Health psychologists study the factors that allow people to be healthy, recover from an illness or cope with a chronic condition. They are experts in the intersection of health and behavior and are in demand as a part of integrated health care delivery teams working with other doctors to provide whole-person health care.

Example: Understanding why people take drugs and ways to prevent them from starting to use them or to help them to stop.

3.5.2. When to see a Health Psychologist?

Health psychologists conduct research and provide services in areas including:
- Stress reduction
- Weight management
- Smoking cessation
- Improving daily nutrition
- Reducing risky sexual behaviours
- Hospice care and grief counselling
- Preventing illness
- Understanding the effects of illness
- Improving recovery
- Teaching coping skills

3.5.3. Importance of health psychology

Health psychology has an important role to play in the education of healthcare professionals by promoting patient-centered care that facilitates increased self-management, allowing individuals to have control over their health and helping them make better choices.

Health psychologists work with individuals, groups, and communities to decrease risk factors, improve overall health, and reduce illness.

Application activity 3.5

1. In which areas health psychologists provide services?
2. What is the focus of health psychology?
3. Explain how health psychology is important in life.

3.6. Forensic psychology

Activity 3.6

Using internet and other books from the library, explain in few words forensic psychology.

3.6.1. What is Forensic Psychology?

This branch of psychology explores the connection between human behaviour and the justice system. Professionals working in forensic psychology are tasked with improving the relationships between individuals and the legal system by assessing, evaluating, and treating offenders and victims.

Forensic psychologists are also interested in understanding why certain behaviours occur and using psychological analysis to minimize negative behaviours in the future.

Forensic psychologists offer their professional expertise to aid the judicial system in civil and criminal matters. These professionals need strong forensic skills to psychologically assess individuals in the legal system. They also need strong verbal communication skills and should excel at assessment, interviewing, report writing, and case presentation.

3.6.2. Forensic Psychologists' Main Duties

- **Observing and interviewing**: These professionals observe and interview people in the legal system. They assess behavioural, emotional, and psychological problems and disorders.
- **Writing reports and articles**: Forensic psychologists write reports discussing criminal profiles, criminal responsibility, and mental status.
- **Providing expert testimony:** These professionals serve as expert witnesses providing testimony in courtroom trials. Drawing from their psychological training and knowledge, they testify about sentencing and treatment recommendations, competency, and future risk of criminal behaviour.
- **Counselling and treatment:** Forensic psychologists provide counselling to victims of crime. They design and provide therapy services to sex offenders and other people convicted of crimes.
- **Supervising:** Forensic psychologists often supervise interns and must complete supervised practice to receive their credentials.

3.6.3. Importance of forensic psychology

Forensic psychology brings a simple recognition and understanding of problem behaviours and its relationship with offending into the mental health space. And understanding those behaviours form part of the first steps of helping our consumers with their recovery

Forensic psychology benefits society by protecting people's rights, and protecting society from criminals who may become repeat offenders. This helps officers narrow down their list of suspects and helps them focus on those most likely to have committed the crime under investigation.

Application activity 3.6

1. What is the role of forensic psychologist?
2. Describe the main duties of forensic psychologists?

3.7. Family psychology

Activity 3.7

Using internet and other books from the library, explain briefly family psychology.

3.7.1 What is Family Psychology?

This branch of psychology focuses on the emotions, thoughts, and behaviours of individual's families in relationship. It is a broad speciality in professional psychology based upon the principles of systems theory with a strong focus on the interpersonal system of the family.

Family psychologists are responsible for a wide variety of tasks and roles including family assessment, family and couple therapy, consultation with external authorities, education and training, advocacy for policies that affect families and conducting research relating to couples and families.

Family psychologists can be found in hospitals, clinics, schools, businesses, research facilities and other organizations.

Family psychology addresses a broad array of clinical problems as well as relational problems including:

– Alcohol and drug abuse
– Youth problem
– Behavior/behavior problems
– Depression
– Youth hyperactivity
– Parenting and parent-child conflict
– Developmental disorders
– Family relationships
– Physical or verbal abuse
– Suicide
– General mental health
– Intimate partner violence
– Infidelity
– Youth violence and
– Conduct problems.

3.7.2. Importance of family psychology

Provide resources that can help an individual cope with stress, engage in healthier behaviors, and enhance self-esteem, leading to higher well-being.

Working with a family psychologist, couples and families can find ways to transform the maladaptive behavior patterns into more positive ones.

Working with family psychologists can mean families stay together.

Application activity 3.7

How is family psychologist important in our society?

3.8. Child psychology

3.8.1. What is Child psychology?

It is one of the many branches of psychology which particularly focuses on the mind and behavior of children from prenatal development through adolescence. Child psychology deals not only with how children grow physically, but with their mental, emotional, and social development as well.

Child psychology forms part of the broader field of developmental psychology. The small difference which is there is that developmental psychologists are concerned with human development from before birth right through the lifespan including young adulthood, middle age and old age but child psychologists are concerned specifically with the development of children and adolescents. It is the study of sub conscious and conscious child development.

Child psychologists observe how children interact with their parents, themselves and world to understand their mental development. One of the ideas that have most interested child psychologists is that early development affects later development. They attempt to make sense of every aspect of child development, including how children learn, think, interact and respond emotionally to those around them, make friends, understand emotions and their own developing personalities, temperaments and skills.

There are three major contexts that we need to consider while analysing the child psychology:

c) Cultural context: The culture a child lives in contributes a set of values, customs, shared assumptions and ways of living that influence development throughout the lifespan. Culture may play a role in how children relate to their parents, the type of education they receive and the type of childcare that is provided.

d) Social context: Relationships with peers and adults have an effect on how children think, learn and develop. Families, schools and peer groups all make up an important part of the social context.

e) Socioeconomic context: Social class can also play a major role in child development. Socioeconomic status (often abbreviated as SES), is based upon a number of different factors including how much education people have, how much money they earn, the job they hold and where they live.

Tips to understand your child's psychology

▪ Observe: you need to know your child if you want to understand him/her
▪ Be your child's best friend
▪ Spend quality time with your child
▪ Listen and talk
▪ Give full attention while talking
▪ Give respect

3.8.2. Implication of child psychology

Helping children understand their emotions early can have a powerful impact on current and future emotional development. A Child Psychologist can help your children understand and express their emotions in a healthy, positive way. Emotional development highly informs social development.

Application activity 3.8

1) What is the aim of child psychology?

2) Do you agree or disagree with the following statement?: "Early development affects later development." Explain your position.

3.9. Clinical psychology

This is a branch of psychology that deals with understanding and treating people with mental illness and other psychological disorders. Clinical psychology provides mental health services for people of all ages and from all walks of life. Methods and techniques may vary from practice to practice. But the focus of clinical psychology is on assessing clients' mental health through psychological assessment and testing, and providing appropriate interventions.

The first aim of clinical psychology is to understand, predict disorders and disabilities, or any kind of maladjustment. This aim involves a variety of clinical specialties and competencies, such as the assessment of problems or impairments, the formulation of problems (which is linked to clinical judgment), and the indicated treatments for these problems.

A second aim is to act on a preventative level to promote human adaptation, adjustment, and personal development, thereby placing a focus also on the prevention of mental health conditions.

Clinical psychologists sometimes conduct research and act as consultants. Here is a closer look at the primary functions of a clinical psychologist:

a) **Assessing:** In helping restore mental health, clinical psychologists follow much the same progression that medical doctors follow in restoring physical health. They must first find out what the problem is and what's causing it. So, the clinical psychologist assesses the client in order to diagnose the mental health issue. This is done in multiple ways:

– In a **diagnostic interview**, the clinical psychologist asks questions that give the client opportunities to talk about him or herself. These questions probe into what the client is thinking, feeling and doing, and how the past influences the present.

– A **behavioural assessment** allows a clinical psychologist to observe and evaluate a client's behaviour. This assessment may reveal a pattern of behaviour that indicates the presence of mental disorder and illness.

– Standardized **psychological tests** may be given in order to measure a mental disorder. These are formal tests often given in the form of checklists and questionnaires.

b) Intervening: Based on what the assessments reveal, the practitioner will recommend a psychological intervention, or treatment. There are different approaches to treatment. Some clinical psychologists favour one method over the others, but multiple approaches may be employed in treating a client. Regardless of which approach is used, treatments require multiple sessions. Occasional follow-up visits are often part of mental health maintenance plans after treatments have concluded.

c) Consulting: In addition to treating clients, clinical psychologists are sometimes contacted by other health professionals and organizations. They may be asked to collaborate on community health initiatives or provide expertise in some other way.

d) Researching: Even though clinical psychologists usually spend most of their time with clients, they continuously draw on the latest research. They may also conduct original research based on data they have collected.

Application activity 3.9

What are the aims of clinical psychology?

3.10. Contribution of branches of Psychology to the understanding of human behavior

Activity 3.10

Based on the knowledge gained on branches of psychology and using internet or other books from the library; explain the contribution of branches of psychology to the understanding of human behavior.

Essentially, branches of psychology help people in large part:

- It can explain why people act the way they do. With this kind of professional insight, a psychologist can help people improve their decision making, stress management and behavior based on understanding past behavior to better predict future behavior.

- Psychology allows people to understand more about how the body and mind work together. This knowledge can help with decision-making and avoiding stressful situations.

- It can help with time management, setting and achieving goals, and living effectively.

- It is used to better understand and help people with psychological disorders, treat mental health problems and improve the education system,

workplace behaviour, and relationships.

▪ It helps in understanding how the body and mind work together

▪ It can help with time management, setting and achieving goals, and living effectively.

▪ It helps in building of relationships: Psychology makes it easier to live with others by understanding them more and working with their behavior.

▪ Improving communication: A greater understanding of how humans think and behave will help people communicate better. They will be more effective in understanding what a person really means by gestures and actions.

▪ It helps in building self-confidence by understanding more about yourself and your personality

▪ It can help in gaining more self-confidence. You will learn more about your weaknesses and can build on them.

▪ It helps in enriching careers: with psychology people will be able to understand their co-workers more and building a better friendship so that they will help each other to enrich their careers.

▪ With psychology:

> You will learn more about yourself and others.
> You will l gain valuable research and analytical skills.
> You will become a better communicator.
> You will learn how to resolve conflict.
> You will be well prepared for countless careers.
> You could even gain a better social life.

Application activity 3.10

How does psychology help understand human behavior?

1. Complete with an appropriate branch of psychology.

   a) …………………………investigates internal mental processes such as problem solving, memory, learning and language.

   b) …………………………...involves applying psychology to criminal investigation and the law.

   c) …………………………...uses scientific methods to understand how social influences impact human behavior.

   d) ………………………….is a branch of psychology that focuses on how people change and grow throughout life.

   e) …………………………...is a branch of psychology concerned with schools, educational issues and student concerns.

2. What branches of psychology do the following individuals need to play their roles appropriately?

   a) lawyer

   b) parents

   c) teachers

   d) nurse

   e) community leaders

3. Justify how branches of psychology contribute to the understanding of human behavior?

4. Which advice can you give to parents who are interested to know their children's psychology?

UNIT 4 > INTRODUCTION TO HUMAN DEVELOPMENT

Key unit competence: Demonstrate an understanding of introduction to human development

Introductory activity

The table below contains names of groups of people at different ages according to the Rwandan culture. Do some research and identify the approximate age of each group.

	Periods of human development according to Rwandan culture	Approximate age From……. To……..
1	Urusoro / Inda	
2	Uruhinja	
3	Igisekeramwanzi	
4	Igitambambuga	
5	Inshuke	
6	Umwana ukurikira abandi	
7	Umwana utashya	
8	Ingimbi/Umwangavu	
9	Umusore /Inkumi	
10	Ingaragu/Umwari	
11	Umugabo/ Umugore	
12	Igikwerere/ Ijigija	
13	Igihumuza/Igicambyaro	
14	Umusaza/ Umukecuru	

4.1: Key concepts of human development

Based on knowledge from the topic of branches of psychology, select from the following list, the terms associated with human development: changes, learning processes, maturation, assessment, growth, development processes, stages of development, child development.

a) **Human development** is a branch of psychology with the goal of understanding how people grow, develop, and change throughout their lives.

b) **Growth**: It is the quantitative increase in size, length, height and weight. It involves the multiplication and growth of body cells. Growth can be measured quantitavely. Indicators of growth include height, weight, bone size, dentition. Growth is rapid during the pre-natal, neonatal, infancy and adolescent stages and slow during childhood and minimal during adulthood.

c) **Development**: Development is an increase in the complexity of function and skill progression. Development is an increase of capacity and skill of a person through growth, maturation and learning in order to adapt to the environment. This implies overall quantitative as well as qualitative changes. It is the behavioral aspect of growth (e.g., a person develops the ability to walk, talk, and think). Growth and development are independent, interrelated processes. For example, an infant's muscles, bones, and nervous system must grow to a certain point before the infant is able to walk, or talk.

d) **Stages of development**: A stage of development is an age period when certain needs, behaviors, experiences and capabilities are common and different from other age periods.

e) **Developmental milestones**: This is a checklist which represents what an average child can do around a particular age. However, the exact timing of when each individual child reaches each milestone will vary from one child to another. Not meeting one or more skills after the expected range can be cause for concern. Milestones involve physical, social, emotional, cognitive, and communication skills that kids need to learn as they develop and grow.

f) **Stimulus**: A stimulus is an internal or external actor, event, or situation that elicits a response from an organism.

g) **Reflexes**: Automatic, unlearned, relatively rigid responses to stimuli that do not require conscious effort and that often involve a faster response than would be possible if conscious evaluation of the input were required. An example is the pupillary reflex.

h) Maturation: Biological growth processes that, relatively uninfluenced by experience, enable orderly changes in behavior. It refers to sequential characteristics of biological growth and development.

i) Heredity: Inborn traits or characteristics inherited from biological parents.

j) Environment: Unlike heredity, the environment consists of external forces or factors that affect the growth and development of the individual from conception to death. These factors include: family and household characteristics, social and economic factors; urbanization/modernization; nutrition; and features of the physical environment.

k) Sensitive period of development: A sensitive period is a developmental stage in which an organism can most rapidly acquire a particular ability or trait. For example, in humans, the first year of life is considered important for the development of a secure attachment. The lack of adequate growth-related experience during a sensitive phase complicates the off-phase acquisition process.

l) Critical period of development: A critical period is an early life stage when an organism is particularly open to specific learning, emotional, or socializing experiences that occur as part of normal development and do not recur at a later stage. For example, there is a critical period for language acquisition in human infants.

Application activity 4.1

1) Differentiate growth and development

2) Give examples of Rwandan proverbs that highlight the role of heredity on one hand and the role of environment in human development on the other hand.

4.2. Principles of human development

Using the pictures below that illustrate the motor skills of children at different ages and based on your observations of baby development in your family and community:

1) Identify the motor skill and make an estimation of the age of the child for each picture below:

Picture 1

Picture 2

Picture 4

Picture 5
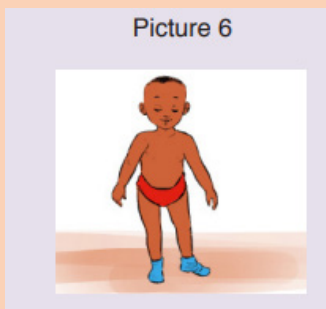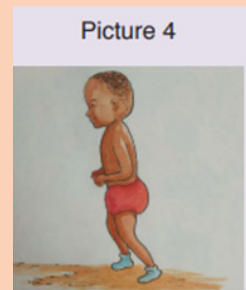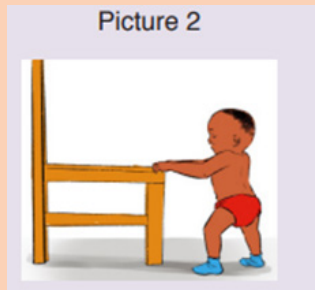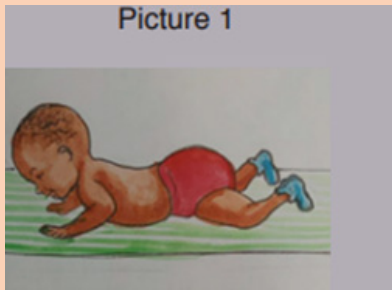
Picture 6

Picture 3

2) Arrange the above pictures from the youngest to oldest child. (write the number corresponding to the picture).

3) Do all children achieve the illustrated skills at the same age?

4) Do you think that this order can change with children who are born and raised in different societies? Explain.

a. Development is gradual and continuous

Development implies changes. These changes occur in a gradual way; they don't come suddenly. The development is continuous process that never stops; it continues gradually from conception to death. The process of growth is continuous from the conception till the individual reaches maturity.

b. Development is sequential

Development is sequential and follows a pattern or general sequence which is the same for all individuals: motor, cognitive, language and physical development take place in definite sequences. Example: the child sits down before he crawls; stands before he walks and babbles before he talks.

c. Orthogenetic principle

This means that development of more difficult tasks begins with the mastery of simple tasks first. In other words, one stage of development lays the foundation for the next stage of development. New abilities, skills, and knowledge are built on those already acquired.

d. The rate of development is not uniform

Individuals differ in the rate of growth and development. Each part of the body has its own particular rate of growth. There are periods of great intensity and equilibrium and there are periods of imbalance.

e. The development proceeds from general to specific

In all areas of development, general activity always precedes specific activity. For example, the fetus moves its whole body but is incapable of making specific responses. The child moves his hands first randomly and then starts using his fingers specifically.

f. Growth and development is a product of both heredity and environment

Development is influenced by both heredity and environment. Both are responsible for human growth and development. There is a constant interaction between all factors of development which are: the genetic inheritance of an individual, the socio-economic status of the family, the child's health, the nutrition, the culture. The child is born with some inherited traits that develop by interacting with his environment. Neither heredity nor environment is the sole factor responsible for the development of a child.

g. Principle of directionality of human growth

Human growth occurs in the **cephalo-caudal direction** (from the head to the limbs). Growth usually starts with the head and moves to the toes. Therefore, at birth, the head is very large in relation to the body. Similarly, vision and hearing develop before walking.

It also occurs in the **proximodistal direction** (outward from the center of the body).

Examples:

– Toddlers can turn around before they can grab an object with their thumb and forefinger.

– Babies develop the ability to control their arms first, and only then their fingers.

Application activity 4.2

Explain the following principle of development.

1) The development is gradual and continuous.

2) Growth and development are a product of both heredity and environment.

3) Orthogenetic principle

4.3 Human developmental domains

Activity 4.3

Use information from the figure below and make one or more sentences that are related.
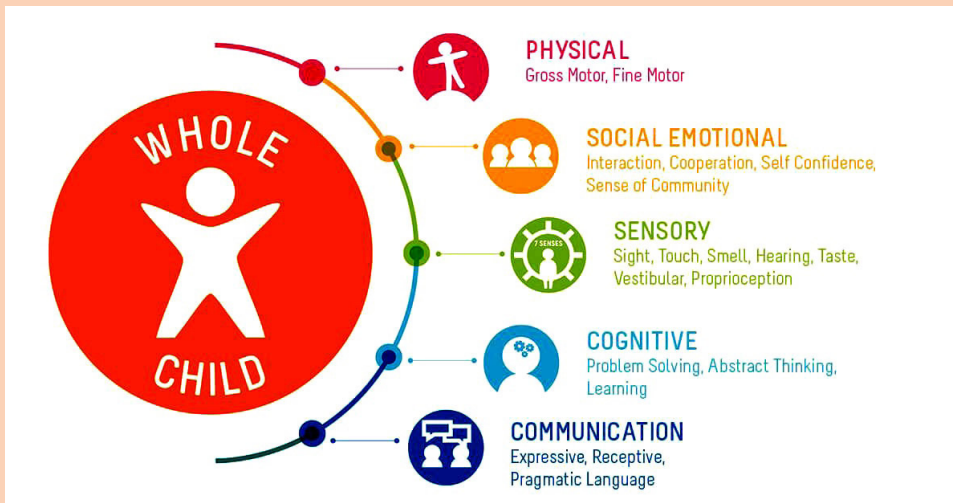
Source : Whole Child Development Research for Inclusive Play (playcore.com)

Physical development and health

This domain includes growing in size and strength, as well as the development of both gross (ability to sit, stand and walk), and fine motor skills (ability to grasp/pick objects, etc.) The brain development, sensory capacities, and health (common health issues, illnesses and hazards).

Cognitive development

Cognitive development refers to the progressive and continuous development of perception, memory, attention, imagination, judgment and reasoning. Cognition also includes the mental activities of understanding information or gathering, organizing, remembering, and using it to solve problems and generalize to novel situations.

Social and emotional development

This domain involves social relationships (with parents, siblings, friends, teachers, and other people in the community), children's growing understanding and control of their emotions, personality. This domain includes developing attachments to others and learning how to interact and cooperate with them, how to show empathy and use moral reasoning.

Language or communication development

Learning language is an innate process that babies are born knowing how to do. All children, no matter which language their parents speak, learn language in the same way following the same pattern (sequencing), even though individual children will progress at their own pace.

Interrelationship between developmental domains

Although the developmental domains are taught separately, they are interrelated: each domain of development affects the others. The following examples illustrate this interrelationship:

- A child with hearing impairment may develop language slowly than a child without this impairment.
- Severe intellectual challenges affect the motor skills development.
- Development of both fine and gross motor skills has an impact on cognitive and language development. Infants and toddlers have opportunities to explore their surroundings with their senses and hands as they progressively become able to sit down, to stand up, and walk.
- During puberty, dramatic physical and hormonal changes affect the cognitive, social and emotional aspects of an adolescent.

To allow children develop their full potentials, children need to receive support in all these developmental domains at once. This is referred to **as holistic development**.

Application activity 4.3

1) What is holistic development?

2) Here below is a list including abilities/ skills of different developmental domains. Groups them according to the developmental domain they belong to:
   - Thinking
   - Fine motor skills
   - Working with others
   - Problem solving
   - Hand –eye coordination
   - Social relationships
   - Babbling
   - Toddling
   - Conceptual understanding
   - Rolling over
   - Making a complete sentence to express the needs
   - Sensory abilities

4.4 Periods of human development

More details on periods of human development will be provided in Unit 6. In this unit you are provided a summary of these periods.

4.4.1. Prenatal period of human development: From conception to birth

Below are some traditional Rwandan practices and beliefs during the prenatal period. Assess and comment on each belief or practice.

1) It was forbidden for pregnant women to make fun of disabled people or animals or those with deformities for fear of giving birth to a child who looked like them. (*Cyaraziraga ku mugore utwite guseka ibintu bitameze neza ngo hato atazabibyara).*

2) It was forbidden for a pregnant woman to attend funeral ceremonies (*Cyaraziraga ko umugore utwite ajya gushyingura).*

3) It was forbidden for a pregnant woman to assist another woman who was about to give birth; (*Cyaraziraga ko umugore utwite agera ahari mugenzi we ugiye kubyara).*

4) It was good practice to consult a witch to ensure that the pregnancy and childbirth process are under control (*Wari umugenzo mwiza kuraguriza umugore utwite kugira ngo bizere ko byose bizagenda neza haba igihe atwite ndetse n'igihe cyo kubyara).*

5) A pregnant woman was required to perform daily abdominal massage with ointment derived from cow's milk (*Wari umugenzo mwiza k'umugore utwite, gusiga inda buri mugoroba bakoresheje amavuta y'inka).*

6) A pregnant woman was advised to take water with "inkuri" made of clay mixed with various medicinal herbs to treat various diseases that a pregnant woman could be infected with. (*Umugore utwite yagombaga kunywa amazi arimo inkuri yari igizwe n'ibumba rivanze n'imiti y'ibimera bitandukanye kugira ngo bimuvure cyangwa bimurinde indwara yashoboraga kurwara).*

Every person began life by the union of two sex cells called gametes. The cells originated from male and female parents. These are spermatozoa and ovum respectively. The cell of a human being has 46 chromosomes, which are arranged into 23 pairs. The union of the gametes is known as conception that results into the formation of a zygote.

Conception takes place when sperm cell(s) from the male unites with an ovum (egg) in the female's fallopian tube in a process known as fertilization. By the time the fertilized egg (zygote) ends its three to four days journey through the fallopian tube and reaches the uterus, it has divided into about 12-18 cells. A zygote has a full complement of 46 chromosomes. Therefore, ***prenatal period is the time from conception to birth***. Prenatal development is divided into 3 main periods: germinal, embryonic and foetal. (More details on prenatal period will be provided in the unit 6).

After conception, the genetic endowment interacts with environmental influences from the start. Basic body structures and organs form; brain growth begins. Physical growth is the most rapid in the life span. Abilities to learn and remember and to respond to sensory stimuli are developing. The fetus responds to mother's voice and develop a preference for it. Vulnerability to environmental influences is great.

Application activity 4.4.1

Immediately after birth, newborns react in a specific way to their mother's voice and are able to thumb or breast sucking. How can you explain these early behaviors at birth?

4.4.2. Infancy and toddlerhood periods of human development: From birth to 3 years

Activity 4.4.2

Based on your knowledge of developmental areas and observations of newborns and young children prior to attending preschool in your family and neighborhood families or in the community; compare behaviors, games, skills of 1-year-olds and 3-year-olds in terms of physical, language, cognitive, social and emotional development.

a. Infancy: from birth to 12 months
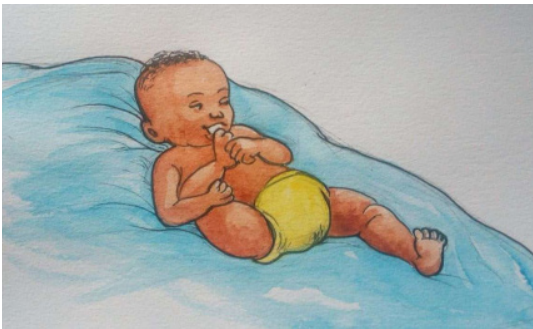
The infancy period refers to the first year of life, starting from birth and extending to 12 months. For the first month after birth, an infant is called a newborn. A newborn has a distinctive appearance. The head is very large, and the arms and legs are relatively short. In the first year, all senses and body systems operates at birth at varying degrees. Babies are developing skills such as crawling, sitting down, walking, smiling for the first time, and waving "bye-bye".

Babies learn to focus their vision, explore, and learn about the things that are around them. Cognitive, or brain development means the learning process of memory, language, thinking, and reasoning.

Learning language is more than making sounds ("babble"), or saying "ma-ma" and "da-da". Listening, understanding, and knowing the names of people and things are all a part of language development.

During this stage, babies also are developing bonds of love and trust with their parents and others as part of social and emotional development. The way parents hug, hold, and play with their baby will set the basis for how they will interact with them and others.

b. Toddlerhood: from 1 to 3 years

The term "Toddlerhood" refers to the approximate period between a child's first and third birthdays. To 'toddle' means to walk with unsteady or tottering steps. The term is descriptive of the developmental stage, indicating a time when children are quickly gaining abilities, though they have not yet mastered them.

During the second year, toddlers are moving around more, and are aware of themselves and their surroundings. Their desire to explore new objects and people is also increasing. The use of symbols and ability to solve problems develop by end of second year.

During this stage, toddlers will show greater independence; begin to show defiant behavior; recognize themselves in pictures or a mirror; and imitate the behavior of others, especially adults and older children.

Toddlers are also able to recognize the names of familiar people and objects, form simple phrases and sentences, and follow simple instructions and directions.

Application activity 4.4.2

1) What domain of development does the age name "Toddlerhood" focus on? What is the equivalent name of toddler in Kinyarwanda?
2) Gives at least 1 skill that babies attain during infancy and a toddlerhood for each developmental domain.

4.4.3. Early and middle childhood periods of human development

Activity 4.4.3

Think and share:

1) Think of different practices in your community that aim to promote the holistic development of young children aged 3 to 6 years. What are those practices and what is their contribution? Share your findings with your classmates.

2) Think about your own experiences in different schools that you went through in pre-school and/or primary school. What contribution have these schools made to developing your full potential?

a. Early childhood: from 3 to 6 years

Growth is steady; appearance becomes slimmer and proportions more adultlike. Gross motor skills and strength improve: their world begins to open up. Handedness (tendency to use either the right or the left hand more naturally than the other) appears. Fine motor skills improve: children are able to use safety scissors and other objects, help to dress and undress themselves, etc.

Young children are curious, inquisitive and want to explore, ask questions, seek out new experiences to make sense of themselves and the environment in which they live. Thinking is somewhat egocentric but understanding of other people's view grows. Cognitive immaturity results in some illogical ideas about the world.

Memory and language improve. Young children are able to play with other children, recall a part of a story, sing a song, create things through drawings, modelling, crafting; making groups of objects based on their characteristics, compare things of different lengths, sizes,

Self-concept and understanding of emotions become more complex; self-esteem is global (they have a global, overall knowledge of their goodness as a person). Independence, initiative and self-control increase. Family is still the focus of social life but other children become more important. Young children begin to focus more on things, people (adults and children) outside of the family. Their interactions with family and other people around them help to shape their personality and their own ways of thinking. Gender identity develops: children are interested in differences between girls and boys. Play becomes more imaginative, elaborate and progressively more social.

b. Middle childhood: from 6 to 12 years

Middle childhood brings many changes in a child's life. Physical, social, and mental skills develop quickly at this time.

Growth in general slows but strength and athletic skills improve. Children can for example dress themselves, catch a ball more easily using only their hands, and tie their shoes. Having independence from family becomes more important at this age. Health is generally better than at any other time in the life span.

Egocentrism diminishes and children begin to see the point of view of others more objectively. Children think logically but concretely and have an increased attention span. Memory and language skills increase. Some children show special educational needs and strengths.

Self-concept becomes more complex and affects the self-esteem. This is a critical time for children to develop confidence in all areas of life, such as through friends, schoolwork, and sports. Friendships become more and more important and peer pressure can become strong during this time.

Application activity 4.4.3

1) What is the equivalent name of children in early and middle childhood according to the traditional Rwandan culture? Are these names relevant to the psychological facts about child development? Explain.

2) Give at least 1 skill that children attain during early and middle childhood for each developmental domain.

4.4.4: Adolescence and early adulthood periods of human development

Activity 4.4.1

Look at the picture below and describe the context: who is in the picture? What might be their age? Where are they? What are they doing? What do you think about their behavior?

a) Adolescence: From 12-20 years

This is a time of rapid and profound physical and physiological changes which induce mental, emotional, and social changes. Reproductive maturity occurs. Most young adolescents are worried about these changes and how they are looked at by others. They might have concerns about their body size, shape, or weight.

Ability to think abstractly and use scientific reasoning develops but immature thinking may persist in some attitudes and behaviors.

At this age, teens become more independent, with their own personality and interests although parents are still very important. They make more of their own choices about friends, sports, studying, and school. Peer group may exercise a positive or negative influence. Teens may face peer pressure to use alcohol, tobacco products, and drugs and to have sex. Major health risks arise from behavioral issues, such as eating disorders, drug abuse and Sexually Transmitted Diseases (STDs). Adolescents can feel a lot of sadness or depression, which can lead to poor grades at school, alcohol or drug use, and other problems. Search for identity becomes central.

b) Young/Early adulthood: From 20-40 years

This is a period when the full physical and intellectual maturity has been attained. Lifestyle influence health.

Thought and moral judgements become more complex. Educational and occupational choices are made sometimes after a period of exploration.

Personality traits and styles become relatively stable but changes in personality may be influenced by life stages and events. Intimate relationships and personal lifestyles are established. Most people marry and become parents during this period.

Application activity 4.4.4

1. Give 4 characteristics of adolescents.

2. Give 2 characteristics that distinguish adolescents and young adults.

3. Based on the characteristics of adolescent period, and considering the Rwandan culture, provide at least 3 Rwandan proverbs (Imigani) that illustrates the behaviour of adolescents.

4.4.5. Middle and late adulthood periods of human development

Look at the picture below and describe: Who are these people? What might be their age?

a) Middle adulthood: from 40 to 65 years

This is the period when slow deterioration of sensory abilities, health, stamina, and strength may begin but individual differences are wide. Women experience menopause.

Mental abilities peak, expertise and practical problem solving skills are high. Creative output may decline but improve in quality. For some, career success and earning powers peak; for others career change may occur.

Sense of identity continues to develop, dual responsibilities and caring for children and parents may cause stress.

b) Late adulthood: Age 65 and over

Most people are healthy and active although health and physical strength decline. Slowing of reaction time affects some aspects of functioning.

Most people are mentally vigilant. Although intelligence and memory may deteriorate in some areas, most people find ways to compensate.

Retirement from workforce may occur and may offer new options for use of time. People develop strategies to cope with personal losses and death. Relationship with family and close friends can provide important support.

Application activity 4.4.5

1) Give 2 characteristics of people in middle adulthood and

2) Give 2 characteristics in late adulthood

3) Write down at least 3 Rwandan proverbs that characterize late adulthood period of human development.

4.5. Brain and human development

We receive information through our senses, but where does the information go for further interpretation? Every thought and action are controlled by the brain, the body's most complex organ. The brain is an amazing organ that controls all of the body's functions, interpreting information from the outside world and embodying the essence of the mind and spirit. Intelligence, creativity, emotions and memory are some of the many things controlled by the brain.

The brain receives information through our five senses: sight, smell, touch, taste and hearing - often many at the same time. It arranges the messages in a way that makes sense to us and can store this information in our memory. The brain controls our thoughts, memory and language, the movement of our arms and legs, and the functioning of many of our body's organs.

4.5.1. Brain basics and functions

Activity 4.5.1

Using Internet and different books from the school library, identify the main parts of the brain and their functions.

a) Parts of the brain and their functions

Source: https://mayfieldclinic.com/pe-anatbrain.htm
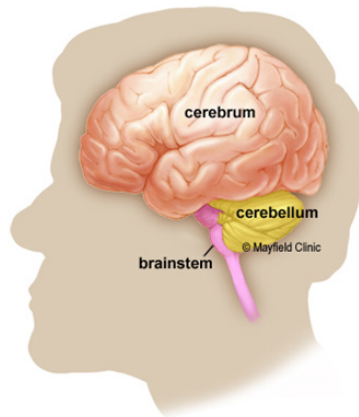
The brain is composed of cerebrum, cerebellum and brain stem

- **Cerebrum:** is the largest part of the brain and consists of the right and left hemispheres. It performs higher functions such as interpreting touch, sight and hearing, as well as language, reasoning, emotion, learning and fine control of movement.

- **Cerebellum**: located under the cerebrum. Its function is to coordinate muscle movements, maintain posture and balance.

- **Brain stem**: acts as a relay center connecting the cerebrum and cerebellum to the spinal cord. It performs many automatic functions, such as breathing, heart rate, body temperature, wake and sleep cycles, digestion, sneezing, coughing, vomiting, and swallowing.

b) Functions of the right and left brain
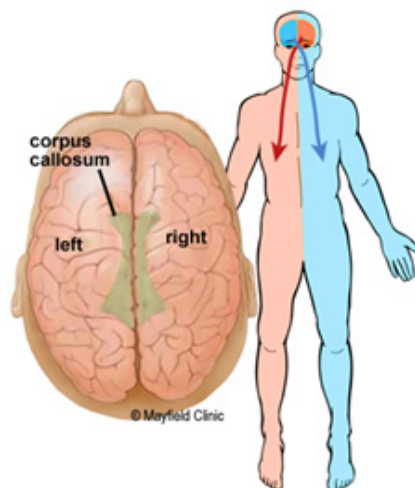
Left and right brain
Source: https://mayfieldclinic.com/pe-anatbrain.htm

The cerebrum is divided into two halves: the right and left hemispheres (Fig….). They are connected by a bundle of fibers called the corpus callosum, which carries messages from one side to the other. Each hemisphere controls the opposite side of the body. If for example a stroke occurs on the right side of the brain, your left arm or leg may be weak or paralyzed. Not all functions of the hemispheres are shared.

In general, the left hemisphere controls language (spoken and written language), comprehension (logical thinking), Science and Math and right hand control. The right brain controls artistic and musical awareness, creativity, intuition, imagination, spatial relationship, left hand control, concrete, construction. Left-handers have their right brain dominant. For about 92% of people, the left hemisphere dominates hand use and language.

Left-handers face the challenge of being different and a minority (roughly 10% of the population) in a world where almost everything is designed for right-handers. From an early age, they are exposed to everyday situations that require them to make small adjustments, such as opening doors, using tools or scissors. This trains them to use both hands in some activities. However, parents, caregivers, and teachers should not force left-handed children to hold a pencil or pen with their other hand (the right hand). Teachers should consider left-handers so that they have the same opportunities as their peers' other right-handers.

c) Lobes of the brain and their functions

Source: https://mayfieldclinic.com/pe-anatbrain.htm
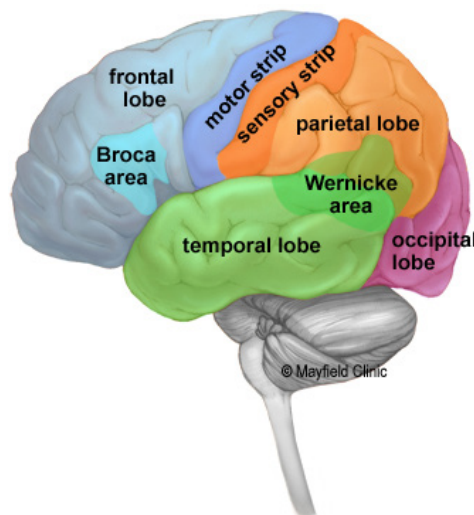
The cerebral hemispheres have distinct fissures that divide the brain into lobes. Each hemisphere has 4 lobes: frontal, temporal, parietal and occipital (Fig. ..). Each lobe, in turn, can be divided into areas that serve specific functions. It is

important to understand that not every brain lobe functions on its own. There are very complex relationships between the brain lobes and between the right and left hemispheres.

Frontal lobe

- Personality, behavior, emotions
- Judgment, planning, problem solving
- Speech: speaking and writing (Brocas area)
- Body movement (motor stripes)
- Intelligence, concentration, self-awareness

Parietal lobe

- Interprets language, words
- Touch, pain, temperature (sensor stripes)
- Interprets signals from vision, hearing, motor, sensory and memory
- Spatial and visual perception

Occipital lobe

- Interprets vision (color, light, movement)

Temporal lobes

- Understanding language
- Memory
- Hearing
- Sequencing and organization

Application activity 4.5.1

Answer by True or False to the following statements.

Statement	True/False
1) All left-handers are more talented in language than in Mathematics.	
2) A person suffering from the effects of a stroke is unable to move the right arm and leg. That means the right brain was seriously damaged.	
3) Right-handers have their left brain dominant.	
4) The cerebellum is divided into 2 cerebral hemispheres which are connected by the corpus callosum.	
5) Each cerebral hemispheres has 4 different lobes.	

4.5.2 Brain development

Look at the graph below, taken from the article "In Brief: The Science of Early Childhood Development by Harvard University's Center on the Developing Child".

Source: https://developingchild.harvard.edu/resources/inbrief-science-of-ecd/
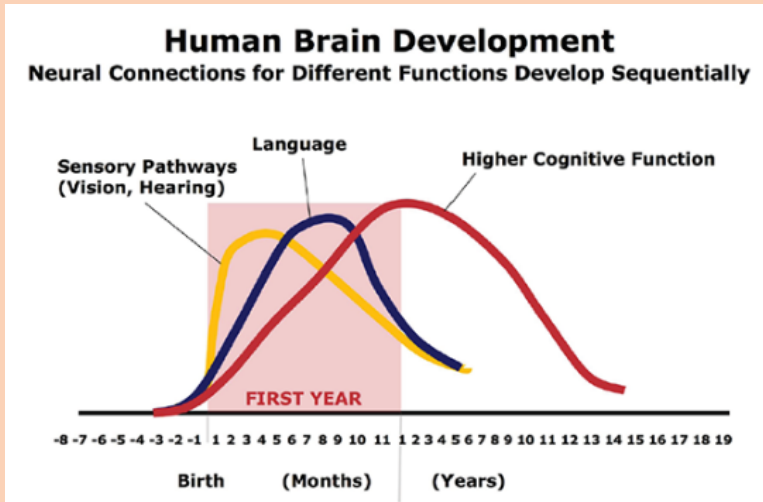
Answer the following questions:

1) What is highlighted on the graph?
2) What conclusions can you draw from the information included in the graph?
3) During which period of life are the most neural connections made in the brain?
4) What does that mean for parents, caregivers and educators?

a) Brain development in prenatal period
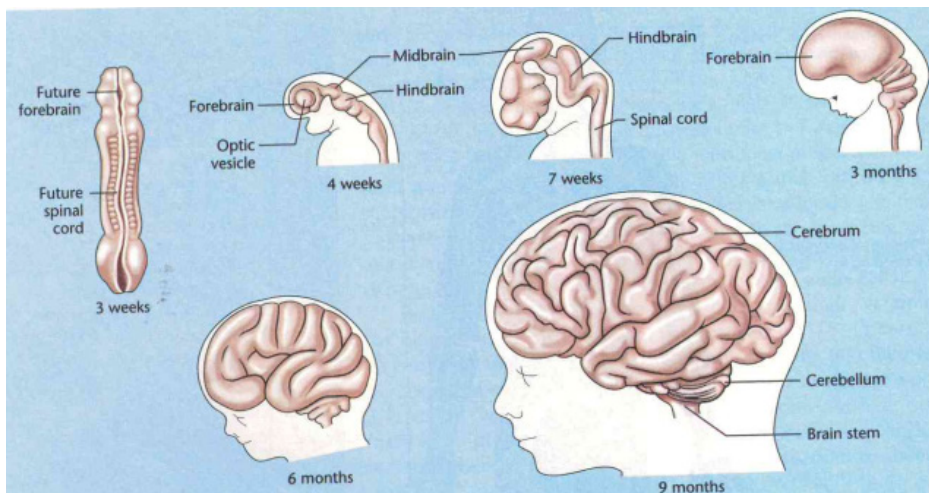
Source: *Papalia, E.D, Wendkos S. O., et al. (2009). Human Development. New York, p.120.*

The development of the fetal nervous system begins at about 3 weeks with the closure of the neural tube (left), from which the brain and spinal cord develop. After 4 weeks, the main regions of the brain appear in primitive form: forebrain, midbrain, hindbrain, and optic sacs, from which the eye develops. As the brain grows, the front part expands greatly, forming the cerebrum. The brainstem, which is an extension of the spinal cord, is almost fully developed at birth, but the cerebellum (above the brainstem) grows fastest during the first year.

b) Brain development in post-natal period

At birth, the average baby brain is about a quarter the size of the average adult brain. Unbelievable, it doubles in the first year. It grows to about 80% of adult size by 3 years of age and nearly 90% by 5 years of age.

The brain is the command center of the human body. Different areas of the brain are responsible for different skills, such as movement, language, and emotions, and develop at different rates. Brain development builds on itself as connections eventually become linked together in more complex ways. This allows the child to move, speak and think in more complex ways.

A newborn baby has all the brain cells (neurons) he will have for the rest of his life, but it's the connections between those cells that really make the brain work.

Brain connections are fundamental to physical, cognitive and social-emotional development. They allow us to move, think, communicate, relate with others and do just about anything. The early childhood years are crucial for making these connections. At least a million new neural connections (synapses) are made every second, more than at any other time in life.

The early years are the best opportunity for a child's brain to develop the connections it needs to be healthy, capable, and successful adults. The connections needed for many higher-level skills, such as motivation, self-regulation, creativity, problem-solving, and communication, may or may not be formed during these early years. The quality of a child's experiences in the early years, whether positive or negative, affects the development of their brain. It is much more difficult to form these essential brain connections later in life.

c) Factors of brain development

How brain's connections are made?

From birth to age 5, a child's brain develops more than at any other time in life. Early brain development has a profound impact on a child's ability to learn and success in school and in life.

Children cannot build strong brains on their own. They need positive, nurturing interactions with trusted caregivers to support their development. These positive interactions are the building blocks that build robust brain architecture that leads to improved learning and behavior, as well as better physical and mental health throughout life.

From birth, children develop brain connections through their everyday experiences. Connections are built through positive interactions with their parents and caregivers, and by using their senses to interact with the world. A young child's day-to-day experiences determine which brain connections develop and which remain throughout life. The amount and quality of care, stimulation, and interaction they receive in their early years makes all the difference.

Application activity 4.5.2

Write a short message for parents explaining why early years (before age 5) are important for brain development and what role they play.

4.5.3. Key messages for parents and caregivers about their role in children's brain development

a) Proper Nutrition

Pregnant women should eat well and avoid unnecessary medication to promote the child's brain development. After birth, a child also needs to consume good nutrients because nutrition plays a huge role in the child's brain development. Breastfeeding the baby for the first 1000 days: During the first 1000 days, the brain is growing faster than at any other time in a person's life, and a child needs the right nutrients at the right time to support rapid brain development. For the first 1000 days, breastfeeding reduces the chances of your child becoming obese. Breastfeeding is a key part of proper nutrition for the first 1,000 days.

b) Caring, responsive relationships

A child's relationships with the adults in their life are the most important influences on their brain development. Loving relationships with caring, dependable adults are essential to a child's healthy development. These relationships begin at home, with parents and family, but also include childcare workers, teachers and other members of the community.

From birth, young children interact with their parents and other adult caregivers. Babies do this by cooing and smiling and crying. Toddlers communicate their needs and interests more directly. Each of these small invitations is an opportunity for the caregiver to respond to the child's needs. This serve-and-return process is fundamental to how the brain is wired. Parents and caregivers who pay attention to, respond to, and interact with their child literally build the child's brain. That is why it is so important to talk, sing, read and play with young children from the day they are born, to give them opportunities to explore their physical world and to provide them with a safe, stable and nurturing environment.

c) Early stimulation

Parents and caregivers should stimulate a child's cognitive development by talking to them, telling them stories, showing them attractive things.

It is advised to play games that involve hands. Using your hands teaches young children how we physically interact with our world.

d) Reading books

Choose books with large and colourful pictures and read with the child. Positive Caring Soothe, nurture, cuddle and soothe them so you build positive brain circuits in the limbic area of the brain involved in emotions. Your calm holding and cuddling and your daily preoccupation with your baby signal emotional security to the brain.

e) Set up a safe environment for your crawling baby or toddler

Your mobile child begins to understand spatial parameters and vocabulary such as under, above, large, small, near and far, and the relationship between objects of different shapes and sizes (those that are large versus small, for example). He will begin to create mental maps of his surroundings and a comfortable relationship with the world he lives in.

f) Avoid adverse childhood experiences

Children who experience more positive interactions in their early years are healthier and more successful in school and in life. Unfortunately, the opposite is also true. Poverty, domestic violence, and lack of access to quality early learning experiences can negatively impact a child's early brain development and, as a result, their long-term success.

A study that followed children from the prenatal period until they were six to nine years old found that higher maternal prenatal anxiety was associated with reduced gray matter volume (an indication of fewer neurons) in the brain's prefrontal cortex, a region integral to cognitive abilities such as reasoning, planning, attention, and working memory.

End Unit Assessment

I. ANSWER BY TRUE OR FALSE TO THE FOLLOWING STATEMENTS

#	Statement	True/False
1	Early childhood covers birth to 3 years.	
2	Children go through the growth process at their own pace.	
3	Development is affected by both genetics and environment.	
4	The development of the head happens after child legs and arms.	
5	Growth refers to an increase in the physical aspects such as size, weight and height.	
6	Most brain development occurs within the first 5 years of a person's life.	

II. MULTIPLE CHOICE QUESTIONS: CHOOSE THE CORRECT ANSWERS.

1. Being able to roll over, sit, crawl, stand and walk is:

   a) Motor development
   b) Gross motor skills
   c) Fine motor skills
   d) Large motor skills

2. Being able to control small muscles such those in fingers and hands is:

   a) Motor development
   b) Fine motor skills
   c) Gross motor
   d) Small motor skills

3. The progression beginning with the head and moving down to the feet is called:

   a) Motor development
   b) Gross motor development
   c) Cephalocaudal growth

4. The development from the center to the peripheries is:

   a) Cephalocaudal direction
   b) Motor development
   c) Developmental milestone
   d) Proximodistal direction

5. Cognitive development means

   a) The way we learn to speak
   b) The way in which we think
   c) The way we grow
   d) The way we run

6. Which aspect among the following is not a developmental domain?

   a) Cognitive
   b) Physical
   c) Maturation
   d) Language

7. Children mostly follow the same pattern of development. This means that:

   a) Development happens at the same age for different children.
   b) Children develop at their own pace.
   c) The stages of development happen in the same sequence/ order.

8. Toddlers are children between:

   a) Children between 18 months- 3 years
   b) Children between 1- 3 years
   c) Children between 2-3 years
   d) Children between 3-5 years

III. OPEN ENDED QUESTIONS

1) Prepare a poster to be used during the village level awareness meeting to help parents understand what they can do to contribute to their children's brain development from prenatal to 6 years old. If necessary, use illustrations. The message should be simple, clear and short, with an indication of age where appropriate.

2) Read the text below and give examples showing how environmental influences during the prenatal period have long term effects on physical and psychosocial life of the child.

Pregnant women don't live in a vacuum. Every day, women are exposed to environmental and psychosocial sources of stress that impact both their own psychological and physical wellbeing and that of their unborn child.

Substantial evidence demonstrates that elevated maternal distress during pregnancy increases the future child's risk for mental health disorders, including anxiety, depression and Attention Deficit/Hyperactivity Disorder (ADHD).

For example, a study of nearly 8,000 British children found that children exposed to higher prenatal maternal anxiety were at greater risk for overall behavioral problems (for example, ADHD and conduct problems) at age seven. These effects persisted: exposure to high levels of prenatal anxiety doubled the risk of having a mental health disorder at age 13.

This influence on children's health was evident even when researchers also considered other adverse prenatal influences, such as maternal smoking and drinking, medical conditions during pregnancy, socioeconomic status, and the mother's mood postpartum.

Similar outcomes were identified for prenatal maternal depression. This association between maternal distress during pregnancy and children's increased risk for social-emotional problems has been corroborated by research groups in many other countries.

Source: https://files.eric.ed.gov/fulltext/EJ1293581.pdf

🔑 **Key unit competence:** Apply the principles and theories of human development in real-life

5.1. Key Concepts of Human Development Theories

Activity 5.1

1. What do you understand by theory?
2. *Do you think that psychology has theories?*
3. *Do you think it is necessary to learn key concepts used in psychology?*
4. *What do you understand by human development?*

Accommodation: adjustment of a schema by changing schema to accommodate new information different from what was already known. It is a term developed by a Swiss Psychologist Jean Piaget to describe what occurs when new information or experience cause you to modify your existing schemas. Instead of making the new information fit into an existing schema, you change the schema in order to accommodate the new information.

Adolescence: period of development that begins at puberty and ends at early adulthood. It is a transition where a child is progressively prepared to enter adulthood and affirms his/her identity.

Assimilation: adjustment of a schema by adding information similar to what is already known. Jean Piaget defined assimilation as a cognitive process in which people take new information and experiences and incorporate them into their preexisiting ideas and viewpoints. There are two ways of acquiring new information : assimilation and accommodation.

Attachment: long-standing connection or bond with others. Attachment is defined as a deep and enduring emotional bond between two individulas in which each seeks closeness and feels more secure when in the presence of the attachment figure. Attachment behavior in adults towards the child includes responding sensitively and appropriately to the child's needs.

Avoidant attachment: characterized by child's unresponsiveness to parent, does not use the parent as a secure base, and does not care if a parent leaves.

Childhood: a state of being a child. The period between birth and adolescence.

Cognitive development: domain of lifespan development that examines learning, attention, memory, language, thinking, reasoning, and creativity

Cognitive empathy: ability to take the perspective of others and to feel concern for others.

Conception: Conception occurs when sperm travels through the vagina, into the uterus, and fertilizes an egg in the fallopian tube. Conception - and eventually pregnancy - can involve a surprisingly complicated series of steps. Everything has to be in place for the pregnancy to reach the due date.

Concrete operational stage: third stage in Piaget's theory of cognitive development; from about 7 to 11 years old, children can think logically about real (concrete) events

Consciousness: awareness of and responding to one's surroundings.

Conservation: idea that even if you change the appearance of something, it is still equal in size, volume, or number as long as nothing is added or removed

Continuous development: view that development is a cumulative process: gradually improving on existing skills.

Developmental milestone: approximate ages at which children reach specific normative events.

Disorganized attachment: characterized by the child's odd behavior when faced with the parent; type of attachment seen most often with kids that are abused.

Egocentrism: preoperational child's difficulty in taking the perspective of others

Embryo: multi-cellular organism in its early stages of development

Emerging adulthood: newly defined period of lifespan development from 18 years old to the mid-20s; young people are taking longer to complete college, get a job, get married, and start a family

Fine motor skills: use of muscles in fingers, toes, and eyes to coordinate small actions

Fixation: In general, a fixation is an obsessive drive that may or may not be acted on involving an object, concept, or person. Initially introduced by Sigmund Freud, a fixation is a persistent focus of the id's pleasure-seeking energies at an early stage of psychosexual development.

Formal operational stage: final stage in Piaget's theory of cognitive development; from age 11 and up, children are able to deal with abstract ideas and hypothetical situations

Gross motor skills: use of large muscle groups to control arms and legs for large body movements

Menarche: beginning of menstrual period; around 12–13 years old. Menarche is the first menstruation period a woman begins to have during puberty, usually between the ages of ten and eighteen. Menarche indicates that the female reproductive organs have become functionally active.

Mitosis: process of cell division

Moral development : this is a theory developed by an American psychologist Laurence Kohlberg that focuses on how children develop morality and moral reasoning. Kohlberg's theory suggests that moral development occurs in a series of six stages. The theory also suggests that moral logic primarily focuses on seeking and maintaining justice.

Motor skills: ability to move our body and manipulate objects

Nature: refers to all of the genes and hereditary factors that influence who we are—from our physical appearance to our personality characteristics.

Newborn reflexes: inborn automatic response to a particular form of stimulation that all healthy babies are born with such as grasping, rooting, swallowing reflexes.

Nurture: refers to all the environmental variables that impact who we are, including our ealry childhood experience, how we were raised, our social relationships, and our surrounding culture.

Object permanence: The object permanence involves understanding that objects and people still exist, even when you cannot see or hear them. This concept was discovered by child psychologist Jean Piaget and represents an important milestone in the development of a child's brain.

Psychomotor development: domain of lifespan development that examines growth and changes in the body and brain, the senses, motor skills, and health and wellness

Preoperational stage: second stage in Piaget's theory of cognitive development; from ages 2 to 7, children learn to use symbols and language but do not understand mental operations and often think illogically

Psychosexual development: process proposed by Freud in which pleasure-seeking urges focus on different erogenous zones of the body as humans move through five stages of life

Psychosocial development: process proposed by Erikson in which social tasks are mastered as humans move through eight stages of life from infancy to adulthood

Psychodynamic development: a theory that states that events in our childhood have a great influence on our adult lives, shaping our personality. Events that occur in childhood can remain in the unconscious, and cause problems as adults.

Resistant attachment: characterized by the child's tendency to show clingy behavior and rejection of the parent when he/she attempts to interact with the child

Reversibility: principle that objects can be changed, but then returned back to their original form or condition

Unconsciousness: In Sigmund Freud's psychoanalytic theory of personality, the unconscious mind is defined as a reservoir of feelings, thoughts, urges, and memories that outside of conscious awareness. Within this understanding, most of the contents of the unconsciousness are considered unacceptable or unpleasant, such as feelings of pain, anxiety, or conflict. Freud believed that the unconsciousness continues to influence behavior even though people are unaware of these underlying influences.

Schema: (plural = schemata) concept (mental model) that is used to help us categorize and interpret information

Secure attachment: characterized by the child using the parent as a secure base from which to explore

Secure base: parental presence that gives the infant/toddler a sense of safety as he explores his surroundings

Sensorimotor stage: first stage in Piaget's theory of cognitive development; from birth through age 2, a child learns about the world through senses and motor behavior

Sexuality : sexuality is about sexual feelings, thoughts, attractions and behaviours towards other people. You can find other people physically, sexually or emotionally attractive, and all those things are part of your sexuality. It is a diverse and personal, it is an important part of who you are. It is the capacity to derive pleasure from various forms of sexual activity and behavior, particulary from sexual intercourse. It is also all aspects of sexual bahavior, inclding gender identiy, orientation, attitudes, and activity.

Sexual characteristics: Sexual characteristics are physical or behavioral characteristics of an organism (usually an organism with gender dimorphism) that indicate its biological sex. Primary and secondary sexual characteristics

refer to specific physical characteristics that distinguish males and females in species with sexual dimorphism; that is, species in which males and females are different from each other. Primary sexual characteristics are present from birth (e.g. penis / vagina). Secondary sexual characteristics appear from puberty to adolescence and stay forver (such as pubic hair, armpit hair, low voice and beards in males and high voice and no facial hair in females).

Social psychology: study that focuses on the manner in which attitudes, movitation, personality and behavior of individuals influence and is influenced by social groups. It helps understand cognition and behavior as they naturally happen and alter in any social setting.

Socioemotional selectivity theory: social support/friendships dwindle in number, but remain as close, if not more close than in earlier years.

Sperm: also called spermatozoon, plural spermatozoa, is a male reproductive cell, produced by most animals.

Spermarche: - also known as semenarche - is the beginning of sperm development in boys' testicles during puberty. It is the equivalent of menarche in girls. Depending on upbringing, cultural differences, and prior sexual knowledge, boys can have different reactions to spermarche, ranging from fear to excitement. Spermarche is one of the first events in a man's life leading to sexual maturity.

Stages of moral reasoning: process proposed by Kohlberg; humans move through three stages of moral development

Temperament: innate traits that influence how one thinks, behaves, and reacts with the environment

Teratogen: biological, chemical, or physical environmental agent that causes damage to the developing embryo or fetus

Zygote: structure created when a sperm and egg merge at conception; begins as a single cell and rapidly divides to form the embryo and placenta.

Application activity 5.1

Define at least five concepts related to human development theories

5.2. Psychosexual Development Theory

Also known a psychodynamic or psychoanalytic theories, the psychosexual development theory originated with the work of Sigmund Freud through his clinical work with patients suffering for mental illnesses, he came to believe that childhood experiences and unconscious desires influenced behaviors.

According to Freud, conflicts that occur during each of these stages can have a lifelong influence on personality and behavior. Freud proposed one of the best-known grand theories of child development.

According to Freud's psychosexual theory, child development occurs in a series of stages focused on different pleasure areas of the body. During each stage, the child encounters conflicts that play a significant role in the course of development.

His theory suggested that the energy of the libido was focused on different erogenous zones at specific stages. Failure to progress through a stage can result in fixation at that point in development, which Freud believed could have an influence on adult behavior.

So what happens as children complete each stage? And what might result if a child does poorly during a particular point in development? Successfully completing each stage leads to the development of a healthy adult personality.

Failing to resolve the conflicts of a particular stage can result in fixation that can then have an influence on adult behavior.

While some other child development theories suggest that personality continues to change and grow over the entire lifetime, Freud believed that it was early experiences that played the greatest role in shaping development. According to Freud, personality is largely set in stone by the age of five.

5.2.1. The Oral Stage: From birth to 1 year

Erogenous Zone: Mouth

A mother breastfeeding her newborn baby

During the oral stage, the infant's primary source of interaction occurs through the mouth, so the rooting and sucking reflex is especially important. The mouth is vital for eating, and the infant derives pleasure from oral stimulation through gratifying activities such as tasting and sucking.

Because the infant is entirely dependent upon caretakers (who are responsible for feeding the child), the child also develops a sense of trust and comfort through this oral stimulation.

The primary conflict at this stage is the weaning process-the child must become less dependent upon caretakers. If fixation occurs at this stage, Freud believed the individual would have issues with dependency or aggression. Oral fixation can result in problems with drinking, eating, smoking, or nail-biting.

5.2.2. The Anal Stage: from 1 to 2 years

Erogenous Zone: Bowel and bladder control

A baby using potty to urinate and defecate

During the anal stage, Freud believed that the primary focus of the libido was on controlling bladder and bowel movements. The major conflict at this stage is toilet training—the child has to learn to control their bodily needs. Developing this control leads to a sense of accomplishment and independence.

According to Freud, success at this stage is dependent upon the way in which parents approach toilet training. Parents who utilize praise and rewards for using the toilet at the appropriate time encourage positive outcomes and help children feel capable and productive.

Freud believed that positive experiences during the toilet training stage serve as the basis for people to become competent, productive, and creative adults.

However, not all parents provide the support and encouragement that children need during this stage. Some parents punish, ridicule, or shame a child for accidents.

According to Freud, inappropriate parental responses can result in negative outcomes. If parents take an approach that is too lenient, Freud suggested that an anal-expulsive personality could develop in which the individual has a messy, wasteful, or destructive personality.

If parents are too strict or begin toilet training too early, Freud believed that an anal-retentive personality develops in which the individual is stringent, orderly, rigid, and obsessive.

5.2.3. The Phallic Stage: From 2 to 6 years

Erogenous zone: Genitals (penis)
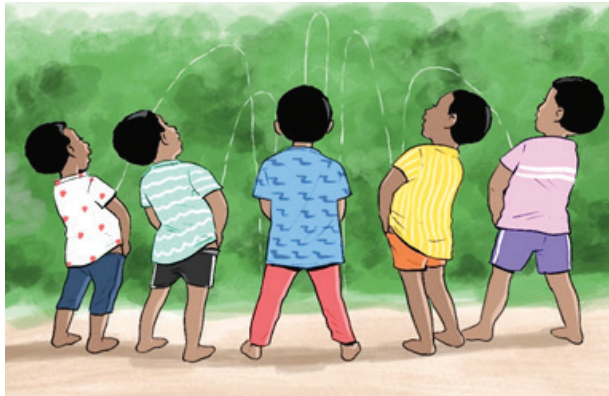
Children in a peeing competition at phallic stage

Freud suggested that during the phallic stage, the primary focus of the libido is on the genitals. At this age, children also begin to discover the differences between males and females.

The concept Electra complex has been used to describe a similar set of feelings experienced by young girls. Freud, however, believed that girls instead experience **penis envy**.

Freud also believed that boys begin to view their fathers as a rival for the mother's affections. The Oedipus complex describes these feelings of wanting to possess the mother and the desire to replace the father. However, the child also fears that he/she will be punished by the father for these feelings, a fear Freud termed **castration anxiety**.

Eventually, the child begins to identify with the same-sex parent as a means of vicariously possessing the other parent. For girls, however, Freud believed that penis envy was never fully resolved and that all women remain somewhat fixated on this stage.

Psychologists such as Karen Horney disputed this theory, calling it both inaccurate and demeaning to women. Instead, Horney proposed that men experience feelings of inferiority because they cannot give birth to children, a concept she referred to as *womb envy*.

5.2.4. The Latent Stage: From 6 years to puberty

Erogenous Zone: Sexual feelings are inactive

Dominance of social skills at latent stage

During this stage, the *superego* continues to develop while the id's energies are suppressed. Children develop social skills, values and relationships with peers and adults outside of the family.

The development of the *ego* and *superego* contribute to this period of calm. The stage begins around the time that children enter into school and become more concerned with peer relationships, hobbies, and other interests.

The latent period is a time of exploration in which the sexual energy becomes repressed or dormant. This energy is still present, but it is sublimated into other areas such as intellectual pursuits and social interactions. This stage is important in the development of social and communication skills and self-confidence.

As with the other psychosexual stages, Freud believed that it was possible for children to become fixated or "stuck" in this phase. Fixation at this stage can result in immaturity and an inability to form fulfilling relationships as an adult.

5.2.5. The Genital Stage: from puberty to death

Erogenous Zone: Genital (maturing sexual interests)

Genital stage

The onset of puberty causes the libido to become active once again. During the final stage of psychosexual development, the individual develops a strong sexual interest in the opposite sex. This stage begins during puberty but lasts throughout the rest of a person's life.

Where in earlier stages the focus was solely on individual needs, interest in the welfare of others grows during this stage. The goal of this stage is to establish a balance between the various life areas.If the other stages have been completed successfully, the individual should now be well-balanced, warm, and caring.

Unlike the many of the earlier stages of development, Freud believed that the ego and superego were fully formed and functioning at this point. Younger children are ruled by the *id*, which demands immediate satisfaction of the most basic needs and wants.

Teens in the genital stage of development are able to balance their most basic urges against the need to conform to the demands of reality and social norms.

5.2.6. Significance of Freud's Psychosexual Theory

One importance of Sigmund Freud's psychosexual theory is his emphasis on early childhood experiences in the development of personality and as an influence on later behaviors.

The relationships that individuals cultivate, their views about themselves and others, and their level of adjustment and well-being as adults are all influenced by the quality of experiences that they have had during the psychosexual stages.

Despite being one of the most complex and controversial theories of child development, we cannot discount the important ideas that Freud has contributed to the field of psychology and human development.

Despite the psychodynamic perspective's association with Freud and psychoanalysis, psychodynamic theorists no longer put much stock in some of Freud's ideas, such as the *id, ego, and superego*. Today, the approach focuses on a core set of principles that both arise from and expand upon Freud's theories.

Psychologist *Drew Weston* outlined five propositions that generally encompass 21st century psychodynamic thinking:

- First and most importantly, a great deal of mental life is unconscious, meaning people's thoughts, feelings, and motivations are often unknown to them.
- Individuals may experience conflicting thoughts and feelings towards a person or situation because mental responses occur independently but in parallel. Such internal conflict can lead to contradictory motivations, necessitating mental compromise.
- Personality begins to form in early childhood and it continues to be influenced by childhood experiences into adulthood, especially in the formation of social relationships.
- People's social interactions are impacted by their mental understanding of themselves, other people, and relationships.
- Personality development includes learning to regulate sexual and aggressive drives, as well as growing from a socially dependent to an interdependent state in which one can form and maintain functional intimate relationships.

While many of these propositions continue to focus on the unconscious, they also are concerned with the formation and understanding of relationships. This arises from one of the major developments in modern psychodynamic theory: object relations. Object relations holds that one's early relationships set expectations for later ones. Whether they are good or bad, people develop a comfort level with the dynamics of their earliest relationships and are often drawn to relationships that can in some way recreate them. This works well if

one's earliest relationships were healthy but leads to problems if those early relationships were problematic in some way.

In addition, no matter what a new relationship is like, an individual will look at a new relationship through the lens of their old relationships. This is called "transference" and offers a mental shortcut to people attempting to understand a new relationship dynamic. As a result, people make inferences that may or may not be accurate about a new relationship based on their past experiences.

Psychodynamic theory has several strengths that account for its continued relevance in modern psychological thinking. First, it accounts for the impact of childhood on adult personality and mental health. Second, it explores the innate drives that motivate our behavior. It's in this way that psychodynamic theory accounts for both sides of the nature/nurture debate. On the one hand, it points to the way the unconscious mental processes people are born with influence their thoughts, feelings, and behavior. On the other, it emphasizes the influence of childhood relationships and experiences on later development.

Application activity 5.2

1. Spell out the psychosexual stages of development and their erogenous zones?
2. How does Sigmund Freud explain "fixation"?

5.3. Psychosocial development theory

Activity 5.3

What do you understand by the concept "psychosocial development"?

5.3.1.Origin

Psychoanalytic theory was an enormously influential force during the first half of the twentieth century. Those inspired and influenced by Freud went on to expand upon Freud's ideas and developed theories of their own. Of these neo-Freudians, Erik Erikson's ideas have become perhaps the best known.

Erikson's eight-stage theory of psychosocial development describes growth and change throughout life, focusing on social interaction and conflicts that arise during different stages of development.

While Erikson's theory of psychosocial development shared some similarities with Freud's, it is dramatically different in many ways. Rather than focusing on sexual interest as a driving force in development, Erikson believed that social interaction and experience played decisive roles.

His eight-stage theory of human development described this process from infancy through death. During each stage, people are faced with a developmental conflict that impacts later functioning and further growth.

Unlike many other developmental theories, Erik Erikson's psychosocial theory focuses on development across the entire lifespan. At each stage, children and adults face a developmental crisis that serves as a major turning point.

The stages that make up his theory are as follows:
- Stage 1: Trust vs. Mistrust (0-1year)
- Stage 2: Autonomy vs. Shame and doubt (1-2years)
- Stage 3: Initiative vs. Guilt (3-6years)
- Stage 4: Industry vs. Inferiority (7-11years)
- Stage 5: Identity vs. Confusion (12-19years)
- Stage 6: Intimacy vs. Isolation (20-25years)
- Stage 7: Generativity vs. Stagnation (26-64years)
- Stage 8: Integrity vs. Despair (65 and above)

Let's take a closer look at the background and different stages that make up Erikson's psychosocial theory.

So what exactly did Erikson's theory of psychosocial development entail? Much like Sigmund Freud, Erikson believed that is after personality developed in a series of stages. Unlike Freud's theory of psychosexual stages, however, Erikson's theory described the impact of social experience across the whole lifespan. Erikson was interested in how social interaction and relationships played a role in the development and growth of human beings.

5.3.2. Erik Erikson's Stages of Psychosocial Development

Each stage in Erikson's theory builds on the preceding stages and paves the way for following periods of development. In each stage, Erikson believed people experience a conflict that serves as a turning point in development. In Erikson's view, these conflicts are centered on either developing a psychological quality or failing to develop that quality. During these times, the potential for personal growth is high but so is the potential for failure.

If people successfully deal with the conflict, they emerge from the stage with psychological strengths that will serve them well for the rest of their lives. If they fail to deal effectively with these conflicts, they may not develop the essential skills needed for a strong sense of self.

Erikson also believed that a sense of competence motivates behaviors and actions. Each stage in Erikson's theory is concerned with becoming competent in an area of life. If the stage is handled well, the person will feel a sense of mastery, which is sometimes referred to as ego strength or ego quality. If the stage is managed poorly, the person will emerge with a sense of inadequacy in that aspect of development.

Erik Eriksson Stages Theory			
Age (years)	Conflict	Resolution 'Virtue'	Culmination in old age
0-1	Basic trust / mistrust	Hope	Appreciation of interdependence and relatedness
1-2	Autonomy / shame	Will	Acceptance of the cycle of life, from integration to disintegration
3-6	Iniative / guilt	Purpose	Humour, empathy, resilience
7-11	Industry / inferiority	Competence	Humility, acceptance of the course of one's life and unfulifiled hopes
12-19	Identity / confusion	Fidelity	Sense of complexity of life, merging of sensory, logical and aesthetic perception
20-25	Intimacy / isolation	Love	Sense of the complexity of relationships, value of tenderness and loving freely
26-64	Generativity / stagnation	Care	Caritas - caring for tohers, and agape - empathy, and concern
65 -	Integrity / despair	Wisdom	Existential identity; a sense of integrity strong enough to withstand physical disintegration.

5.3.3. A brief summary of the eight stages

Stage 1: Trust vs. Mistrust

The first stage of Erikson's theory of psychosocial development occurs between birth and 1 year of age and is the most fundamental stage in life. Because an infant is utterly dependent, developing trust is based on the dependability and quality of the child's caregivers.

At this point in development, the child is utterly dependent upon adult caregivers for everything they need to survive including food, love, warmth, safety, and nurturing. If a caregiver fails to provide adequate care and love, the child will come to feel that they cannot trust or depend upon the adults in their life.

Outcomes

If a child successfully develops trust, the child will feel safe and secure in the world. Caregivers who are inconsistent, emotionally unavailable, or rejecting contribute to feelings of mistrust in the children under their care. Failure to develop trust will result in fear and a belief that the world is inconsistent and unpredictable.

During the first stage of psychosocial development, children develop a sense of trust when caregivers provide reliability, care, and affection. A lack of this will lead to mistrust. No child is going to develop a sense of 100% trust or 100% doubt. Erikson believed that successful development was all about striking a balance between the two opposing sides. When this happens, children acquire hope, which Erikson described as openness to experience tempered by some worries that danger may be present.

Subsequent work by researchers including John Bowlby and Mary Ainsworth demonstrated the importance of trust in forming healthy attachments during childhood and adulthood.

Stage 2: Autonomy vs. Shame and Doubt

The second stage of Erikson's theory of psychosocial development takes place during early childhood and focuses on children developing a greater sense of personal control.

The Role of Independence

At this point in development, children are just starting to gain a little independence. They are starting to perform basic actions on their own and making simple decisions about what they prefer. By allowing kids to make choices and gain control, parents and caregivers can help children develop a sense of autonomy.

Potty Training

The essential theme of this stage is that children need to develop a sense of personal control over physical skills and a sense of independence. Potty training plays an important role in helping children develop this sense of autonomy.

Like Freud, Erikson believed that toilet training was a vital part of this process. However, Erikson's reasoning was quite different from that of Freud's. Erikson believed that learning to control one's bodily functions leads to a feeling of control and a sense of independence. Other important events include gaining more control over food choices, toy preferences, and clothing selection.

Outcomes

Children who struggle and who are ashamed for their accidents may be left without a sense of personal control. Success during this stage of psychosocial development leads to feelings of autonomy; failure results in feelings of shame and doubt.

Finding Balance

Children who successfully complete this stage feel secure and confident, while those who do not are left with a sense of inadequacy and self-doubt. Erikson believed that achieving a balance between autonomy and shame and doubt would lead to will, which is the belief that children can act with intention, within reason and limits.

Stage 3: Initiative vs. Guilt

The third stage of psychosocial development takes place during the preschool years. At this point in psychosocial development, children begin to assert their power and control over the world through directing play and other social interactions.

Children who are successful at this stage feel capable and able to lead others. Those who fail to acquire these skills are left with a sense of guilt, self-doubt, and lack of initiative.

Outcomes

The major theme of the third stage of psychosocial development is that children need to begin asserting control and power over the environment. Success in this stage leads to a sense of purpose. Children who try to exert too much power experience disapproval, resulting in a sense of guilt.

When an ideal balance of individual initiative and a willingness to work with others is achieved, the **ego** quality known as purpose emerges.

Stage 4: Industry vs. Inferiority

The fourth psychosocial stage takes place during the early school years from approximately ages 5 to 11. Through social interactions, children begin to develop a sense of pride in their accomplishments and abilities.

Children need to cope with new social and academic demands. Success leads to a sense of competence, while failure results in feelings of inferiority.

Outcomes

Children who are nurturedand praisedby parents and teachers develop a sense of competence and belief in their abilities. Those who receive little or no encouragement from parents, teachers, or peers will doubt their abilities to be successful.

Successfully finding a balance at this stage of psychosocial development leads to the strength known as competence, in which children develop a belief in their abilities to handle the tasks set before them.

Stage 5: Identity vs. Confusion

The fifth psychosocial stage takes place during the often turbulent teenage years. This stage plays an essential role in developing a sense of personal identity which will continue to influence behavior and development for the rest of a person's life. Teens need to develop a sense of self and personal identity. Success leads to an ability to stay true to you, while failure leads to role confusion and a weak sense of self.

During adolescence, children explore their independence and develop a sense of self. Those who receive proper encouragement and reinforcement through personal exploration will emerge from this stage with a strong sense of self and feelings of independence and control. Those who remain unsure of their beliefs and desires will feel insecure and confused about themselves and the future.

What Is Identity?

When psychologists talk about identity, they are referring to all of the beliefs, ideals, and values that help shape and guide a person's behavior. Completing this stage successfully leads to fidelity, which Erikson described as an ability to live by society's standards and expectations.

Why Identity Is Important

Our personal identity gives each of us an integrated and cohesive sense of self that endures through our lives. Our sense of personal identity is shaped by our experiences and interactions with others, and it is this identity that helps guide our actions, beliefs, and behaviors as we age.

Stage 6: Intimacy vs. Isolation

Young adults need to form intimate, loving relationships with other people. Success leads to strong relationships, while failure results in loneliness and isolation. This stage covers the period of early adulthood when people are exploring personal relationships.

Erikson believed it was vital that people develop close, committed relationships with other people. Those who are successful at this step will form relationships that are enduring and secure.

Stage 7: Generativity vs. Stagnation

Adults need to create or nurture things that will outlast them, often by having children or creating a positive change that benefits other people. Success leads to feelings of usefulness and accomplishment, while failure results in shallow involvement in the world.

During adulthood, we continue to build our lives, focusing on our career and family. Those who are successful during this phase will feel that they are contributing to the world by being active in their home and community. Those who fail to attain this skill will feel unproductive and uninvolved in the world.

Care is the virtue achieved when this stage is handled successfully. Being proud of your accomplishments, watching your children grow into adults, and developing a sense of unity with your life partner are important accomplishments of this stage.

Stage 8: Integrity vs. Despair

The final psychosocial stage occurs during old age and focuses on reflecting back on life. At this point in development, people look back on the events of their lives and determine if they are happy with the life that they lived or if they regret the things they did or didn't do.

Erikson's theory differed from many others because it addressed development throughout the entire lifespan, including old age. Older adults need to look back on life and feel a sense of fulfillment. Success at this stage leads to feelings of wisdom, while failure results in regret, bitterness, and despair.

At this stage, people reflect back on the events of their lives and take stock. Those who look back on a life they feel was well-lived will feel satisfied and ready to face the end of their lives with a sense of peace. Those who look back and only feel regret will instead feel fearful that their lives will end without accomplishing the things they feel they should have.

Outcomes

Those who are unsuccessful during this stage will feel that their life has been wasted and may experience many regrets. The person will be left with feelings of bitterness and despair. Those who feel proud of their accomplishments will feel a sense of integrity. Successfully completing this phase means looking back with few regrets and a general feeling of satisfaction. These individuals will attain wisdom, even when confronting death.

Application activity 5.3

1) Outline the psychosocial stages according to Erikson and link them to age intervals

2) Describe psychosexual development stages by Sigmund Freud

3) Describe the psychosocial development stages by Erik Erikson

5.4. Cognitive development theory

Activity 5.4

1. How do you understand the concept "cognitive psychology"?
2. Do you know some cognitive psychologists? Name them.

5.4.1. Origin

Cognitive theory is concerned with the development of a person's thought processes. It also looks at how these thought processes influence how we understand and interact with the world. Theorist Jean Piaget proposed one of the most influential theories of cognitive development. Piaget proposed an idea that seems obvious now, but helped revolutionize how we think about child development: *Children think differently than adults*. His cognitive theory seeks to describe and explain the development of thought processes and mental states. It also looks at how these thought processes influence the way we understand and interact with the world.

Piaget then proposed a theory of cognitive development to account for the steps and sequence of children's intellectual development.

5.4.2. The Stages of cognitive development
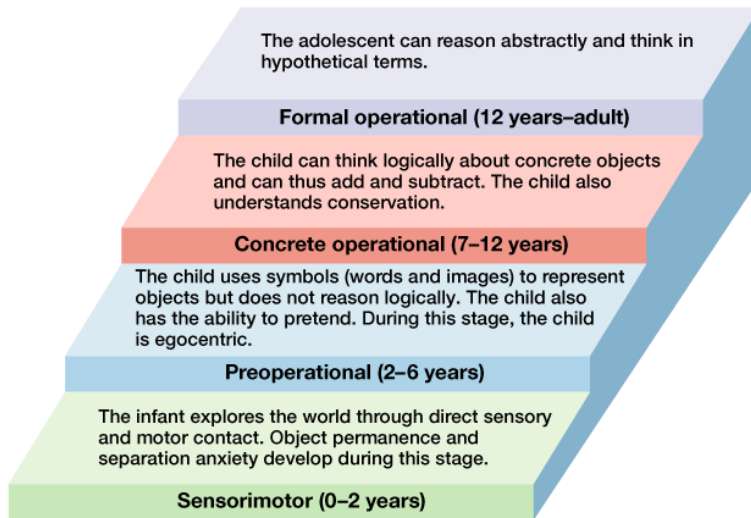
Cognitive development stages

Through his observations of his children, Piaget developed a stage theory of intellectual development that included four distinct stages:

a) The Sensorimotor Stage: Birth to 2 Years

Major Characteristics and Developmental Changes:
- The infants know the world through their movements and sensations
- Children learn about the world through basic actions such as sucking, grasping, looking, and listening
- Infants learn that things continue to exist even though they cannot be seen (object permanence)
- They are separate beings from the people and objects around them
- They realize that their actions can cause things to happen in the world around them

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.

It is during the sensorimotor stage that children go through a period of dramatic growth and learning. As kids interact with their environment, they are continually making new discoveries about how the world works.

The cognitive development that occurs during this period takes place over a relatively short period of 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 a number of different substages. It is during the final part of the sensorimotor stage that early representational thought emerges.

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.

b) The Preoperational Stage: 2 to 6 Years

Major Characteristics and Developmental Changes:
- Children begin to think symbolically and learn to use words and pictures to represent objects.
- Children at this stage tend to be egocentric and struggle to see things from the perspective of others.
- While they are getting better with language and thinking, they still tend to think about things in very concrete terms.

The foundations of language development may have been laid during the previous stage, but it is the emergence of language that is one of the major hallmarks of the preoperational stage of development. Children become much more skilled at pretend play during this stage of development, yet continue to think very concretely about the world around them.

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.

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. Since the flat shape looks larger, the preoperational child will likely choose that piece even though the two pieces are exactly the same size.

c) The Concrete Operational Stage: 6 to 11 Years

Major characteristics and developmental changes
- During this stage, children begin to think logically about concrete events
- They 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
- Their thinking becomes more logical and organized, but still very concrete
- Children begin using inductive logic, or reasoning from specific information to a general principle

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.

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.

d) The Formal Operational Stage: 12 and Up

Major Characteristics and Developmental Changes:
- At this stage, the adolescent or young adult begins to think abstractly and reason about hypothetical problems
- Abstract thought emerges
- Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning
- Begin to use deductive logic, or reasoning from a general principle to specific information

The final stage of Piaget's theory involves an increase in logic, the ability to use deductive reasoning, and an understanding of abstract ideas. At this point, people become capable of seeing multiple potential solutions to problems and think more scientifically about the world around them.

The ability to think about abstract ideas and situations is the key hallmark of the formal operational stage of cognitive development. The ability to systematically plan for the future and reason about hypothetical situations are also critical abilities that emerge during this stage.

It is important to note that Piaget did not view children's intellectual development as a quantitative process; that is, kids do not just add more information and knowledge to their existing knowledge as they get older. Instead, Piaget suggested that there is a qualitative change in how children think as they gradually process through these four stages. A child at age 7 doesn't just have more information about the world than he did at age 2; ther is a fundamental change in how he thinks about the world.

Application activity 5.4

Complete the following sentences:

At one year, infants recognize the existence of their mother even when they are not around. This is called……………………………………………………………….

At seven years old, individuals can learn through manipulation of …………………………………….objects, while at fourteen, individuals are able to reason…………………………and think ……………………………………………………………….

5.5. Attachment Theory

Activity 5.5

1. Which psychologist influenced the development of attachment theory?
2. How do you understand attachment?

5.5.1. Origin

John Bowlby's contributions to the theory of attachment formation are heavily influenced by ethology (the scientific study of human and animal behavior), including an emphasis on the evolutionary origins and biological purposes of behavior. According to Bowlby, children are biologically predisposed to develop attachments to caregivers as the result of genetics. In 1969 Bowlby studied mother-infant interactions and concluded that infant smiling, babbling, crying, and cooing are built-in mechanisms to encourage parents to attach to, and thereby care for, the infant. Keeping the parent in close proximity ensures the infant will avoid danger. Bowlby introduced the idea of the caregiver as a "secure base" for the child, and that this secure base was either successfully created during childhood or was not.

5.5.2.Stages of Attachment
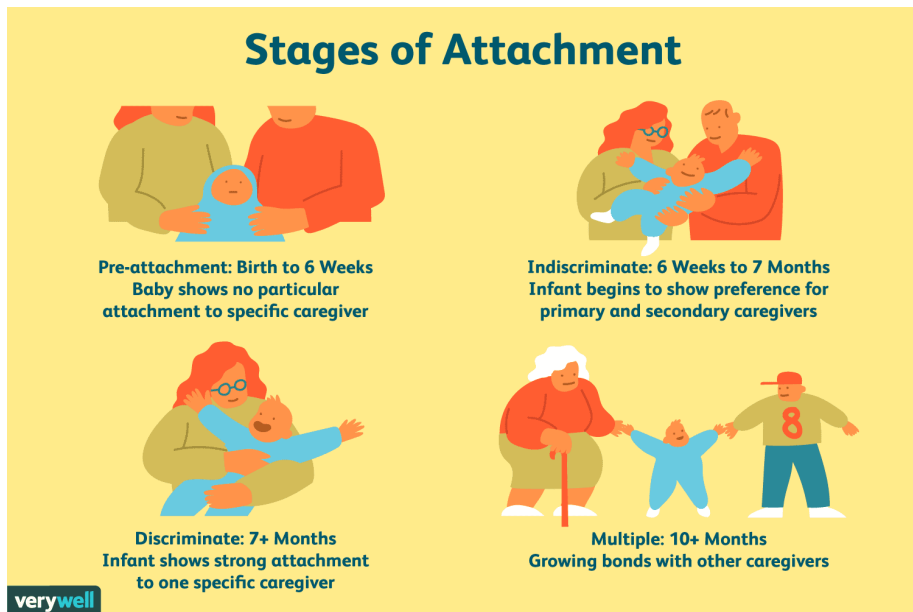
Bowlby's stages of attachment
Source: https://www.verywellmind.com/what-is-attachment-theory-2795337

The development of parent-infant attachment is a complex process that leads to deeper and deeper attachment as the child ages. This attachment (or lack thereof) has lifelong implications for the child as he or she reaches adulthood. Bowlby envisioned four stages of attachment beginning in infancy: pre-attachment, attachment-in-the-making, clear-cut attachment, and formation of reciprocal relationships*.*

- *Pre-attachment* (birth to 6 weeks): Built-in signals, such as crying and cooing, bring a newborn baby into close proximity with their caregiver. Babies recognize a caretaker's smell and voice and are comforted by these things. When the caretaker picks up the baby or smiles at her, the beginnings of attachment are forming. However, complete attachment has not yet occurred, so the baby is still comfortable being left with an unfamiliar person.

- *Attachment-in-the-making* (6 weeks to 8 months): Attachment is getting stronger during this stage, and infants respond differently to familiar people than they do to strangers. For example, a 5-month-old baby will be more "talkative" with his mother rather than with an uncle he sees only once a month. He will also be calmed more quickly by the mother's presence than by the uncle's. *Separation anxiety* (becoming upset when a trusted caregiver leaves) has not set in yet but will be seen in the next stage. Parents continue to build attachment by meeting the baby's basic needs for food, shelter, and comfort.

- *Clear-cut attachment* (8 months to 18 months): Attachment to trusted caregivers continues to strengthen in this stage, and separation anxiety is likely in a caregiver's absence. Toddlers generally want to be with their preferred caregiver at all times, and they will follow the caretaker, climb on them, or otherwise do things to keep the caregiver's attention. Parents and other important adults in the child's life continue to strengthen attachment by being receptive to the child's needs for attention, meeting basic needs, and playing with the child.

- *Formation of reciprocal attachment* (18 months to 2 years): Rapid language growth facilitates the understanding of new concepts, and children begin to understand a parent's coming and going. For example, children can now understand that a parent returns home from work at a certain time each day, so separation anxiety lessens—although the child may do things to gain extra time with the parent prior to departure or to keep the parent from leaving. Parents can help a child form secure attachment by explaining things to them, by being present as much as possible, and by continuing to meet basic needs.

5.5.3. Ainsworth's Types of Attachment

In 1970, Mary Ainsworth built on and expanded Bowlby's ideas, coming up with a more nuanced view of multiple types of insecure attachment. Ainsworth's primary contribution to attachment theory comes in the form of a study known as the Strange Situation. In this study, Ainsworth placed children between the ages of 1 and 2 in unfamiliar situations to assess the type and level of their attachment to their caregivers. Her research showed that children generally use the parent as a secure base from which to explore an unfamiliar room, and they become upset or uncomfortable when the parent leaves and a new individual (not known to the child) enters the room.

Source: https://www.parentingforbrain.com/attachment-theory/
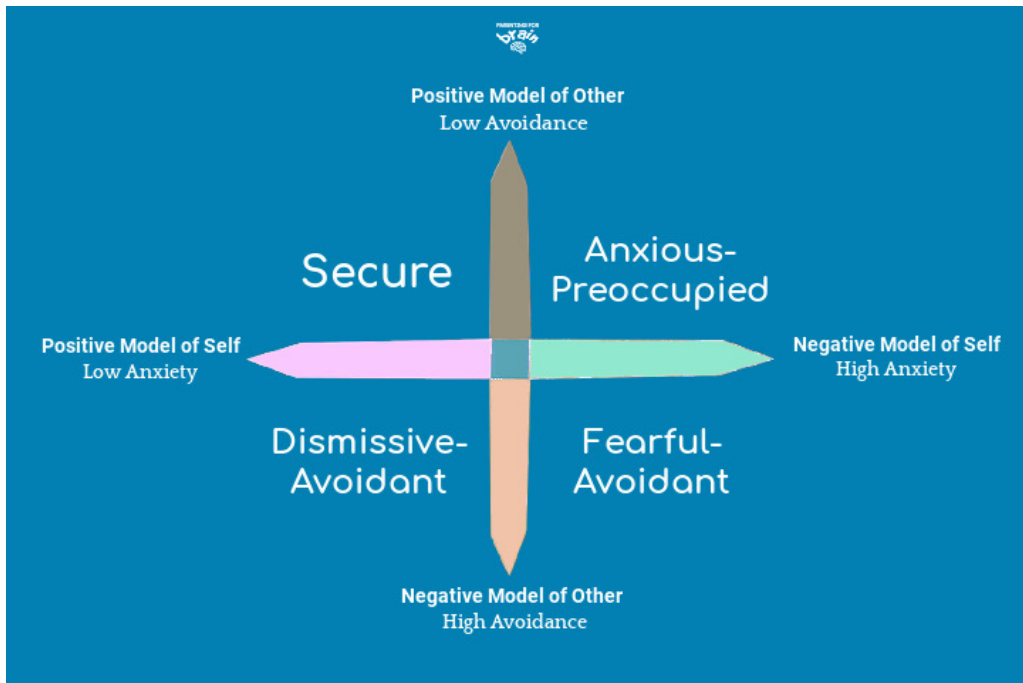
Ainsworth identified four primary types of attachment: *secure, anxious-insecure, avoidant-insecure,* and *disorganized-insecure*. Depending upon how the children attached to their parents, they would act in predictable ways in the Strange Situation experiment.

Secure attachment

- Ainsworth's Strange Situation showed that children who are securely attached go to their parent (or other caregiver) for soothing when they feel insecure and are comforted quite easily.
- Children share how they feel: "I was shy in the new playgroup".
- The child shows empathy for others and tries to comfort another child in distress.

Children with this form of attachment use the caregiver as a secure base from which to explore the room. They are comforted by the parent and show a clear preference for the caregiver (for example, by protesting or avoiding the unfamiliar person).

Anxious-insecure attachment

- Children with anxious-insecure attachment weren't easily comforted when distressed and took a long time to calm down.
- The child is reluctant to explore a new playground and clings and cries in an exaggerated manner when left with a new caregiver.

Children with this form of attachment are unable to use the caregiver as a secure base, and they seek out the caregiver prior to separation. They are both distressed by the caregiver's departure and angry when the caregiver returns. They are not easily calmed by the caregiver or the stranger, and they feel anxiety with the caregiver due to inconsistent attachment patterns.

Avoidant-insecure attachment

- The child is at ease interacting with a stranger and won't turn to their parent for comfort.
- The child is quite happy to run off and explore and won't return to the safe base of their parent for a quick hug.
- The child is super self-reliant and prefers to figure out by themselves how to deal with a toy box lid that just won't open.

These children avoid contact with the caregiver and show little interest in play. They do not seem to mind when the caregiver leaves, and they treat the stranger in a similar fashion to the caregiver. The child may act in a rebellious manner and have lower self-esteem as they get older. The children of parents who do not meet their basic needs or are inattentive may form avoidant attachment.

Disorganized-insecure attachment

- The child may run to their parent for comfort when distressed, but at the same time will kick and struggle when the parent tries to comfort them.
- The child totally ignores the presence of the parent.
- The child appears dazed or confused when the parent is around

In 1990, a fourth category, known as *disorganized attachment*, was added by Ainsworth's colleague Mary Main. Children with these attachment patterns engage in stereotypical behavior such as freezing or rocking. They act strangely with the caregiver and do not appear to know how to attach, doing such things as approaching with their back turned or hugging the stranger upon their entry to the room. Disorganized attachment generally results from the child being maltreated or neglected in some way.

Application activity 5.5

1) Cite the categories of attachment according to Bowlby and Ainsworth
2) What is the implication of cognitive development to lifelong situation?
3) What is the implication of attachment theory to lifelong situation?

5.6. Moral Development Theory

Activity 5.6

1) How do you understand the concept "moral development"?

2) What is morality?

5.6.1. Origin

Kolhberg's theory of moral development states that we progress through three levels of moral thinking that build on our cognitive development.

5.6.2. Moral development levels
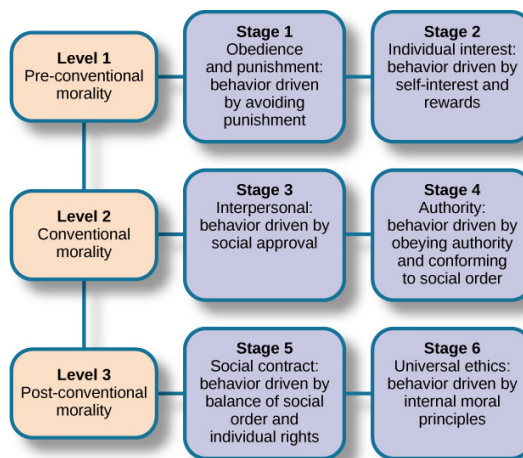
Kohlberg's stages of moral development

Kohlberg's stages of moral development: Kohlberg identified three levels of moral reasoning: pre-conventional, conventional, and post-conventional. Each level is associated with increasingly complex stages of moral development.

Level 1: Preconventional

Throughout the preconventional level, a child's sense of morality is externally controlled. Children accept and believe the rules of authority figures, such as parents and teachers. A child with pre-conventional morality has not yet adopted or internalized society's conventions regarding what is right or wrong, but instead focuses largely on external consequences that certain actions may bring.

Stage 1: Obedience -and- Punishment Orientation

Stage 1 focuses on the child's desire to obey rules and avoid being punished. For example, an action is perceived as morally wrong because the perpetrator is punished; the worse the punishment for the act is, the more "bad" the act is perceived to be.

Stage 2: Instrumental Orientation

Stage 2 expresses the "what's in it for me?" position, in which right behavior is defined by whatever the individual believes to be in their best interest. Stage two reasoning shows a limited interest in the needs of others, only to the point where it might further the individual's own interests. As a result, concern for others is not based on loyalty or intrinsic respect, but rather a "you scratch my back and I'll scratch yours" mentality. An example would be when a child is asked by his parents to do a chore. The child asks "what's in it for me?" and the parents offer the child an incentive by giving him an allowance.

Level 2: Conventional

Throughout the conventional level, a child's sense of morality is tied to personal and societal relationships. Children continue to accept the rules of authority figures, but this is now due to their belief that this is necessary to ensure positive relationships and societal order. Adherence to rules and conventions is somewhat rigid during these stages, and a rule's appropriateness or fairness is seldom questioned.

Stage 3: Good Boy, Nice Girl Orientation

In stage 3, children want the approval of others and act in ways to avoid disapproval. Emphasis is placed on good behavior and people being "nice" to others.

Stage 4: Law-and-Order Orientation

In stage 4, the child blindly accepts rules and convention because of their importance in maintaining a functioning society. Rules are seen as being the same for everyone, and obeying rules by doing what one is "supposed" to do is seen as valuable and important. Moral reasoning in stage four is beyond the need for individual approval exhibited in stage three. If one person violates a law, perhaps everyone would—thus there is an obligation and a duty to uphold laws and rules. Most active members of society remain at stage four, where morality is still predominantly dictated by an outside force.

Level 3: Postconventional

Throughout the postconventional level, a person's sense of morality is defined in terms of more abstract principles and values. People now believe that some laws are unjust and should be changed or eliminated. This level is marked by a growing realization that individuals are separate entities from society and that individuals may disobey rules inconsistent with their own principles. Post-conventional moralists live by their own ethical principles—principles that typically include such basic human rights as life, liberty, and justice—and view rules as useful but changeable mechanisms, rather than absolute dictates that must be obeyed without question. Because post-conventional individuals elevate their own moral evaluation of a situation over social conventions, their behavior, especially at stage six, some people can sometimes be confused with that of those at the pre-conventional level. Some theorists have speculated that many people may never reach this level of abstract moral reasoning.

Stage 5: Social-Contract Orientation

In stage 5, the world is viewed as holding different opinions, rights, and values. Such perspectives should be mutually respected as unique to each person or community. Laws are regarded as social contracts rather than rigid edicts. Those that do not promote the general welfare should be changed when necessary to meet the greatest good for the greatest number of people. This is achieved through majority decision and inevitable compromise. Democratic government is theoretically based on stage five reasoning.

Stage 6: Universal-Ethical-Principal Orientation

In stage 6, moral reasoning is based on abstract reasoning using universal ethical principles. Generally, the chosen principles are abstract rather than concrete and focus on ideas such as equality, dignity, or respect. Laws are only valid if they are based on justice, and a commitment to justice carries with it an obligation to disobey unjust laws. People choose the ethical principles they want to follow, and if they violate those principles, they feel guilty. In this way, the individual acts because it is morally right to do so (and not because he or she wants to avoid punishment), it is in their best interest, it is expected, it is legal, or it is previously agreed upon. Although Kohlberg insisted that stage six exists, he found it difficult to identify individuals who consistently operated at that level.

Application activity 5.6

Link levels of moral development with their respective stages

5.7. Language Development Theory

Activity 5.7

1) What is language?
2) What is the importance of language?

5.7.1. Language Acquisition in Children

Although we can't know for sure when exactly the baby's babbling turns into words with meaning. Soon, the baby turns into a chatterbox, starting to make sense of sounds and picking up new words used haphazardly. Then, syllable by syllable and word by word, a substantial vocabulary accumulates, and a functioning language is readily accessible. It is also possible to master a second language and a third. There might be no roof for the human brain in this regard.

Speaking of which, there is a lot of work to do regarding the understanding of the systematic mechanism of language development in the brain. That's because we don't know a lot about how the brain works in the first place. But, what scientists do know is that a system of brain regions works together when acquiring and using language.

The *angular gyrus, Wernicke's area, the insular cortex, the basal ganglia, and the cerebellum* are all involved in the language acquisition process. But it doesn't stop here.

To read a word, you have to see it first, through the optic nerve and the *visual cortex*. When reading in Braille, for example, it's the *sensory cortex* that gets involved. You can't listen to someone speaking without the *auditory cortex*. The following picture illustrate how these mechanisms mutually interact in the language acquisition process:

Broca's area

Broca's area is an important part of language formulation — even if someone has the motor ability to form the sounds necessary for words, Broca's area is necessary to form and express **language**.

Angular gyrus

The **angular gyrus** assembles information to help us understand words and concepts.

Insular cortex

Buried underneath the outer lobes of the cerebral cortex, the **insular cortex** is important for many functions, including motor control, emotion and self-awareness, but is also important in the processing of language.

Wernicke's area

Wernicke's area works with the **angular gyrus, insular cortex** and **basal ganglia** to process words and word sequences to determine context and meaning.

The Conversation, CC BY-ND

Source: https://theconversation.com/what-brain-regions-control-our-language-and-how-do-we-know-this-63318

Most of us take the ability to acquire and utilize a language for granted. Yet, language is actually quite an amazing human faculty. It takes a good deal of neuronal and muscular activity to articulate or write a single word.

5.7.2. Maturation Theory of Language Development

An American pediatrician, Dr. Arnold Gesell, introduced the Maturation Theory of Child Development in 1925. His theory focuses on how genetics influences development and other behavior. Gesell believed that human skills — adaptive, motor, and language — develop and unfold naturally based on our biological makeup. Despite that, he didn't disregard environmental factors' influences on a child's development. However, the clinical psychologist was convinced that they were less influential than genetics. So, Gesell focused his investigation on children's physiological development — which he called maturation.

According to the pediatrician, the rate at which children develop depends primarily on their nervous system's growth. And that includes the brain, spinal cord, and a complicated web of nerve fibers.

Gesell's language acquisition theories about maturation propose that language development milestones occur between 40 weeks and five years.

- 0-50 weeks: A child produces meaningful sounds.
- 1 – 2 years old: The child uses longer phrases and straightforward sentences.
- 2 – 3 years old: The child begins to communicate in complete sentences.
- 3 – 4 years old: The child uses language as a tool to expand their knowledge of the world.
- 4 – 5 years old: The child has a basic mastery of the language.

Gesell also pointed out that children under the age of 10 are emotionally predisposed to learn a second or third language. And that's because they still perceive language as fun at that stage of development.

5.7.3. Functions of language for children

Hilliday (1975) identified seven functions of language depending on the child's intentions. These functions are described as follows:

a) Instrumental function: this when the child uses language to express his/ her needs. Many times children use language for this purpose. For example when a child says "give me a ball", "mama, I want milk", "Auntie, buy me a sweet" etc.

b) Regulatory function: This is where language is used to tell others what to do (giving instructions). That is, it is used to make another person act in a certain way e.g. when a child says "go out", "do as I tell you", "stop touching me" etcetera.

c) Interactional function: here language is used to make contact with others and form personal relationships. For example, when children use language to define who is one of them or who they are, such as in statement like "I and Mary are sisters", "Jane and I are friends", "Eric is a boy" etc.

d) Personal function: this is the use of language to express feelings, opinions and individual identity. For example, "I am the one", "it's I", "I did it" etcetera

e) Heuristic function: language here is a means of finding out about things by asking questions e.g. "who came in?", "why are you sad?", "what are you doing?"

f) Imaginative function: language is used for creative purposes. This function is usually encountered in play. For example when children pretend to be of a certain profession and say, "I am a police man, I can shoot you down" or "I will fly like a pilot", it includes most of the language used in play.

g) Representational function: language here is used as a means of communicating information or ideas for example when a child says, "I have got something to tell you", or "I will take you to the shop" etc. Children use language in nearly all its functions. It is important to help children to develop their language in all its functions.

Conclusion

The first four functions help the child to satisfy physical, emotional and social needs. The next three functions help the child to come to terms with his or her environment. Halliday points out that in developing children's language we need to provide opportunities for them to use language for all the different functions. Thus we need to encourage children to use language in varying situations and for varied purposes. For example, singing, playing, drama, asking questions, answering questions, expressing their needs and feelings, voicing their opinions, etc.

Application activity 5.7

1. Cite the language developmental milestones established by Gesell's maturation theory

2. What are the functions of language for young children?

5.8. Psychomotor Development Theory

Activity 5.8

What do you remember about physical development period?

5.8.1. Introduction

All activities require motor skills, that is, coordinated movements of muscles and limbs. Mastery requires that every move be done with precision, in the right order, and at the right time. For example, to throw the ball, the basketball player should keep their elbows bent, focus on the top of the hoop, and direct the movement with wrist play. Babies' tendency to move is amazing, and the ability they show to acquire these motor skills with very little instruction is enough with the maturation of the nervous system and with an environment that stimulates and promotes movement. Through strategies such as trial and error, imitation and movement analysis, they will accumulate small motor achievements.

Although infants are initially unable to move on their own, they quickly learn to crawl, stand and walk. Their hands and arms are free once they walk upright

around the physical environment around them, which allows them to manipulate objects within their reach. To be able to perform this task, your hands have completely independent fingers, with the thumb in front of the remaining four fingers. As age advances, body movements become more automatic and coordinated. This constitutes gross motor skills or large muscle control, which includes drag, locomotion, body posture, or coordination of movement of different parts of the body. The baby will also need to acquire motor skills that require movements of the small muscles that allow him to hold and manipulate objects. These movements are called fine motor skills. Thus, in the case of feeding, first other people feed him, then he holds a bottle, then he eats with his fingers without help and finally he learns to use cutlery. Fine motor skills will also serve to make fine lines in the drawing or to make writing clean and precise.

5.8.2. Reflexes in Infancy

The psychomotor development of a new born is observed through infant's reflexes. Normal reflexes serve the basis for diagnosing a normal baby. Reflexes are defined as involuntary movements in response to a stimulus. They are very important to assess as they are indicators of normal brain and nerve development. A baby is born with a host of reflexes. Many of them disappear after the first 2 or 3 months of life. These include:

- **Breathing reflex**: breathing is usually irregular for the first few days and reflexive hiccups, sneezes and spit-ups are common as the newborn tries to coordinate breathing, sucking, and swallowing.
- **Sucking reflex**: When an object- their lips, fingers, toes, blankets and nipples- is placed in the mouth, the baby will start sucking. This is one of the baby milestones that is vital for survival. Babies don't have to learn how to feed after birth, it is a natural reflex. This occurs from birth until about 4 months of age.
- **Rooting reflex**: When the baby is touched near the corner of the mouth, the baby will turn his head towards the stimulus. This is one of the baby milestones that is useful for getting babies to latch onto the breast - the baby will turn to the nipple if it is brushed on the baby's cheek. This occurs from birth until about 4 months of age.
- **Swallowing reflex**: they swallow anything that gets into their mouth.
- **Barbinski reflex**: Stroking the sole of the foot, starting at the heel and going upward toward the ball of the foot, results in the big toe moving upward toward the top of the foot (dorsiflexion) and the other toes fanning out. This lasts until 1 year but up to 2 years of age.
- **Stepping reflex**: When the baby is held in the upright position and the foot is placed on a firm surface, the baby will take steps. This occurs from birth until about 6 weeks of age.

- **Swimming reflex**: when they are held horizontally on their stomach, their legs and arms stretch out.
- **Grasping reflex**: when something touches their palms, their hands grip tightly. This occurs from birth until about 3 months of age.
- **Moro reflex**: when someone bang on the table they are lying on, they fling their arms outward and then bring them together on their chest as if to hold on to something and they may cry and open their eyes wide. This occurs from birth until about 3 months of age.
- **Tonic neck reflex**: When the baby is lying on his back and the head is turned to one side, the arm on that side will extend and the other arm will flex - a fencing posture. This occurs from about 2 months until 6 months of age.
- **Parachute (Forward) Reflex**: If the baby is held in a position where he/she is dropped forward, he/she will outstretch his/her hands. This is one of the baby milestones that is protective for falling. This occurs from about 9 months of age and persists.

https://study.com/academy/lesson/stages-of-psychomotor-growth-development.html

Note: If you notice abnormal reflexes in your child, please see a doctor as these may indicate a dysfunction in the central nervous system.

5.8.3. Posture, balance and locomotion

Static
Ability to quietly sit or stand upright

Active
Ability to balance in voluntary movements

Reactive
Ability to respond to a perturbation

Force
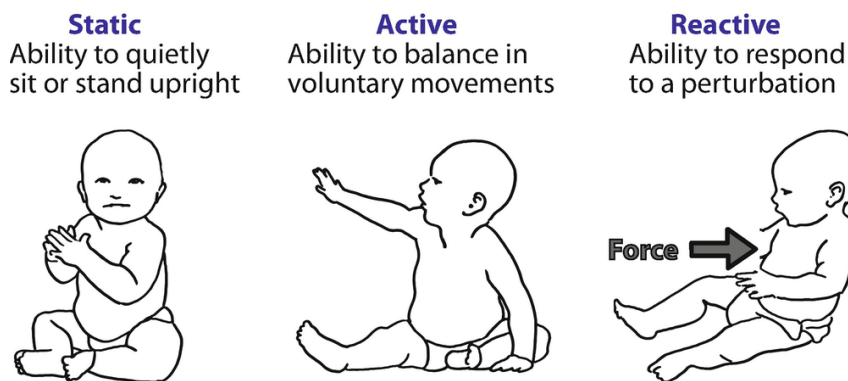
Babies' postures
Source: https://link.springer.com/referenceworkentry/10.1007/978-3-319-50592-3_161-1

The ability to maintain an upright posture is essential for walking. But this posture is practically impossible in newborn babies due to the shape of their body. The head is too big in them. Therefore, the child falls as soon as he loses his balance. Only growing your legs and muscles will keep you upright (Thelen, Ulrich & Jensen, 1989). A few months after birth, he begins to use visual cues and a mechanism of inner ear to adjust posture. Balance is not something infants master once and for all, they must relearn it for sitting and walking, crawling and other postures.

The body revolves around various points in them. Different muscle groups have been used to produce compensatory movements when the child begins to lose balance. One of the most impressive advancements in the first year of life is the remarkable progress a baby makes in controlling movement and improving motor skills. Learning to move around the world is called locomotion. Children walk spontaneously around ten months, because they must be able to get up to move forward. Many infants learn to walk in the relative safety of flat, open floors in their homes. But they soon discover that the environment offers different types of surfaces, some more suitable for walking than others. Thus, they use perceptual stimuli to decide if it is safe to walk on a surface. The gait is mastered between twelve and fifteen months and the child can walk independently and without assistance.

The speed of motor development increases with experience, but only movements that have been practiced improve. Two-year-olds walk hastily instead of running; they move their legs stiffly and do not hang in the air as they do when running. Between the ages of five and six, they dominate the race, quickly changing direction or speed. His growing dominance is evident in jumping. A normal two to three year old will sometimes hop on one leg, almost always keeping the upper body rigid, be able to squat, ride a tricycle, kick a ball, or climb stairs with assistance ; Between five and six years, he can jump distances of 30 cm or jump several times with one foot then with the other. Older preschoolers love to play and as they master gross motor skills they will enjoy body control, sitting and standing, turning, running, jumping, throwing and catching a ball, pedaling or dancing.

5.8.4. Development of fine motor skills

Developing fine motor skills

Two other aspects of motor development contribute to helping babies explore and adapt to their environment: intentional reaching and manipulative skills.

Development of voluntary awareness

From the age of three months, children are able to extend their arms and make corrections in the direction of their arm movements, gradually improving their precision until they grasp objects without making mistakes. At first, the telescope is based on proprioceptive information (that is, on the position and movement of different parts of the body) of the muscles, tendons and joints that guide the hands and arms to everything interesting object located at a distance, at arm's length. As voluntary control of movement develops, behavioral achievement will depend on both proprioceptive information and other information from the environment, such as spaces or the position of objects.

Development of manipulative skills

Once the child feels good and reaches parts of his body with his hand, between four and five months, he begins to pick up interesting objects with both hands. In the second half of the first year of life, fingering skills improve, and the child already knows how to adapt his exploratory activities to the properties of objects. The next stage in the development of manual skills occurs towards the end of the first year, when he uses his thumb and index finger to lift and explore objects (pinch grip). During the second year, the child becomes more able to control his hands.

At sixteen months, he doodles with chalk and by the end of the second year copies a horizontal or vertical line and even builds towers of five or more blocks. All of this is entirely consistent with the theory of dynamical systems: the child begins to control simple movements to integrate them later into increasingly complex coordinated systems. For example, to build a tower, you must first control your thumb and index finger; then the gripper grip is needed as part of a larger sequence of movements that includes reaching for a block, grabbing it, putting it down on another block, and then gently releasing it.

Despite their ability to combine simple motor activities in sequences of increasing complexity, even two to three year old boys and girls do not show great skill in throwing and catching a ball, cutting food with utensils or draw in the lines of his picture books. These are skills that emerge in childhood, as muscles mature and children become more proficient in using visual information to coordinate their actions.

5.8.5. Motor development in childhood and adolescence

With each passing year, school-aged children run faster, jump higher and throw a ball farther. Perfecting these big muscle activities is because they are growing and getting stronger, while refining their motor skills. Older children's reaction time is lower than younger ones, which is why they tend to beat them in action games such as dodging balls or table tennis. There are sex-related differences in motor development. The basis for these differences may be biological: teens have more muscle mass and less fat than teens; therefore, they pass them in physical strength tests. But biological progress does not completely explain the difference between the two sexes, and the pattern of motor activity is not the same. Exercise is the fundamental factor in these differences in adolescence: boys participate in more sporting activities, but girls who exercise continue to improve in activities in which large muscles are involved and develop motor skills more than those who do not.

Development of laterality

Laterality involves the development of perceptual and motor skills that are coordinated and integrated into the body schema (Mora and Palacios, 1990). This development is closely related to sensorimotor perception and proprioception (feeling and knowing certain parts of the body), cerebral lateralization and hemispheric specialization (achieving hemispheric specialization, dominance and coordination) and the development of gross motor skills and fine.

The human body is symmetrical and the child must feel and be aware of the existence of this symmetry and the fact that his two body halves complement each other. Through movement perception, balance control and sensory-motor experimentation, the baby discovers his possibilities of action and the way in which he can use his body to move in space and manipulate objects in the environment. During the first months the movement is ipsilateral (the cerebral hemispheres are not yet specialized or connected), the baby uses one part of his body without synchronization with the other (he only moves, for example, the left arm and leg).

From the age of six months, they begin to use both parts of the body at the same time as a block (for sliding, for example, or for gripping). This stage is called bilateral. This exercise, however, leads you to experience both parts of your body. Controlling balance and using the hands and legs to perfect the front crawl leads to better left and right coordination, and gradually using them in complementary ways. The improvement of vision, the perception of spaces and depths, and control of the trunk allow this complementation. Thus, before the first year, they acquire the ability of contralateral movement, that is, the ability to coordinate one arm with the opposite leg, and thus improve their crawling. This movement will improve with locomotion.

From the first to the sixth year, the standing motor experiences will allow the adaptation of the different parts of the body to achieve their objectives (walking, running, picking up and manipulating objects) and the coordinated action of the perceptual and motor organs (fixing the eye , moving the arm, coordinating the movement of the leg). At the age of five, the child already knows what his left and his right are, although he/she is still often mistaken, and yet at seven he/she has already developed laterality, and at eight, he/she must clearly see it.

How does this happen in such a short time?

The child creates through action a representation of his/her body image, of the location and function of the different parts of the body. Not only the motor experience, but the intellectual development (the memory of these experiences, the notion of constancy of objects and of the self and of these parts of the body) and linguistic (the linguistic labels, "eye", "arm", " leg", serve to reinforce this memory) will promote the development of the body image during this period. In contrast, throughout these early years, hemispheric specialization and the connection between the two hemispheres through the corpus callosum are being delineated. Due to the fact that the left hemisphere performs the analytical and precise functions, it will be the right half of the body that will in principle perform these functions. This is what constitutes a definite and homogeneous right laterality: the lateral preference or dominance of the eye, the arm and the leg is the right. However, this is not the case in all cases. That happens when the laterality is homogeneous, but left? There is an open debate on why there are 10% left-handers. Studies point to a hormonal genetic basis, attributed to testosterone, which would explain why it is more frequent in children, or to pathology of the left hemisphere. No, there is evidence in regards to a distinct hemisphere lateralization, in fact in most languages leftists remain lateralized in the left hemisphere, although experience and use of the left can influence grip in charge of linguistic functions in the right hemisphere, demonstrating that brain specialization can be shaped by experience.

From the first to the sixth year, the standing motor experiences will allow the adaptation of the different parts of the body to achieve their objectives (walking, running, picking up and manipulating objects) and the coordinated action of the perceptual and motor organs (fixing the eye , moving the arm, coordinating the movement of the leg). At the age of five, the child already knows what his left and his right are, although he is still often mistaken, and yet at seven he has already developed laterality, and at eight he/she must clearly see it.

In any case, it is not convenient to voluntarily modify the tendency that the child develops in a natural way, since this would imply violating his cerebral organization, which, in short, is the result of his own progress in maturation

and of its natural experience with the environment. The result of obtaining a homogeneous laterality, changing the course of the child's development, is called contradictory laterality.

Other types of laterality are crossed laterality (the ocular perceptual function and the motor function, arm, leg, are not lateralized in a homogeneous way) and indefinite laterality or ambidextrism (indifferent use of one or the other side). The latter have been linked to different learning difficulties, although the evidence is unclear, especially since it is very difficult to determine whether laterality is the cause or the result of a certain brain organization.

Motor development disorders

We mentioned that for proper motor development, stimulation is as important as maturation development. Insufficient stimulation, especially in children with developmental difficulties, can lead to poor motor development. However, many of the motor difficulties can at least be alleviated if early intervention is done. Likewise, sometimes the same development of maturation puts obstacles in motor development. Motor development disorders such as spina bifida or cerebral palsy are directly linked to alterations in the neural tube and the brain, respectively. Disorders such as muscular dystrophy are linked to genetic disorders.

In all cases, the evaluation of gross and fine motor skills is necessary, as well as the design of an intervention allowing the maximum development of the motor potential of each child.

5.8.6. Changes in puberty and adolescence

Puberty is a period of rapid physical maturity during which hormonal and bodily changes take place, primarily in early adolescence. Puberty indicates two general types of physical changes that mark the transition from childhood to youth. The first refers to physical changes - including a marked increase in weight and height - and those seen in body fat and muscle content. The second refers to sexual maturation which, among other things, includes the reproductive organs and the appearance of secondary sexual characteristics, such as facial and body hair as well as breast growth.

Physical and hormonal growth

The female growth spurt begins around age eleven, peaks around age twelve, and reaches maturity around age fifteen. In males, it begins at thirteen, peaks at fourteen, and reaches its peak at seventeen. Not all parts of the body mature this quickly. The head, hands, and feet usually grow first, followed by the arms and legs. The trunk and shoulders are the last to do so.

In the pushing period, the bones lengthen and become denser. This growth is accompanied by other changes that are not the same in the two sexes. Muscle growth is more visible in men than in women. Body fat also increases although much faster. Finally, heart and lung capacity is more increased in men than in women.

The function of the endocrine system during puberty stems from the interaction between the hypothalamus, pituitary and gonads (sex glands). The concentration of certain hormones increases dramatically during adolescence. In the case of boys, testosterone is a hormone associated with the development of genitals, increased height and voice change. In girls, estrogen is a hormone whose function is related to the development of the breasts, uterus and skeletal system. It should be noted that both testosterone and estrogen are present in the hormonal content of both boys and girls, but testosterone predominates in male development during puberty while estrogen predominates in female development.

The influence of hormones may also be evident in the psychological development of adolescents. However, hormones alone are not solely responsible for adolescent development. Compared to hormonal factors, social elements influence the tendency to anger and depression in adolescents two to four times more. Behavior and moods can also affect hormones. Stress, eating habits, exercise, sexual activity, tension and depression can activate or suppress various aspects of the hormonal system.

Sexual maturity

Sexual maturation includes a modification of the primary sexual characteristics, that is, of the organs that intervene directly in reproduction: ovaries, uterus and vagina in women; scrotum, testicles and penis in men. It also includes changes in secondary sex characteristics, that is, physical signs of maturity not directly related to the reproductive organs: breast growth and pelvic enlargement in adolescent girls; appearance of facial hair and broadening of the shoulders in adolescents; appearance of body hair, voice and skin changes in both sexes.

Changes in primary and secondary sex characteristics occur in a predictable sequence in both males and females. In women, puberty begins with growth and stretching of the breasts, followed by the appearance of pubic hair. Menarche, the onset of menstruation, normally occurs around the age of thirteen. The first menstrual cycles are usually irregular and without ovulation. In boys, puberty begins with the growth of the testicles and scrotum, then pubic hair appears, stretching begins, and the penis grows in size. At around thirteen, the boys reach for sperm, the first spontaneous ejaculation of fluid with semen. Initial ejaculations contain relatively few sperm. Adolescence is a stage of sexual exploration and experimentation, sexual fantasies and realities, and the incorporation of sexuality into one's own identity.

Adolescence forms a bridge between the asexual child and the sexual adult. Some of the main characteristics are:

– **Development of sexual identity:** Mastering new sexual feelings and forming a sexual identity are multi-faceted processes. This long process includes learning how to manage sexual feelings (such as arousal and sexual attraction), developing new forms of intimacy, and knowing the skills needed to refute sexual behavior and thus avoid unwanted consequences. The development of sexual identity goes beyond mere sexual behavior, as it includes interaction with other identities that are also in full development.

– **Progression of sexual behaviors during adolescence:** usually begins with kissing, followed by fondling.

– **Risk factors for sexual problems:** adolescents who engage in early sexual activity are at greater risk of pregnancy or sexually transmitted diseases.

Sexually transmitted diseases: Sexually transmitted diseases (STDs) are mainly contracted through sexual contact. These diseases include HIV, genital herpes, gonorrhea and chlamydia.

Health issues

Physical growth at puberty means the body has specific nutritional needs. Bone growth requires calcium and iron to produce additional hemoglobin. Men need it because of their increased muscle mass; women to replace the hemoglobin they lose during menstruation. Obesity is a major health-related problem. The technical definition of obesity is based on body mass index or body weight, which is an adjusted ratio of weight to height. Obese children are unpopular and have low self-esteem. Additionally, they are prone to many medical problems, including hypertension and diabetes, throughout their lives. Heredity is a big factor in childhood obesity because it helps set the basal metabolic rate, which is the rate at which the body burns calories.

The environment, determined by the attitudes of the cultural environment, or of the parents towards eating behavior, or towards a certain image, is another important factor. Thus, obese children and adolescents overeat because they rely on external cues (a tempting candy bar on TV) and dispense with internal cues to stop eating.

Physical activity supports mental and bodily health in adolescence and adulthood. Those who engage in regular physical activity reduce the risk of obesity, cancer, heart disease, and psychological problems such as depression and anxiety. Regular activity means exercising for 30 minutes, at least three times a week; at a rate that keeps your heart rate at around 140 beats per minute. The sport

offers many benefits to children and adolescents. In addition to improving their physical condition, it improves their self-esteem and helps them take initiative. Another food-related problem are two similar disorders: anorexia and bulimia. Anorexia nervosa is a problem characterized by a constant refusal to eat and an irrational fear of gaining weight. Those who suffer from it have a very distorted body image, which makes them obese. A related problem is bulimia nervosa. Those who suffer from it alternate periods of excess, during which they eat uncontrollably, with periods of purging by spontaneous vomiting or laxatives. Anorexia and bulimia are similar in many ways. They mainly affect women and manifest in adolescence, they have their origin in cultural ideals concerning the female body.

Psychological impact of puberty

The preoccupation with physical appearance is constant throughout adolescence, but is accentuated during puberty, when adolescents are more dissatisfied with their bodies than in late adolescence. In general, girls are less satisfied with their bodies and have more negative body images than boys throughout puberty. In contrast, boys become restless in early adolescence, but are happier throughout adolescence as the changes of puberty occur. Teenagers are believed to be moody people. The cause is supposed to be hormones, which are going wild. However, research shows that it is not the case. If so, what is the cause of the adolescent's fickle temperament? Teenagers almost always say their mood is positive when they are with friends or having fun; they tend to say it's negative when they are in adult-regulated situations, like the classroom or a part-time job. They give the impression of being more capricious than adults because they alternate activities and social situations several times during the day.

Early or late maturation produces different psychological effects depending on the sex. Several longitudinal studies show that men tend to be more independent and confident, and are more popular with their peers. Your insecurities stem more from physical changes. In contrast, women often lack self-confidence, are more likely to be depressed, and their insecurities stem from psychological changes.

Although the differences are likely based on cultural variables, studies seem to indicate that in women, maturation, whether early or late, leads to more insecurity and riskier behaviors (McCabe and Ricciardelli, 2004). This information is important for examining the changes that accompany adolescence in both girls and boys.

5.8.7. Psychomotor development: Summary

Like physical development, motor development proceeds in a cephalocaudal (head-down) direction: activities involving the head, neck, and upper limbs precede those involving the use of the legs and lower limbs. At the same time, development is proximal-distal (center outward): activities involving the trunk and shoulders appear earlier than those requiring the hands and fingers. The kicking movements observed in the first months of life pose a problem for the cephalocaudal approach and are often considered as simple involuntary movements generated by the central nervous system. Differentiation (being able to identify each movement individually and perform it consciously and voluntarily), integration (coordinating different movements) and automation (performing movements automatically and voluntarily but without effort) are essential mechanisms of motor development.

To explain the sequence and timing of early motor development, let's briefly examine three theoretical positions: the maturation hypothesis, the experience hypothesis, and a more recent one: dynamical systems theory. The maturation hypothesis describes motor development as a series of genetically programmed events in which nerves and muscles mature in a downward and outward direction. The results indicate that maturation is the basis of motor development and that the practice is limited to allowing the child to perfect the skills made possible by maturation. While no one denies that maturation promotes motor development, proponents of the experience hypothesis believe that opportunities to practice motor skills are also important.

Wayne Dennis (1960) discovered while studying in Iran that several groups of orphans who had spent most of their first two years lying in their cribs took longer to sit and walk than other children who had received good care and greater freedom of movement. From this finding, he concluded that maturation is necessary but not sufficient for the development of motor skills. In other words, children who are physically able to sit; crawl or walk will not master these abilities unless given the opportunity to practice them.

Finally, dynamic systems theory asserts that motor development is the result of a complex interaction between a child's physical abilities, goals, and experiences. Specifically, it is proposed that motor skills are the result of complex, i.e., goal-directed, dynamic action systems in which abilities or action plans are gradually incorporated into existing motor schemas. Esther Thelen, the main proponent of this theory, differs from previous theorists in that, although they all agree that maturation and experience contribute to motor development, because its motor action is not a simple genetically programmed response that emerges only as

maturation sets in, but depends on opportunity. This reliance on experience explains the variability in motor development and the fact that many of the changes are qualitative rather than quantitative.

Dynamic systems theorists

Dynamic systems theory and motor skills
Source: https://slideplayer.com/slide/4266480/

This theory assumes that motor development is the result of a synchronized assembly of learned skills. Moreover, each new skill involves construction that occurs as children actively adapt and reorganize their current motor abilities, transforming them into new, more complex systems of action (the comparison cannot be avoided, both in terms of schemas and adaptation and integration, with Piaget's cognitive theory). At first, engine speeds tend to be temporary, ineffective and uncoordinated. But over time, motor patterns are refined until all components are integrated and transformed into smooth, well-coordinated actions such as swinging, crawling, walking, running and jumping. Along with neurological maturation, environmental goals and reinforcements are fundamental elements of this process.

Application activity 5.8

Explain physical, hormonal and psychological changes that occur during puberty and adolescence as a result of maturation and experiences.

End unit assessment

Questions:

1. Spell out the psychosexual development stages

2. Explain the difference between theories of language acquisition and development and how these theories complete one another.

3. Compare the contributions of Bowlby and Ainsworth in language development theory?

4. How is psychomotor development linked to other theories of human development?

🔑 **Key unit competence:** TJudge Skills gained during human developmental milestones based on observation of physical, cognitive, language and socio-emotional skills and cater for holistic development throughout life span.

Introductory activity

Observe the pictures below showing different stages of human development, use the T-Chart for each aspect at each stage and describe what can be achieve at that stage and what cannot be achieved before that stage. Relate the pictures to your life or what you observe in society (before birth, before starting school, starting school, starting a career, marriage, having a child...). Use internet, dictionary or other books and find the meaning of the concept developmental milestones.
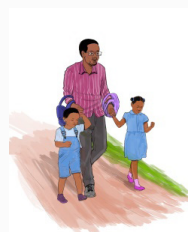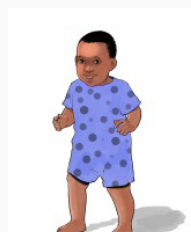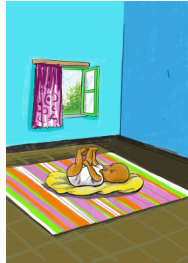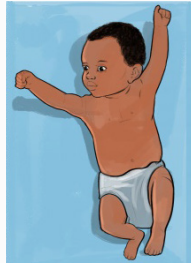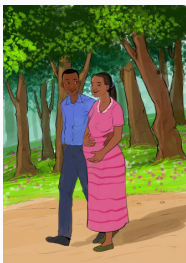
6.1. Key concepts related to developmental milestone

Activity 6.1

Life starts form the time of conception and ends at death. Based on what You learnt in unit of introduction to human development, your observation and experience use concept mapping to demonstrate your understanding on the following terminologies related to developmental milestones: Milestones, Developmental domains, Prenatal, Conception, Zygote, Labor.

Developmental milestones: are behaviours or physical skills seen in infants and children as they grow and develop, the milestones are different for each age range, there is a normal range in which a child may reach each milestone, they are things most children can do by a certain age.

Examples: Rolling over, crawling, walking, taking a first step, smiling for the first time, waving "bye bye" …

Developmental domains: are growth areas, each with specific skills and abilities that develop over time.

Developmental scientists study three major domains which are physical, cognitive and psychosocial.

Physical development/growth: It deals with the changes in the body.

Example: growth of the body and the brain, sensory capacities, motor skills, and heath

Intellectual /cognitive development: This refers to higher mental processes such as thinking, remembering, perception, attention, memory, creativity, reasoning…

Social- emotional development: Emotions, personality, and social relationship.

Prenatal: This is a period prior to birth, conception to birth. It is a period of tremendous growth usually from a single cell to an organism. This occurs approximately between 8-9 months thought some exceptional cases may occur (Odera, Nizeyimana, and Kareba, 2004). Although it may be difficult to imagine you are the product of one cell, zygote or fertilized. Once the egg is released from the ovary it passes into the fallopian tube.

Fertilization occurs in the first part of the fallopian tube about three days after the egg has entered the tube, after the union of sperm and egg takes place in only a matter of hour that one cell begins to divide rapidly.

Conception: Conception is the joining of a sperm and egg, also known as fertilization. In most cases, conception occurs in a woman's fallopian tube in the hours or days following sexual intercourse. However, in cases of assisted reproduction, particularly in vitro fertilization, conception can occur in a lab.

Conception marks the first step toward pregnancy, the sperm and egg have joined together, and creating what is known as a zygote. In the coming days, the single-cell zygote transforms into a multi-celled embryo. But in order to facilitate pregnancy, the embryo must successfully move from the fallopian tubes and implant in the uterus, where it will continue to develop into a fetus and eventually an infant.

Zygote: is the cell that formed by the union of an egg cell and a sperm cell. a fertilized female egg from which a baby will develop is an example of a zygote.

It is a fertilized egg cell that results from the union of a female gamete (egg, or ovum) with a male gamete (sperm). In the embryonic development of humans and other animals, the zygote stage is brief and is followed by cleavage, when the single cell becomes subdivided into smaller cells.

In humans, the male gamete is the sperm cell and the female gamete is the ovum (also called egg cell). Both of them are haploid (n). Their union will result in a zygote that is diploid (2 n) and by a process called fertilization.

Labor: is a series of continuous, progressive contractions of the uterus that help the cervix dilate (open) and efface (thin). This allows the fetus to move through the birth canal. Labor usually starts two weeks before or after the estimated date of delivery.

The first stage of labor and birth occurs when you begin to feel persistent contractions. These contractions become stronger, more regular and more frequent over time. They cause the cervix to open (dilate) and soften as well as shorten and thin (efface) to allow your baby to move into the birth canal.

Labor has started or is coming soon if you experience symptoms such as: increased pressure in the uterus, a change of energy levels, a bloody mucus discharge……

Real labor has most likely arrived on time when contractions become regular and are painful it has stages like dilation, expulsion and after birth.

Activity 6.1

1. How is conception different from zygote?

2. Explain the stages of labor.

3. A pregnant mother has started labor but she doesn't know, and she came to you to explain how she feels, from which ideas will you refer to while explaining to her that she has started labor?

6.2. Prenatal period

6.2.1. Prenatal developmental milestones

Activity 6.2.1

Observe the following images on prenatal period and discuss the events that happen before birth and write it down on the piece of paper.

Source: https://www.pinterest.com/pin/318348267410948275/

The average length of time for prenatal development to complete is 38 weeks from the date of conception.

During this time, a single-celled zygote develops in a series of stages into a full-term baby. The three primary stages of prenatal development are the **germinal stage, the embryonic stage, and the foetal stage**.

a) Germinal stage

This period of pregnancy is divided into 3 trimesters which have different characteristics for expectant mothers and the developing foetus.
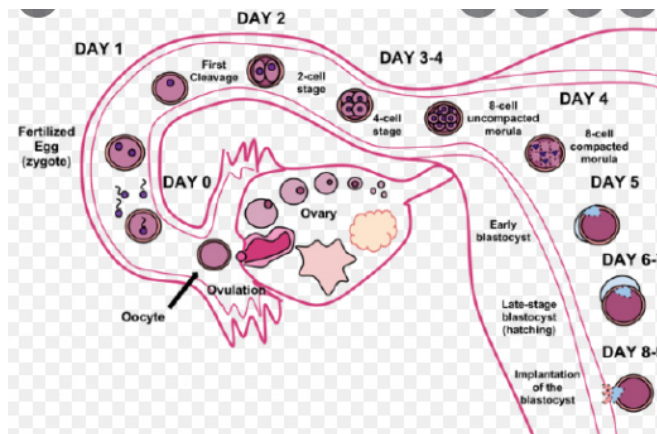
*Source: Human_Growth_and_Development%2F23.2%253A_Germinal_*
Stage&psig=AOvVaw3xL_2qP9bMWJq6OP27bxvY&ust=

This stage of human development begins with fertilization in a Fallopian tube and ends with implantation in the uterus. It is the first period of pre-natal development that occurs in the first two weeks after conception. During this period a zygote is created, continued cell division takes place and attachment of the zygote to uterine wall also takes place.

The zygote is a single cell formed by the union of male gamete and that of female through fertilization. The zygote is made up of 100-150 cells a week after conception. The inner and outer layer of organism is formed at this stage. This period is also called zygotic period because it is in that time zygote is created.

The implantation which is the attachment of the zygote to the uterine wall occurs ten days after conception.

We can summarize the first two weeks following conception as follows:

Week 1: the zygote moves through the fallopian tube to the uterus, and rapid cell division begins within the first 30 hours.

Week 2: the blastocyst adheres to the uterine wall and begins to form the placenta, umbilical cord and amniotic sac (amniotic sac contains amniotic fluid which is essential fatal urine)

b) Embryonic and foetal stage

infographic elements

| 1 MONTH | 2 MONTH | 3 MONTH | 4 MONTH | 5 MONTH | 6 MONTH | 7 MONTH | 8 MONTH | 9 MONTH |

| I TRIMESTER | II TRIMESTER | III TRIMESTER |
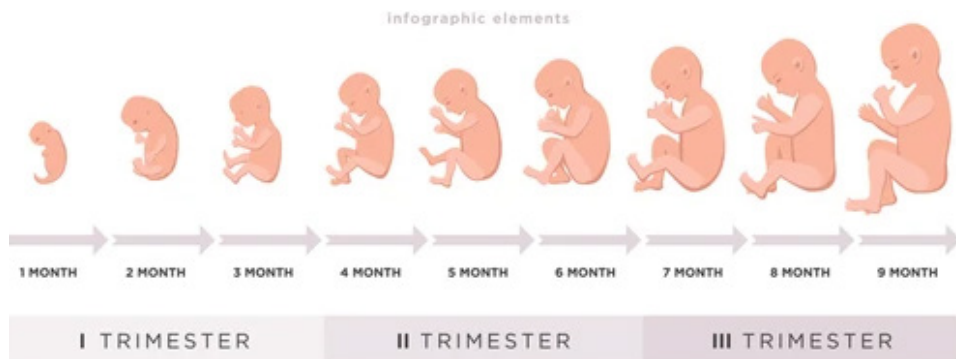
Source: https://ocwmg.com/ob-gyn-services/obstetrical-care/prenatal-care-timeline/

In the embryonic period from the third to eighth week, a recognizable human being emerges. Perhaps the most remarkable change in the embryo is cellular differentiation; three distinct layers are being formed, the ectoderm (outer layer), the mesoderm (middle layer), and the endoderm (inner layer). As the embryo develops, each germ layer differentiates into different tissues and structures.

The ectoderm eventually forms skin, nails, hair, brain, nervous tissue and cells, nose, sinuses, mouth, anus, tooth enamel, and other tissues.

The mesoderm develops into muscles, bones, heart tissue, lungs, reproductive organs, lymphatic tissue, and other tissues.

The endoderm forms the lining of lungs, bladder, digestive tract, tongue, tonsils, and other organs. The process of differentiation takes place over a period of weeks with different structures forming simultaneously. During this period the life supports develop, these are: placenta, the umbilical cord and the amnion. The placenta is the life support system that consists of tissues in which small blood vessels from the mother and the offspring intertwine but are not joined at all.

The amnion is a bag-like structure filled with fluid in which the developing embryo floats.

Some of the major events that occur during the embryonic stage are as follows:

Week 3: Beginning development of the brain, heart, blood cells, circulatory system, spinal cord, and digestive system.

Week 4: Beginning of the development of bones, facial structures, and limbs (presence of arm and leg buds); continuing development of the heart (which begins to beat), brain, and nervous tissue.

Week 5: Beginning of the development of eyes, nose, kidneys, and lungs; continuing development of the heart (formation of valves), brain, nervous tissue, and digestive tract.

Week 6: Beginning of the development of hands, feet, and digits; continue development of brain, heart, and circulation system.

Week 7: Beginning of the development of hair follicles, nipples, eyelids, and sex organs (testes or ovaries); first formation of urine in the kidneys and first evidence of brain waves.

Week 8: Facial features become more distinct, internal organs are well developed, the brain can signal for muscles to move, heart development ends, external sex organs begin to form. By the end of the embryonic stage, all essential external and internal structures have been formed.

Fetal stage:

Prenatal development is most dramatic during the fetal stage. When an embryo becomes a fetus at eight weeks, it is approximately 3 centimeters in length from crown to rump and weighs about 3 grams. By the time the fetus is considered full-term at 38 weeks gestation, he or she may be 50 centimeters or 3.3 kilograms. Although all of the organ systems were formed during embryonic development, they continue to develop and grow during the fetal stage. Examples of some of the major features of fetal development by week are as follows:

Weeks 9–12: The fetus reaches approximately 8 cm in length; the head is approximately half the size of the fetus. External features such as the face, neck, eyelids, limbs, digits, and genitals are well formed. The beginnings of teeth appear, and red blood cells begin to be produced in the liver. The fetus is able to make a fist.

Weeks 13–15: The fetus reaches approximately 15 cm in length. Fine hair called lanugo first develops on the head; structures such as the lungs, sweat glands, muscles, and bones continue to develop. The fetus is able to swallow and make sucking motions.

Weeks 16–20: The fetus reaches approximately 20 cm in length. Lanugo begins to cover all skin surfaces, and fat begins to develop under the skin. Features such as finger and toe nails, eyebrows, and eyelashes appear. The fetus becomes more active, and the mother can sometimes begin to feel fetal movements at this stage.

Weeks 21–24: The fetus reaches approximately 28.5 cm in length and weighs approximately 0.7 kg. Hair grows longer on the head, and the eyebrows and eye lashes finish forming. The lungs continue to develop with the formation of air sac (alveoli), the eyes finish developing. A startle reflex develops at this time.

Weeks 25–28: The fetus reaches approximately 38 cm in length and weighs approximately 1.2 kg. The next few weeks mark a period of rapid brain and nervous system development. The fetus gains greater control over movements such as opening and closing eyelids and certain body functions. The lungs have developed sufficiently that air breathing is possible.

Weeks 29–32: The fetus reaches approximately 38-43 cm in length and weighs approximately 2 kg. Fat deposits become more pronounced under the skin. The lungs remain immature, but breathing movements begin. The fetus's bones are developed, but not yet hardened.

Weeks 33–36: The fetus reaches approximately 41-48 cm in length and weighs 2.6-3.0 kg. Body fat continues to increase, lanugo begins to disappear, and fingernails are fully grown. The fetus has gained a high degree of control over body functions.

Weeks 36–38: The fetus reaches 48–53 cm in length is considered to be full-term by the end of this period. Lanugo has mostly disappeared and is replaced with thicker hair on the head. Fingernails have grown past the tips of the fingers. In a healthy fetus, all organ systems are functioning.

1. Complete this table with milestones during pre natal period

Age	Accomplishment
3 weeks	Nervous system begin to form
4 weeks	....
5 weeks	Head continues rapid growth
8 weeks	Almost all body parts are differentiated
12 weeks	....
14 weeks	....
16 weeks	Ultrasound shows clearly defined bon structure
20 weeks	....
21 weeks	Rapid eye movements commence substantial weight gain
24 weeks	....
28 weeks	Eye open and close, lungs capable of breathing
32 weeks	Skin pink and smooth , chubby appearance
38 weeks	Nervous system can carry out some interactive functions reacts to light , usually assumes upside-down position as birth approaches

2. Complete using the appropriate term

A. the fertilized egg passes through the .... on its way to the uterus.

B. the attachment of the zygote to the uterine wall is called ....

C. the embryonic period extends from the... to the ....week of development.

D. the three distinct layers during the embryonic period are the .... the.............................and the................................

E. the period beginning with the third month of pregnancy and extending to birth is known as the .... period.

F. The implantation which is the attachment of the zygote to the uterine wall occurs .... days after conception.

6.2.2. Labour and childbirth

Activity 6.2.2

The average length of time for prenatal development to complete is 38 weeks from the date of conception, refer to what you know, your observation and what you have been told by adults and predict what you think will end this period of conception.

Labour refers to the energy and effort used to move the baby out of the mother's body. It is accomplished through a series of contractions in the uterine muscles. These contractions cannot be controlled by the mother. Therefore, they are referred to as involuntary. Hormones inside of the mother control the onset, length, and strength of these contractions. The average length of labour for a first baby is between 12 and 14 hours. However, each woman's labour will vary and may be as short as three hours or last 24 or more hours.

There are several signs indicating the beginning of labour. These include:

- **Lightening**: this is a change in the position of the baby. The baby drops lower in the pelvis, relieving the abdominal pressure on the mother and making her breathing easier.
- **Contractions of the uterus:** these contractions begin as weak cramps and a backache gradually increasing in intensity and coming at more frequent and regular intervals.
- **Passage of the mucous plug from the cervix**. It is sometimes referred to as "the show" or "the bloody show" because it is blood tinged.
- **Rupturing of the bag of water as the mio-chorionic membrane ruptures**. This may be a small trickle or a gush of fluid.
- **Pain in your belly and lower back**

Labour is divided into three stages

a) Dilation stage

In order for the baby to pass from the uterus to the vagina, the cervix must first stretch and expand. This is referred to as dilation. At first, the cervix is approximately inch in diameter. The contractions push the baby's head against the cervix, causing it to widen. At the end of this stage of labour, the cervix is approximately 4 inches in diameter. If the bag of water has not ruptured by this time, the physician will break it.

This stage of labour is further divided into three categories. These categories are:

- **Early labour**: The cervix dilates from 0-4 cm in diameter. Contractions may or may not be regular, coming 5-10 minutes apart. Most women are still home at this time.
- **Active labour**: The cervix dilates from 4-8 cm. The uterine contractions will be longer, more regular, and more frequent. The mother should be in the hospital by this time.
- **Transitional labour**: The cervix dilates from 8-10 cm or complete dilation. The Mother's contractions become more frequent and much stronger. They are 1-3 minutes apart. During transition the baby's head moves from the uterus and into the vagina or the birth canal. This is the most difficult period of childbirth and is the time when anaesthetic will most likely be given.

The dilation stage lasts the longest. The length of time varies with each birth; however, the average length for first pregnancies is eight hours. Remember, during this time, most hospitals will use fetal monitor to record the strength and duration of contractions, as well as the baby's heartbeat.

b) Expulsion stage

This stage begins when the baby's head is in the birth canal and ends when the baby is born. This stage does not last long, usually 5-10 minutes. During this stage, contractions become more frequent and longer.

The contractions occur 1-3 minutes apart and last about 1 to 1 minutes and 30 seconds. During the first stage, the function of the contractions is to dilate the cervix. In the second stage, their function is to push the baby out through the pelvis and the birth canal.

Crowning refers to the time when the baby's head is first seen. At the time of crowning, the physician or midwife will decide whether or not to perform an episiotomy. This is a small incision from the vagina to the anus in the perineum to prevent tearing. At the completion of birth, the incision is stitched closed.

c) After birth stage

The contractions of the uterus continue, causing the placenta to separate from the wall of the uterus and be expelled. The afterbirth, which is expelled, consists of placenta, umbilical cord, amniotic sac, and lochia.

Childbirth, although a natural process, is difficult for both the mother and the baby. Fortunately, nature makes this easier. The unborn baby's skull is soft and flexible so it can become longer and more narrow, allowing it to pass through the pelvis more easily.

During the birth process, complications may arise. The baby experiences great pressure as it is pushed out of the uterus and through the birth canal. At times, the umbilical cord may be constricted, restricting blood flow to the baby. In some instances, the mother's pelvis may not be large enough to allow passage of the baby. Sometimes the placenta is positioned close to or covering the cervix and must be delivered before the baby. In these instances, t h e doctor may decide to perform a caesarean section to avoid danger to the mother or baby. This is performed by making an incision in the mother's abdomen and uterus. The baby is then removed from the uterus before it enters the birth canal. However, a vaginal birth, if possible, is best for the infant for several reasons: it helps expel any fluid out of the lungs, and the baby must fight more, which develops strength in the baby.

In most instances, the baby's face is looking downward as the head emerges. This is called a posterior position. Some babies are born in an anterior position. The head then rotates to the side; the shoulders come out one at a time, followed by the abdomen and legs. In some instances, the baby is not positioned correctly and will emerge buttocks, feet, or shoulders first. This is referred to as "breech." This type of birth is more difficult for both the mother and the Child and, in many instances the doctor will try and turn the baby or a caesarean section will be performed.

Application activity 6.2.2

1. Make a poster with the timeline of prenatal development and label it correctly.

2. Explain how babies learn before birth.

6.2.3. Risk factors for women and infants during pregnancy and delivery

Activity 6.2.3

Mary is an expectant mother. She is not good at home since she is living in extreme poverty. In addition to that, Mary is suffering from malnutrition and an intense fatigue.

1. Do you think Mary's life experience will impact her baby?
2. Explain how and why?

There are a number of factors, influences or hazards that can harm an unborn child during pre-natal period or during birth.

Thus prenatal risk factors include:

– **Chronic maternal illness**: Maternal illnesses increase the chance that your baby will be born with a birth defect or have a **chronic** health problem. Diabetes, cytomegalovirus, toxoplasmosis and Strep B are just a few of the **illnesses** that can cause an adverse outcome to pregnancy.

– **Certain maternal infections:** Maternal infection is an infection acquired by the mother who then transmits the **infection** to the fetus. This transmission can occur via the placenta before delivery or via the birth canal during labor and delivery when the baby is exposed to maternal blood.

– **Maternal health and illness**: Stress during pregnancy may cause the child to be hyperactive while severe malnourishment may lead to the death of the fetus. Less severe malnutrition may contribute to condition such as cerebral palsy and brain damage. Disease such as rubella, syphilis, gonorrhea or malaria during pregnancy may cause the unborn child to suffer from condition such as mental deficiency, blindness or deafness.

– **Maternal age**: Young mothers are likely to have children with neurological defects. Children of over 40 years old mother face a chromosomal abnormality risk for example Down syndrome.

– **Rhesus factors**: Children inherit the blood group from the parents. A problem arises when one of the parents is Rh + (positive) and the other one is Rh - (negative). Due to blood incompatibility interaction of the maternal and fetal blood produce antibodies in the mother's blood. These antibodies will not affect the first baby, but they will stay in the mother's blood and affect the second baby. Fortunately, Rhesus factor problems are preventable.

– **Mother's emotional state:** When the emotional state of the mother changes, there is a release of a chemical product into the blood stream. This chemical reaches the fetus and irritates it. Depending on the emotional state of the mother, the duration and the intensity of the emotion, effect on the fetus may be short or long-term.

– **Radiation** Large doses of radiation such as those used in X-rays photography are known to damage the fetus or induce abortions. The most dramatic illustrations of the effect of atomic bomb on Hiroshima in Japan in 1945 during the Second World War shows that pregnant mothers less than 20 weeks and within half mile of the center of explosion gave birth to physically or mentally abnormal child.

- **Maternal diseases:** Fetal infection can occur from maternal diseases since the fetus receives its nourishment from the mother through the placenta and umbilical cord. Some maternal diseases are:

a) **Rubella:** is a maternal disease that damage prenatal development of children. Children born with rubella may have defects, such as mental retardation, blindness, and deafness and heart problems. The greatest danger of this disease is in the 3rd or 4th week of pregnancy. Hence it occurs during organogenesis (when organs are being formed)

b) **Syphilis:** This is devastative later in prenatal development in the 4th or more months after conception. Unlike rubella that damages organogenesis, syphilis damages organs that have been formed.

c) **Genital herpes**: This may be contracted during birth; newborns contract the herpes simplex virus II when they are delivered through the birth canal of mothers with genital herpes. Nearly 1/3 of babies delivered through the birth canal die and ¼ become brain damaged. This can be prevented by using caesarean section to keep the virus from infecting the newborn.

d) **HIV/AIDS:** Today the number of women with HIV is growing steadily especially in developing countries. There are three ways a mother who suffers from HIV/AIDS can infect her offspring:

-During gestation across the placenta.

-During delivery through contact with maternal blood or fluids.

-Postpartum through breast-feeding.

- **Miscarriage and abortion:** a miscarriage or spontaneous abortion occurs when pregnancy is brought to an end before the developing organism is mature enough to survive outside the womb. Today's spontaneous abortion is brought about by abnormalities of reproductive tract, viral or bacterial infections and sometimes by severe traumas.

- **Maternal nutrition:** this can affect normal development especially of the fetal brain as well as physical aspect. The fetus depends on its mother for nutrition, which comes from the mother's blood. A pregnant woman requires appropriate level of proteins, vitamins, minerals, etc. A woman's nutrition influences her ability to reproduce and give birth to a healthy child. Otherwise she may stop menstruating, hence making conception impossible.

- **Environmental hazards:** Radiation, chemical and environment pollutants and toxic waste of modern industrial world are dangerous to the fetus. For instance, radiation can cause gene mutation (abrupt but

permanent change in genetic material). Fathers who are often exposed to a high level of radiation have higher level chances of producing children with chromosomal abnormalities. X-ray can also affect the development of embryo during pregnancy.

– **Psychological hazards:** Maternal stress can easily be transmitted to the fetus. When an expectant mother is exposed to intense fears, anxieties and depression, physiological change occurs in respiratory and glandular systems. For instance, due to fear, adrenaline may be produced with restricts blood flow to the uterus and may deprive the fetus of adequate oxygen. The mother's emotional state during pregnancy can influence the birth process. An emotional mother might develop irregular contractions and more difficult labour period.

– **Drugs:** Excessive smoking and drinking are dangerous to normal development especially during embryonic and fetal periods. Taking the wrong drugs at the wrong time may make an offspring physically handicapped for life for instance: Thalidomide, when taken during pregnancy might prevent growth of arms and legs. Heavy drinking during pregnancy can lead to deformed limbs, face, heart and mental retardation. Cigarette smoking by pregnant woman can cause fetal and neonatal death as well low birth weights.

Birth complications

For most women, the birth processes, as painful as it may be, proceeds normally.

Occasionally, however, problems arise. The following are a few of the more common complications

– **Forceps delivery:** when certain conditions prevails extreme fatigue, inadequate contraction strength, and cardiac problems and so on, the physician will withdraw the baby with forceps during the first phase of birth (Smith, 2000).

A forceps delivery presents some danger of rupturing blood vessels or causing brain damage but with new guidelines forceps delivery is considered quite safe.

Specifically, a forceps delivery may be necessary if the woman is in the second stage of labor for several hours or if an emergency occurs for either the mother (shock, exhaustion) or the fetus (clear signs of fetal distress, such as a slowing heart rate)

– **Breech birth:** during the last month of pregnancy most babies move into a head down (vertex) position. Most babies who do not turn during this time will be in the breech birth presentation position. It is almost as if the baby was sitting in the uterus, an abnormally shaped uterus, a placenta partially or even fully covering the uterine opening and prematurity.

– **Cesarean section**: if for more reason the child cannot come through the birth canal, surgery is performed to deliver the baby through the abdomen in a procedure called cesarean section.

Application activity 6.2.3

1. Describe risks or influences that are most likely to occur in our society and suggest ones that we can learn to manage.

2. Growth and development is a continuous process where one stage of development lays the foundation for the next stage of development. Refer to this principle of human growth and development to explain why we should cater for pregnancy.

6.2.4. Key message and recommended practices during 1000 Days

Activity 6.2.4

Having read Mary's story under activity 6.2.3.; advise mothers who experience problems similar to those she encountered in order to help them deliver their babies successfully and ensure the smooth development of their children.

a) Pregnancy, birth and thereafter

– Once the pregnancy is confirmed, the mother needs to visit a healthcare worker or clinic and continue to go for regular check-up at the clinic during the pregnancy to allow health care workers to treat and prevent potential health problems (Antenatal care).

- Pregnant mothers need to get information about their pregnancy, what to expect and how to remain healthy while pregnant.
- They need to take some vaccinations and engage in dialogues with their health care worker in order to increase the chances of delivering a health child.
- Pregnant mothers are encouraged to be tested for HIV when they visit their health care worker.
- Mothers who are pregnant and/or breastfeeding must eat healthy food. This helps to sustain the mother and the baby's good healthy.
- Mothers who are pregnant and/or breastfeeding should neither drink alcohol, use drugs nor smoke. The failure to do so can cause serious harm to the foetus/ unborn child in womb.
- Mothers who are pregnant and/or breastfeeding must careful talk to their physician when the need to take some medicine arises. This is due to the fact that certain medications can be harmful to the unborn child or young baby when breastfed.

b) Maternal mental health v/s child health and development

Good mental health and strong motivations of affections are important for caregivers to be able to empathize with a young child's experiences and to manage their own emotions and reactions to their baby's dependence without hostility. Mental health problems among women who are pregnant or have recently given birth are among the most common pregnancy related morbidity. In resource constrained low and middle-income countries prevalence of common perinatal mental disorders, including depressive, anxiety and adjustment disorders, is much higher than in high-income settings because of additional risk factors such as socio-economic stresses, unplanned pregnancy, being younger or unmarried, lacking intimate partner empathy and support or being subject to violence, or having hostile in-laws. Protective factors include having more education and secure income-generating work, and having a kind, trustworthy partner.

Emotions, concentration, judgment and thinking are affected with mental health problems, and affected women are more likely to have depressed mood, irritability, pessimism and difficulty expressing warmth, affection, and pleasure; instead, they are likely to be pre-occupied with worries and anxiety, including about infant care. These influence social interactions, including with the baby. Depression among mothers has been linked directly to higher rates of child diarrheal and respiratory diseases, stunting and hospital admissions, lower completion of recommended immunization schedules, and worse socio-emotional development among young children.

Effective interventions to reduce depression and promote maternal mental health have been developed and tested in low and middle income countries where very few mental health specialists are, and are generally implemented by trained community health workers under professional supervision. Interventions designed to improve maternal mental health have a positive impact on infant health and development, and interventions to promote infant health and development positively impact maternal mood. The effects on infant health and development are stronger when the maternal and infant components are integrated.

c) Effect of Health, hygiene, balanced diet and rest to the pregnant mother

Talk to your doctor about any over-the-countered and prescription of medicines you are required to use. These include dietary or herbal supplements. Some medicines are harmful during pregnancy. At the same time, stopping medicines you need also can be harmful.

The foetus gets all its food from you, so mother should try to make healthy food choices, wash fruits and vegetables before eating. Don't eat uncooked or undercooked meats or fish. Always handle, clean, cook, eat, and store foods properly. Taking plenty of fluids, especially water to keep one hydrated. Plain water is great. Get early and regular prenatal care physical examinations. Whether this is the first pregnancy or third, health care is extremely important. Avoid very hot baths. The high heat raises the risk of miscarriage and birth defects.

Get plenty of rest and sleep, a nap before dinner and around lunch time, find ways to control stress is much recommended. Read books, watch videos, go to a childbirth lessons, can help a mother to prepare for the birth of a baby. Stay away from chemicals like solvents (like some cleaners or paint thinners), lead, mercury, and paint (including paint fumes). Not all products have pregnancy warnings on their labels. If unsure, if a product is safe, ask your doctor before using it. Do physical exercises and avoid drugs like cocaine, heroin, marijuana, tobacco and alcohol to void birth defects. Cocaine, heroin, marijuana and other drugs increase risk of miscarriage, premature birth and birth defects. A baby could also be born addicted to the drug you have been abusing, which can cause serious health problems.

1. Suggest the reason why the above mentioned practices are strongly recommended during pregnancy.

2. Suggest other recommended practices during pregnancy for either mothers or their husbands to help pregnant women.

Assessment on pre-natal Period

1. Discuss how effectively the mother should take care of the child during the first 1000 days and outline the implication of this care for learning while the time comes for a child to attend the school.

2. Discuss how genes and chromosomes during prenatal period contribute in shaping our behaviour.

6.3. Developmental milestones during Infancy and toddlerhood period (Birth – 3 years)

Activity 6.3

From your experience and what you know about human development, observe the following pictures and order them from the youngest to the oldest. Write the corresponding number.

6.3.1. Some milestones that babies reach during 0-6

months

Activity 6.3.1

Referring to the baby of 0-6 months you have observed and to the knowledge you have about the theories of child development draw a table and show what skills do you think a child can be able to manifest and what that child cannot be able to manifest among the following:

– Shows more control while rolling and sitting
– Starts to look and reach for objects such as food that is nearby
– Brings hand to mouth
– Explores and examines an object using both hands and mouth
– Grasps and shakes toys
– Transfers object from hand to hand
– Follows moving objects
– Enjoys playing with people
– Coos and smiles
– Raises head & chest
– Looks at correct picture when the image is named

Babies are learning many different things during the first twenty-four months, and parents are learning about their babies too. Parents should observe their baby to learn how he/she likes to be talked to, held, and comforted. Additionally, they should be aware that all babies are different.

With respect to four dimensions below, a child aged 0-6 months is expected to have attained some specific skills related to physical, social/cognitive and communication development.

a) Physical development
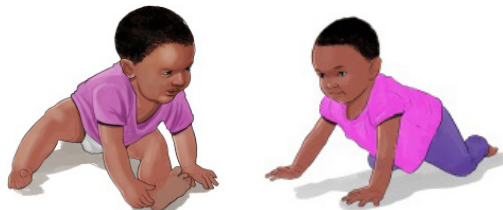
Skills	What parents can do
– Raise head & chest when on stomach – Stretch & kicks on back – Open and shuts hands – Bring hand to mouth – Grasp and shakes toys – Move legs and arms off of surface when excited – Roll both ways (tummy to back and back to tummy) – Sit with and without support of hands – Support whole weight on legs – Reach with one hand – Transfer object from hand to hand – While lying on back, reaches both hands to play with feet – Use raking grasp	– Place baby on their tummy to play for a few minutes at a time, a few times a day – Lie down and place baby tummy down on your chest so you're face-to-face – Hold baby's hands and clap them together while you play music and sing – Nestle baby close to you while you gently rock and sway – Change the direction that baby sleeps to encourage head turning and build strength. – Allow baby to explore age appropriate toys with their mouth and tongue (be sure that the toys are large enough so that baby does not risk choking) – Encourage baby to practice repeated rolling from back to tummy and tummy to back several times

b) Cognitive development

Skills	How parents and caregivers can support
– Follow moving objects	– Hang a colorful mobile above baby's crib to provide visual stimulation
– Recognize familiar objects and people at a distance	– Play or sing songs with baby to help enhance baby's listening skills
– Start using hands and eyes in coordination	– When changing baby's diaper touch different body parts and say "beep" baby may begin watching your hand and anticipating touch.
– Prefer sweet smells	– Hang a mirror on the wall. Tap the mirror and say baby's name
– Prefer soft to coarse sensations	– Show baby family photos or flips through a magazine. Point out the smiling faces to baby.
– Use both hands to explore toys	– Lift baby up and down and play in different positions to help develop their sense of movement and balance
– Find partially hidden objects	
– Explore with hands and mouth	– Find balls with different textures and colors. Teach baby how to roll, drop, and bounce them.
– Struggle to get objects that are out of reach	

c) Social and emotional development

Skills	How parents and caregivers can support
– Begin to develop social smile – Enjoy playing with people – More communicative – More expressive with face & body – Imitates some movements & expressions – Enjoy social play – Interested in mirror images method – Respond to expressions of emotions – Appear joyful often	– Provide plenty of skin-to-skin contact with a parent or caregiver (Kangaroo Mother Care-KMC). – Smile at baby; touch her hands, feet and forehead. – See how she/he wiggles, reacts to touch and voices – Gently touch and tickle baby to make them giggle – Play with baby in a variety of positions – Play peek-a-boo – Use a variety of facial expressions while you talk

d) Communication

Skills	How parents and caregivers can support
– Quiet or smile in response to sound or voice – Turn head towards sound or voice – Show interest in faces – Make eye contact – Cry differently for different needs (e.g. hungry vs. tired) – Coo and smiles – Listen and responds when spoken to – Begin to use consonant sounds in babbling, e.g. "da, da, da" – Use babbling to get attention – Make different kinds of sounds to express feelings – Notice toys that make sounds.	– Speak in a high-pitched, sing-song voice to help get and keep baby's attention while you talk – Describe your actions as you dress, feed, and bathe your child. Talk about where you're going and what you're doing. – Give baby frequent face-to-face time – Shake a rattle up and down while singing to baby – Show pictures of family and friends and point out smiling faces – Hold up a doll or stuffed animal and point out the different body parts – Read with baby. "Reading" can simply mean describing pictures without following the written words. – Encourage two-way communication. When baby coos or babbles, be sure to respond and take turns in "conversation". – Play with rhymes and songs – Encourage baby to play with toys that make sounds.

1. Describe the main developmental milestones of an infant aged 0-6 months on the following aspects

   a) Physical
   b) Cognitive
   c) Social and emotional
   d) Communication

2. Identify the appropriate games and/or activities to use so as to boost the holistic development of the infant aged 0-6 months.

6.3.2. Some milestones that babies reach during 7-12 months

Activity 6.3.2

Referring to the behavior of a baby aged 0-6 months as you studied it and the knowledge you have about the theories of child development select among the following behaviors those that can be manifested by a child aged 7-12 months.

- Starts to move with alternate leg and arm movement
  e.g. creeping, crawling
- Focuses on objects near and far
- Moves in and out of various positions to explore environment
  and get desired toys
- Enjoys imitating people in play
- Looks at familiar objects and people when named
- Combines sounds and gestures
- Looks at correct picture when the image is named

a) Physical development

Skills	Ways to support child's development
– Sits without support – Sits and reaches for toys without falling – Moves from tummy or back into sitting – Starts to move with alternate leg and arm movement e.g. creeping, crawling – Picks up head and pushes through elbows during Tummy Time – Turns head to visually track objects while sitting – Shows more control while rolling and sitting – Picks up small objects with thumbs and fingers – In simple play, he/she imitates others – Pulls to stand and cruises along furniture – Stands alone and takes several independent steps – Moves in and out of various positions to explore environment and get desired toys – Maintains balance in sitting when throwing objects – Claps hands – Releases objects into a container with a large opening – Uses thumb and pointer finger to pick up tiny objects	– Put a toy or book inside an empty cardboard box. Wrap it with colorful paper or newspaper comics. – Clap your hands when baby yanks it open then announce what is inside. – Encourage movement by placing toys around baby where they must move to reach them – Engage baby in activities like reading or playing with a ball while in sitting – When baby is holding a toy in each hand offer a third toy; watch as baby figures out how to grasp the new toy without letting go of the other two – Get an empty plastic bucket and have baby throw toys into it – Use different household items, like squeeze toys or newspapers to make different noises for baby and describe each toy as your baby picks it up – Lie down on the floor and have baby crawl over you – Practice new gestures with baby like blowing kisses, clapping hands, or giving a high five – Use a toy to encourage baby to crawl when they are in a tummy time position – Roll a soft ball across the floor and encourage baby to crawl after it – Read with baby while they lie on their tummy – Provide push toys that allow baby to practice walking with some support – Provide opportunities for baby to experience slow, rocking movements by dancing

b) Cognitive development

Skills	How to support child's development
– Explores and examines an object using both hands and mouth	– Use your hands to make shadow puppets for baby
– Turns several pages of a chunky (board) book at once	– Play with a jack in the box or windup toy with baby to show motion
– Experiments with the amount of force needed to pick up different objects	– Use animal sounds when playing with or reading to baby; point out an image of an animal then associate the sound that animal makes with the picture
– Focuses on objects near and far	
– Investigates shapes, sizes, and textures of toys and surroundings	– Give baby space to explore environment, while staying close to supervise
– Observes environment from a variety of positions while lying on back or tummy, sitting, crawling, and standing with assistance	– Introduce new textures while baby is eating, sleeping, dressing, or playing outdoors, use a variety of sponges, soaps, and lotions during bath time
– Explores objects in different ways	– Encourage baby to play on the floor with toys of various colors, sizes, and shapes
– Finds hidden objects easily	
– Looks at correct picture when the image is named	– Allow baby to grab and explore items within reach
– Imitates gestures	– Have baby look at their reflection in the mirror and point out each body part
– Begins to use objects correctly	
– Enjoys listening to songs	– Encourage baby to crawl over, under, and through various objects in your home
– Explores toys with hands, fingers, and mouth	– Introduce baby to new textures through food, toys, clothes, sponges, etc.
– Crawls to or away from objects baby sees in the distance	– Show how cause-and-effect work

c) Social and emotional development

Skills	How to support child's development
– Shy or anxious with strangers – Cries when parents leave – Enjoys imitating people in play – Prefers certain people and toys – Tests parental response – Finger-feeds himself – Starts to look and reach for objects such as food that is nearby – Shows strong reaction to new smells and taste	– Gently touch baby on the feet and tummy to make them giggle – Walk with baby in a carrier or baby backpack – Play with baby in many different positions – Use slow, rocking motions for calming and more vigorous motions for play time – Provide plenty of skin-to-skin contact with a parent or caregiver – Give baby frequent face time

d) Communication

Skills	Ways to support child's development
– Uses increased variety of sounds and syllable combinations in babbling – Looks at familiar objects and people when named – Recognizes sound of name – Participates in two-way communication – Follows some routine commands when paired with gestures – Shows recognition of commonly used words – Uses simple gestures, e.g. shaking head for "no" – Imitates sounds – Meaningfully use "mama" or "dada" – Respond to simple directions, e.g. "Come here" – Produce long strings of gibberish (jargoning) in social communication – Say one or two words – Imitate speech sounds – Babbling has sounds and rhythms of speech – Pay attention to where you are looking and pointing – Respond to "no" – Begin using hand movements to communicate wants and needs, e.g. reaches to be picked up	– Draw a picture of baby's face and then point out the different parts – Play with a pretend phone; talk into phone as you would do for a regular call, then offer it to baby to do the same – Read short stories with baby – Start using hand movements along with associated words to teach baby to communicate with gestures – Describe your actions throughout the day as you dress, feed, and bathe baby. This gives baby an opportunity to listen to the sounds and rhythms of speech – Respond to baby's sounds and encourage two-way communication – Play music throughout the day – lively, upbeat music during playtime, and quiet melodic music for naps and bedtime – Read picture books together to help baby connect words and images – Point out objects while you walk and talk with baby. – Read daily from big, colorful books and let baby turn the pages – Ask baby to point to different body parts when you name them – Ask baby questions and encourage response with words, baby sounds, cooing, or babbling. Record the conversation and play it back for baby to hear – Name textures, shapes, and sizes to help baby attach words to tactile experiences – Describe your actions throughout the day as you dress, feed, and bathe baby – Respond to baby's sounds to encourage two-way communication – Give baby simple directions to follow like "Go get the ball.

1. Describe the main developmental milestones of an infant aged 7-12 months on the following aspects

   a) Physical

   b) Cognitive

   c) Social and emotional

   d) Communication

2. Identify the appropriate games and/or activities to use so as to boost the holistic development of the infant aged 7-12 months.

6.3.3. Some milestones babies reach during 13-36 months

Activity 6.3.3

Referring to the behavior of a baby aged 7-12 months as you studied it and the knowledge you have about the theories of child development select among the following behaviors those that can be manifested by a child aged 13-36 months.

- Moves in and out of various positions to explore environment and get desired toys
- Walks independently and seldom falls
- Finds hidden objects easily
- Plays make-believe
- Points to things of interest
- Combines sounds and gestures
- Responds to simple directions, e.g. "Come here"
- Responds to questions

a) Physical development (13-36 months)

Gross motor skills	Fine motor skills	How to support child's development
– Walk independently and seldom falls	– Fold paper in half	– Encourage baby to kick a ball on the ground. Gradually build up to rolling ball so baby can kick it while in motion.
– Pull toys behind when walking	– Draw straight lines and circles	
– Begin to run	– Imitate you drawing a cross	
– Stand on tiptoe	– Turn single pages in a book	– Put on some silly songs with lyrics that give listeners instructions and dance with baby while following song directions.
– Kick a ball Squats to pick up a toy	– Snip the edges of paper with scissors (by 30 months)	
– Stack two objects or Blocks	– Hold crayons using the thumb and fingers	– Let baby play with a musical instrument if you have access to one. For a drum, baby can use wooden spoon & cardboard box.
– Frequently move in and out of various positions (e.g. crawling, climbing, cruising, and walking) to explore and get desirable objects	– Use one hand more often than the other for most activities	
– Coordinate movements needed to play and explore	– Build a tower of up to 9 large blocks	– Babies love hearing sounds they make by beating a drum or playing notes on a piano.
– Usually walks with heel toe pattern and not primarily on toes	– Put together large linking blocks	– Roll a large bouncy ball back and forth between you and your toddler.
– Enjoy and seeks out various ways to move and play	– String ½ inch sized beads	
– Has adequate endurance and strength to play with peers	– Cut across a piece of paper (by 3 years)	– Use mini-traffic cones to create a zigzag path to walk through with your toddler.
	– Use a fork to eat	
	– Manage large buttons	

– Can maintain balance to catch ball or when gently bumped bypeers – Throw and attempt to catch – ball without losing balance – Use hands to help move from one position to another – Use both hands equally to play with and explore toys – Enjoy being swung and gently thrown in air – Scribble	– Put on some items of clothing with supervision	– As your toddler gets older, introduce songs like "Head, Shoulders, Knees and Toes" to help with coordination. – Give child crayons and paper for scribbling – Give beads to place on a string – Play balance games standing on one foot – Jump and run around playing games of chase

b) Cognitive development (13-36 months)

Skills	How to support child's development
– Finds objects even when hidden 2 or 3 levels deep – Sorts by shape and color – Plays make-believe – Finds objects even when hidden 2 or 3 levels deep – Sorts by shape and color – Plays make-believe	– Blow bubbles for baby. Let baby touch them, watch them soar through sky and pop when they land. – Fill up a bucket with blocks of different sizes, textures and colors.

– Enjoys playing with new toys in varied ways – Usually plays with toys without mouthing them – Enjoys playing with a variety of toys and textures – Enjoys playing with musical toys – Enjoys sitting to look at or listen to a book – Points to objects of interest – Locates objects you are pointing to – Understands simple stories – Responds to simple directions – Names some objects in a book – Groups objects by category (e.g. animals, clothing, food) – Plays pretend with dolls or stuffed animals – Stacks rings on a peg in order of size – Puts together simple puzzles (3-4 piece inset puzzles) – Identifies him/herself in a mirror, saying "baby" or his/her own name – Tells others what he/she is doing – Learns to count "1-2-3" – Correctly names some colors – Approaches problems from a single point of view – Has a clearer sense of time and sequence	– Ensure that none are small enough to be swallowed if baby decides to explore them with their mouth. Allow baby to explore the blocks with all of their senses. – Give baby different objects (especially mechanical ones) to explore. – Give baby different challenges to solve. – Change toys and games often to keep baby challenged and interested. – Give simple puzzles to complete – Sort objects by size, shape, and color – Join in pretend, imaginative and make-believe play

c) Social emotional development (13-36 months)

Skills	How to support child's development
– Imitate behavior of others – Aware of herself as separate from others – Enthusiastic about company of other children – Hold and drinks from a cup – Help with getting dressed/undressed – Has a regular sleep schedule – Eat an increasing variety of foods – Generally happy when not hungry or tired – Able to calm with experiences such as rocking, touch, and soothing sounds – Has grown accustomed to everyday sounds and is usually not startled by them – Does not require an excessive routine to calm – Cry and notices when hurt – Able to self soothe when upset – Enjoy various textures, such as grass or sand after multiple exposures – Able to transition to new environment or activity – Able to be away from parents when with supportive and familiar people – Able to participate in small groups with other children – Interested, aware, and able to maintain eye contact with others – Able to play in social situations after a transition time – Explore varied environments such as a new playground	– Be nearby for encouragement and correction when baby gets frustrated at not being able to do what he/she wants – Give baby chance to interact with other children and begin to teach concept of "sharing" – Show enthusiasm by smiling and clapping at baby's achievements. – Say "no" firmly and remove baby from the situation when baby does something dangerous or inappropriate. – Let baby join in self-care tasks and household chores. – Allow baby to make choices. – Teach baby to ask for help. – Be nearby for encouragement and correction when child gets frustrated at not being able to do what he/she wants – Give child chance to interact with other children and begin to teach concept of "sharing" – Show enthusiasm by smiling and clapping at child's achievements. – Set limits and explain simple rules. – Involve child in self-care tasks and household chores. – Allow child to make choices.

– Begin to show defiant behavior – Be assertive about what he or she wants, and say no to adult requests – Start to show awareness of her own feelings and others' feelings – Have rapid mood shifts – Show more fear in certain situations (e.g. the dark) – Become shy, and may start to whine – Possibly become aggressive and frustrated easily – Not like change – Want independence, but still need security of parents – Need an ordered, predictable routine (i.e.: when saying goodbye to parents) – Watch other children in play, and join them briefly – Defend his possessions – Begin to play "house" – Begin to separate more easily from parents – Begin to show empathy to other children (respond to their feelings)	

d) Communication and Language Development (13-36 months)

Age	Skills	How to support child's development
13-24 months	– May use 5-10 words – Combine sounds and gestures – Imitate simple words and actions – Consistently follow simple directions – Show interest in pictures – Can identify 1-2 body parts when named – Understand 50 words – Respond to questions – Continue to produce speech-like babbling – Point at familiar objects and people in pictures – Understand "in" and "on" – Respond to yes/no questions with head shake/nod – Use at least 50 words – Repeat words overheard in conversation. – Consistently imitate new words – Name objects and pictures – Understand simple pronouns (me, you, my) – Identify 3-5 body parts when named – Begin to use 2 word phrases – Understand new words quickly – Use simple pronoun (me, you, my) – Understand action words – Use gestures and words in pretend play	– Go through family photos with baby and encourage them to point out familiar family members. – Use a play telephone to practice different ways to say hello or goodbye, such as bye, bye-bye, goodbye, etc. – Sing nursery rhymes with actions like "Itsy-Bitsy-Spider" and "Patty Cake". – As you read to your toddler, encourage them to point out familiar objects in the illustrations. – Go on a nature walk in a park or even in your backyard and point out all of the animals and interesting plants you see. – This is a great age for encouraging baby to practice the meanings of "in" and "out". – Ask baby to put their toys in a bucket and take them out again. – Ask child to use words to express him/herself – Talk during daily activitiesto explain what you are doing

By 30 months	– Follow 2-step related direction e.g. "Pick up your coat and bring it to me" – Enjoy listening to stories. – Understands simple questions and commands – Identifies many body parts – Carries on "conversation" with self and dolls – Asks "what's this?", "what's that?", and "where is my…" – Sentence length of 2-3 words (i.e.: "more juice" or "want cookie") – Names pictures on print or picture books and actions – Refers to self by name – Uses 2 word negative phrases such as "no want", "not go" or "no right" – Forms some plurals by adding "s" (e.g. books) – Asks for a drink or snack – Has about 200 spoken words in their vocabulary	– Encourage child to repeat names of things – Rephrase what child says to model correct grammar and extend vocabulary (i.e. "Yes, that is a brown cow and he's eating grass.") – Respond to child's requests and directions – Speak to child in a clear, correct, and simple manner. Avoid using baby talk. – Make conversation a two-way street. Take time each day to listen to and talk with child. – Model good listening behavior when child speaks (i.e. pause an activity and make eye contact) – Encourage child to use language (and not just gestures or actions) to express ideas, observation
By 36 months	– Uses about 450 words – Can give first name when asked – Uses past tense (e.g. "ed" endings) and plurals (e.g. "s"endings) (not always correctly) – Combines names of things with action words i.e.: baby sleep – Understands simple time concepts such as "last night" and "tomorrow" – Refers to self as "me" or "I" instead of by name – Uses their words to get adult attention i.e.: "watch me!" – Likes to hear the same story over and over – Uses "no" or "not" in their speech – Talks to other children as well as adults – Answers "where" questions – Uses short sentences to tell what he/she has just done or wants to do i.e.: "me do it" or "me want to jump" – Matches 3-4 colors	

1. How does physical development influence cognitive development?

2. As the development pace of children differ from one another and thus all have to go through the same developmental stages. With reference to developmental milestones, conduct a research and indicate when to confirm that a child has particular problems which hinder his/her development.

6.3.4. Key messages and recommendations on practices during infancy and toddlerhood period

Activity 6.3.4

The future development of a child depends up on good parenting during the first months of life, particularly in the first 1000 days. Again, an infant is like a little seed that needs to grow and develop in the perfect and nourishing environment for its fullest potential. If you agree with these statements, make recommendations to parents and caregivers on how they should practice parenting so as to help their children earlier in infancy in order to determine their future development.

Sometimes children catch up, but their physical development may be slower and sometimes their cognitive development is very premature. This brings up the importance of good prenatal care and good nutrition for the pregnant mother. Additional to mothers 'health, there are other key supporting and protective factors such as:

– **Family environment**: Children need a lot of love and attention, supportive caregivers and they need exposure to the secure and stimulating environment from early age.

– **Friendly community**: A child should have close relationship with neighbor who is able to provide time to help a child, to talk to him/her and show warm love to them. Children's development is helped by these kinds of relationships.

– **Effect of Nutrition, health and hygiene:** Nurturing care consists of five inter-related and indivisible components: Good health, good nutrition, safety and security, responsive caregiving and opportunities for early learning. In the first years of life, parents, intimate family members and caregivers are close to the young child and thus are the best providers of Nurturing Care. This is why secure family environments are important

for young children. Access to clean water and sanitation, good hygiene practices, clean air and a safe environment are all essential to protect children's health and support their development.

- ▪ **Infants**: Breastfeeding is good for child's health and development. Breast milk is the perfect food for the baby to get immunities, nutrition and to line the brain cells for a smart start. Feeding is a great time to touch and hold the baby close. Singing and humming soothes the baby while feeding. Talking with your child as she/he eats will encourage him/her to eat more and be healthy. A child needs a mixed, nutritious diet with adequate amounts of vitamins and minerals to grow and develop. If your child does not receive sufficient amounts of vitamins and minerals, provide him/her with vitamin and mineral supplementation.

- ▪ **Toddlers:** Washing food before cooking will help keep away certain diseases. Eating a mixed diet including vegetables, fruit and meat is important. Feeding a child 3 to 5 times a day will be enough to keep growing strongly. Vitamins and minerals are important to prevent malnutrition and later learning problems.

- **Nurturing and responsive care to the child:** Children learn to trust in the first few years of life. When you provide responsive care with a safe place to explore, they learn to trust you when they meet their needs.

- **Talk to the child every day affects literacy ability:** Communication and interaction with parents and caregivers help children to be able to communicate, even little babies can communicate. They use crying, smiling and cooing. Babies are learning words every day. So tell them the names of things all around, parts of the body, name of family members... The more words they hear, the smarter they are. Babies can learn from books too. So share picture books or stories with them every day. Talk about the pictures over and over.

- **Reading contributes to the children' learning:** When reading to infants, remind them to point to the pictures and just say the word. It can be simple like, "Bird, see the pretty bird?" They should watch for the baby to give clues. If the baby is interested, watch to see the arms and hands moving around. Some infants will even reach for the picture in the book. Encourage babies to reach and touch the pictures or pat at them. When they do, name the picture they are touching. This really helps them to understand words early. However, they do get tired of the book sometimes. This will be easy to see if the baby turns away from the book or stretches to move around. Parents should stop the book when this happens and change activity.

– **Supporting children for emotional development** Babies that have loving relationships are smarter. When they can count on you for safety, they are free to explore and more confident. Babies that are confident are going to learn and brain grows faster. When infants feel loved, they can listen better. Some challenging behaviors like crying or not eating are normal. When baby has a guiding parent that teaches, their self-esteem will grow and they will be safe. Toddlers are very emotional and get frustrated when they want things and can't ask yet. toddlers can't stop themselves because they can't understand right from wrong; don't have impulse control from front part of brain to stop from doing wrong; and they don't know their own emotions.

Punishment like yelling, hitting or beating does not work because they get confused and hurt.

Protect them by moving them away from problems and redirect to something better to do.

Application activity 6.3.4

1. Discuss the following statement: breastfeeding is the most important practice for mothers to ensure holistic development of children in infancy.

2. What is the importance of play on toddlers?

Assessment on infancy and toddlerhood Period

1. - After observing Keza, her mother realized at certain age she was able to bring her hands to mouth and grasp toys, she could recognize familiar objects and people at distance, she could show her smile when she was happy, she could as well be quiet or smile to sounds and voices. What do you think might be her age?

   - At certain age, Amina, a child of Keza's age was able to walk independently and seldom fall, sorting objects by shape and color, has a regular sleep schedule, and understands 50 words. Between Amina and Keza, whom do you think was behind in the development? What do you think might be the age of either Amina or Keza who was able to perform the above activities?

2. Use a table to summarize developmental milestones during infancy on physical, emotional, social and cognitive development?

6.4. Developmental milestones during early childhood (3-5 years)

Activity 6.4

Play a game called "I do, I do…. Yes, I do …...."and after the analysis of the game, appreciate its contribution to the developmental domains of a pre-primary child namely socio-emotional, physical, language, cognitive.

Make recommendations to parents and caregivers on how they should practice so as to help their children earlier in early childhood in order to determine their future development.

6.4.1. Physical and cognitive developmental milestones during early childhood

Activity 6.4.1

Visit a nearest pre-primary school, observe and write down what children of 3 and 4 years are able to do. Thereafter you highlight the actions/activities related to physical and cognitive development and how you can promote them.

a) Physical development

Age	Gross motor development skills	Fine motor development skills
3-4 years	– Run around obstacles – Walk on a line – Balance on one foot for 5 – 10 seconds	– Build a tower of 9-10 small blocks – Use play dough to make balls, snakes, cookies, etc. – Build things with large linking blocks
3-4 years	– Hop on her preferred foot – Ride a tricycle – Walk up and down stairs with alternating feet, without support – Jump from 12 inches with feet together – Use a slide independently – Climb well (not including ladders) – Skip, leading with one leg	– Draw a circle by herself – Copy a cross (+) – Imitate you drawing a square – Start to hold a crayon or pencil with a mature grasp (like an adult) – Cut across a piece of paper – Start to cut along a straight line – Manage buttons – Put on most items of clothing by herself, but may still need help with shirts and jackets
4-5/6 years	– Walk a balance beam forwards & backwards – Perform somersaults – Balance on one foot for 8-10 seconds – Skip, alternating feet – Begin to jump rope – Throw a ball to hit a target – Jump back – Pump and maintain momentum while on a swing (may be started with a forward push) – Hop five times on one foot – Climb the rungs of a playground slide ladder`	– Start to use one hand consistently for fine motor tasks – Cut along a straight line with scissors – Start to cut along a curved line, like a circle – Draw a cross by herself (+) – Copy a square – Begin to draw diagonal lines, like in a triangle – Start to color inside the lines of a picture – Start to draw pictures that are recognizable – Build things with smaller linking blocks – Put on his own clothing, but may still need help with fasteners like buttons/ zippers – Start to spread butter or cut soft foods with a small table knife (with supervision) – Start to learn to print some capital letters

Promotion of physical development within early childhood

Given that a child needs more physical exercise to grow, parents, guardians, caregivers and teachers will need to help children grow physically in order to achieve the aforementioned gross motor development skills.

It is with that respect that they will need to:

- Give child the space and freedom to use large muscles, through activities such as running, climbing and swinging on playground equipment.
- Make sure child gets adequate sleep and nutrition to fuel overall development and activity.
- Take a child to a pediatrician in case of any concerns. Even small problems, caught and addressed at this age, can greatly enhance motor skill development and confidence.
- Use equipment to develop large muscles (i.e. hula hoops, bean bags, tricycle, large balls).
- Set up empty water bottles like bowling pins, and let child use a soft ball to "bowl."
- Join child in active play like tag, hide and seek, or set up a simple obstacle course.
- Give child opportunities to practice small motor skills using child safety scissors, blocks, dice, and buttons.

b) Cognitive development during early childhood age

The physical development of a child goes hand in hand with intellectual development. Here below are the intellectual abilities which characterize a child whose age range varies from 2 to 5/6 years.

Age	What a child can do
3-4 years	– Be able to sort and match things (e.g. recognize and match colors) – Organize things by size – Identify parts of a whole, such as the wheel of the car – Draw a very simple picture and be able to tell you what it is (you might not recognize it) – Use "why?" and "how?" questions – Tell you his full name and age – Play with an activity for a longer stretch of time (5-15 minutes) – Have a basic understanding of time, know the difference between past and present – Enjoy singing, dancing, or acting
4-5/6 years	–Play with words, imitating and creating sounds, and make rhymes –Point to and name many colors and shapes –Learn to identify a few letters and numbers –Draw a person with detail –Draw, name, and describe pictures –Count objects up to five –Tell you where he lives (street name and town/city) –Follow the rules to games, but sometimes change them as she goes –Recognize his name when he sees it printed

Promotion of cognitive development of preschoolers

Given that a child needs to grow intellectually, parents, guardians, caregivers and teachers will need to help children with the following tasks:

- Give a child task of sorting by matching shapes, types, color or size.
- Play "sizes" games where child puts things in order.
- Have simple puzzles available for child to play with.
- Have child arrange pictures in a sequence, such as photos of a child different ages (e.g., baby, toddler, preschoolers).
- Play games that require child to match objects that are the same or different.
- Encourage pretend play, and give child props and space in which to enter an imaginary world. If you join in, ask questions, but let child direct the play.
- When child encounters a problem, have her/him help devise a possible solution.

1. Why are physical skills significant to a child's development?
2. According to Jean Piaget in which stage of cognitive development do children of 2-5 years fall in?
3. How can you support that child's cognitive development?

6.4.2. Social and language developmental milestones during early childhood

Activity 6.4.2

Visit a nearest pre-primary school, observe and write down what children of 3 and 4 years are able to do. Thereafter you highlight the actions/activities related to social and language development and how you can promote them.

a) social and emotional development

As the child grows intellectually and physically, he/she needs to grow socially, here below are some features of emotional development that a child of early childhood exhibit throughout different stages.

Age	What a child can do
3-4 years	– Share toys, taking turns with help – Initiate or join in play with other children and make up games – Follow simple rules in games, but will always want to win – Begin dramatic play, acting out whole scenes such as travelling pretending to be animals – Might be bossy and defiant – Show more independence – Experience a broad range of emotions (i.e.: jealousy, excitement, fear, happiness, anger) – Become less egocentric – Be more even-tempered and cooperative with parents – May show attachment to one friend
4-5/6 years	– Show some awareness of moral reasoning, such as "fairness", and good or bad behavior – Develop friendships – Express more awareness of other people's feelings – Enjoy imaginative play with other children, such as dress up or house – Get better at sharing and taking turns with other children – Enjoy playing games, but might change the rules as he goes – Stick with a difficult task for longer period (controlling frustration or anger better) – Show an understanding of right and wrong – Listen while others are speaking – Play games with simple rules

Promotion of social and emotional development of preschoolers

Given that a child needs to grow emotionally, parents, guardians, caregivers and specifically teachers will need to help children with the following tasks:

– Provide structure and daily routines to create a secure environment
– Encourage child's independence by giving chances to practice and master self-care skills.
– Teach child to recite his first and last names, his parents' names, his gender and age, and his home address.
– Give a child regular social contact with other children of his/her age, both one-on-one and in a group.
– Observe child playing with others, and listen to what he says about his friends.

- Teach child to cooperate with peers, resolve conflicts, and build and maintain friendships.
- Play games that require child to cooperate with others, wait his turn, and learn to be a gracious winner or loser. Example: Play a ball with others children or with adults…

b) Language development

Age	What a child can do
3-4 years	– Enjoys books, simple songs, nursery rhymes, silly words, and stories – Has a vocabulary of 900 or more words – Most of what they say can be understood – Puts words together to form 3-4 word sentences – Asks and answers "who", "what", and "where" questions – Asks LOTS of questions – Likes to talk and have conversations with people – Uses proper grammar most of the time – Uses pronouns "I", "you" and "me" – Knows their name, gender, street name, and a number of nursery rhymes – Knows some prepositions (position words) such as in, on, and under – Often makes mistakes with negatives and use "double negatives" i.e.: "I don't not want to go" – Follows a 3-part command – Begins to recognize some letters and words (e.g. recognizes "stop" sign) – Sorts (match) objects by: function (find something you play with, wear, etc.); size (big, little); familiar colors.

	– Names one color
	– Is developing number concepts can give you 1, more, or all of something
	– Counts objects, even if they don't have all the numbers correct.
	– May repeat sounds, words, or phrases (may sound like stuttering)
	– Stays with one activity for 8-9 minutes
4-5/6 years	– Continues to learn lots of new words very quickly
	– Vocabulary of 4,000-6,000 words
	– Uses sentences of 4-6 words
	– Talks a lot and about everything they are doing or thinking
	– Tells long stories about own personal experiences
	– Asks "who" and "why" questions
	– Interested in explanations for their "how" and "why" questions
	– Understands and uses "tomorrow" and "yesterday"
	– Uses past, present and future tense, mostly, but not always, correctly
	– Interested in written words, letters and numbers.
	– Matches and sorts objects in a large variety of ways
	– Understands prepositions (e.g. beside, behind, in front)
	– Stays with an activity for 11-12 minutes

Actions to promote language development

- Speak to child in a clear, correct, and simple manner. Avoid using baby talk.
- Make conversation a two-way street. Take time each day to listen to and talk with child.
- Model good listening behavior when child speaks (i.e. pause an activity and make eye contact)
- Encourage child to use language (and not just gestures or actions) to express ideas, observations, and feelings.
- Ask questions that require child to make and express a choice.
- Try to enrich and expand child's vocabulary.
- Engage a child in activities and games that require listening and following directions.
- Read and sing nursery rhymes
- Read and tell stories that have interesting characters and easy-to follow plots.
- Discuss the stories together.

Keza is becoming less egocentric, more even-tempered and cooperative with parents and she may show attachment to one friend.

  a) What is her age?

  b) Those characteristics are for which aspect of human development?

  c) How can you support Keza's language development?

6.4.3 Key messages and recommendation practices during early childhood

Activity 6.4.3

Find arguments to support or oppose the following proposed topics:

1. Play is a key in development and impacts all developmental domains.
2. Reading a book with a child impact language development.
3. Parental involvement is very important for children development and learning.
4. Places for children's life and learning should be safe.

– **Cognitive, social-emotional (mental health), and physical development are complementary, mutually supportive areas of growth all requiring active attention in the preschool years.** Social skills and physical dexterity influence cognitive development, just as cognition plays a role in children's social understanding and motor competence. All are therefore related to early learning and later academic achievement and are necessary domains of early childhood pedagogy. To ensure holistic development and elementary school readiness in early childhood the following practices are recommended to all parents, caregivers, teachers and other stakeholders

– **Children are curious and enthusiastic to learn and discover the world around them through play**: Play is fun and leads to positive emotions that are important for children's physical and mental well-being, health and quality and life. Play provides children with a way for coping with real life challenges. It offers the opportunity for every caregiver (teachers/parents) to engage with her/his child and build healthy relationships.

– **Play is the way in which children learn and develop**. Learning through play starts with parents in the home where children play, learn and develop with the support of parents, caregivers, older siblings and family members.

- **Play allows children to explore, discover, negotiate, take risks, create meaning and solve problems,** which are the important foundations for developing literacy, numeracy and social skills.
- **Play is a foundational principle in learning and development for children with disabilities.** It is an important "tool" to ensure that children with disabilities participate fully in an inclusive and rights respecting society.
- **Reading a book with a child:** When reading to an infant, remember to point to the pictures and just say the word. It can be simple like, "Bird, see the pretty bird?" Parents or caregivers should watch for the baby to give clues. If the baby is interested, watch to see the arms and hands moving around. Some infants will even reach for the picture in the book. Encourage babies to reach and touch the pictures or pat at them. When they do, name the picture they are touching. This really helps them to understand words early. However, they do get tired of the book sometimes. This will be easy to see if the baby turns away from the book or stretches to move around.
- **Language and Communication begins at birth:** Early on, babies try to have "conversations" with the people they love. They start by back-and-forth smiling and cooing. Later they "talk" by using movements (e.g., kicking happily to show excitement), gestures (e.g., pointing), and sounds (e.g., babbling and later words). Toddlers are learning so many words every day. The more words they hear, the more they learn.

  Toddlers learn words so they can talk to somebody or communicate what they need. They see what they want. Their brain finds the word. They say the word. When you hear the word, you say more about it this makes the language part of their brain stretch and learn more.

  Between two and three the toddler's communication skills grow in so many ways. During this year a child will listen to and enjoy rhyming in books and songs point to or find objects when asked, use describing words (like big cow), can carry on a conversation. The more you talk, read, sing and play with 2-year-old, the larger their bank of words will grow.

- **Protecting children against harmful objects:** During different activities involving manipulation of objects, caregivers should first check if the place is safe for children. Young children need to grow-up in environments (home. Community, service points) which is safe.
- **Parental involvement for children development and learning:** A child needs a strong support at home as at school/center. Parents should serve as primary teacher for the mastery of basic learning skills and encourage active discussion and experimentation of new concepts and skills they should give enough time to the child and give message to children that strengthening what a child learn at preschool /center. Example: In everyday

activity parents should invite a child and spend time discussing, telling a story, asking question to her/him, responding the question that a child may ask, briefly parents should be listening attentively to the child. And parents provide resources that a kid may need in the process or exposure her/him to the environments when a child himself may discover on her/his own.

Application activity 6.4.2

You have learnt more about developmental milestones of children in all domains. In partnership that your school has with Mabano Cell where your school is based, you are selected to represent your school and play a role of Cell Advisor. Therefore, Cell leaders are organizing campaign for engaging families in child development and learning showing them their irreplaceable role in Society.

 a) Write a brief concept note and point out the purpose of campaign and key message to be given to participants during campaign
 b) Formulate two specific objectives of the Campaign

Assessment on Early childhood Period

1. Kevin is Mary's son, he is 3 years old but his language development delayed. Advice Mary on how she can promote language development for her son.

2. Use a table and summarize developmental milestone of a child aged between 2-5 years

6.5. Developmental milestones during middle & late childhood (6-12 years)

Activity 6.5

Based on the theories of human development, especially theory of Jean Piaget, Sigmund Freud and Erick Erickson, describe the characteristics of a child aged 6 to 12 years.

6.5.1. Physical and cognitive developmental milestones during middle and late childhood

a) Physical development

What a child can do	What parents should do to develop the expected skills/competences
– Height and weight increase but more slowly	– Give repeated opportunities topractice physical skills
– Coordination and balance increase, better with large muscle groups than small	– Use movement in learning activities
– Develop new physical skills (i.e. snapping, whistling) with repeated practice	– Practice writing daily
– Like to be physically active and has trouble sitting still	

b) Cognitive development

What a child can do	What parent should do to develop the expected skills/competence
– Understand his/her place in the world	– Read, read, read!
– Learn to read letters, sounds, words, then sentences	– Talk about the meaning of what is read
– Able to count, write, add and subtract numbers	– Draw pictures of new words and ideas
– Able to collect, sort, organize and classify	– Break down new ideas and tasks step by step
– Can recognize similarities and differences	– Practice basic math skills (i.e. addition, subtraction, patterns) using physical objects
– Begin to tell time	
– Short attention span	
– Needs concrete objects to understand concepts, unable to handle abstract ideas	

6.5.2. Social and language developmental milestones during middle and late childhood (7-11 years)

a) Social and emotional development

What a child can do	What parents should do to develop the expected skills/ competences
– Show more independence from parents – Pay more attention to friends – Want to be liked and accepted by friends – Better able to work in a team – Have less focus on self and more concern for others – May have a need to win, be first, or be the boss – Can be unkind to others but extremely sensitive to criticism	– Recognize accomplishments and show affection – Support the child in taking on challenges – Praise good behavior and effort – Make clear rules and stick to them – Use discipline to guide child to make good choices (not punish) – Build patience skills by having child wait – Help child name and explain feelings – Teach respect – Give responsibilities

b) Communication and language

What a child can do	What parents should do to develop the expected skills/competences
– Better able to describe experiences and talk about thoughts and feelings – Say what they think and feel honestly.	– Ask child questions about school, friends, and experiences – Have child retell stories – Expand child's vocabulary by using bigger words – Rephrase child's language if not correct

Application activity 6.5

1. Kalisa's mother is always wondering why his son is not able to communicate clearly as he is seven years old; she thinks that his son is fully developed in communication.

   a) Do you think this mother was right? Why?

   b) Which advice can you give her?

2. What can you do to support cognitive development of Keza who studied in primary 5?

6.5.3 Key messages and recommendations for middle and late childhood

Activity 6.5.3

Referring to the key messages and recommendation practices in infancy and early childhood, brainstorm what should be the recommendations to parents and caregivers in order to support their children who are in primary school to grow and develop holistically.

In upper primary, as children approach adolescence, their independence and capabilities increase. They may also start puberty which brings physical and emotional changes. Family becomes a lesser priority than friends.

Healthy friendships are therefore very important to a child's development, but peer pressure can become strong during this period. Children who feel good about themselves are more able to resist negative peer pressure and make better choices for themselves. This is an important time for children to gain a

sense of responsibility along with their growing independence.

Remember that this is the stage at which children are eager to develop and manifest competences. They want to be accepted and to develop confidence and self-esteem. They learn to be responsible and take decisions on their own.

Here are the key messages and recommendations for parents and teachers so as to help these children grow and develop holistically:

– **Spend time with your child**: Talk with her about her friends, her accomplishments, and what challenges she will face.
– **Be involved with your child's school:** Go to school events; meet your child's teachers.
– **Encouragement:** Encourage your child to join school and community groups, such as a sports team, or to be a volunteer for a charity.
– **Help your child develop his/her own sense of right and wrong**: Talk with him/her about risky things friends might pressure him/her to do, like smoking or dangerous physical dares.
– **Help your child develop a sense of responsibility**: Involve your child in household tasks like cleaning and cooking. Talk with your child about saving and spending money wisely.
– **Meet the families of your child's friends.**
– **Talk with your child about respecting others**: Encourage him/her to help people in need, and talk with him/her about what to do when others are not kind or are disrespectful.
– **Help your child set his/her own goals**: Encourage the child to think about skills and abilities he/she would like to have and about how to develop them.
– **Make clear rules and stick to them:** Talk with your child about what you expect from her (behavior) when no adults are present. If you provide reasons for rules, it will help her to know what to do in most situations.
– **Use discipline** to guide and protect your child, instead of punishment to make him/her feel badly about him/herself.
– **Use of praise:** When using praise, help your child think about his/her own accomplishments. Saying "you must be proud of yourself" rather than simply "I'm proud of you" can encourage your child to make good choices when nobody is around to praise her.
– **Human developmental talk:** it is good to talk with your child about the normal physical and emotional changes of puberty.
– **Reading culture reinforcement and academic success**: Encourage your child to read every day, talk with him about his homework.

– **Love and affection:** Be affectionate and honest with your child, and do things together as a family.

Application activity 6.5.3

Amina has a young boy aged 9 years; her child is neither confident, nor responsible and does not take care of himself. If she comes to consult you on how to help her child, as someone who studied History-Literature in English- Psychology, explain what you will do to help her child to improve..

Assessment on middle and late childhood Period

IZERE is a boy who attends the Primary 4. When he's at school, he doesn't talk to others; he is always busy with himself. He gets better grades on written exams and he's top of his class, but on oral presentations he's afraid to stand in front of others and he can't speak. Her classmates hate him for not being cooperative, but when it comes to playing soccer, other students who play soccer prefer to team with IZERE.

According to this case study, identify the areas where IZERE is well developed and the areas where he is not well developed. What recommendations can you give to the teacher and parents of IZERE to help him develop in all areas?

6.6. Developmental milestones during Adolescence (13-20/21 years)

Activity 6.6

Murerwa and John are S5 students. Murerwa is 15 years old while John is 2 years older than her and they come from the same village. During the second trimester vacation, John's sister had a wedding and John invited Murerwa. In the evening, John and Murerwa sat in a black corner and talked, and John intended to do his first sexual practice. Murerwa resisted, but John told her that this was proof that they were mature, normal, and in love. They did, and after that, life in the village went on as normal. At the beginning of the second trimester, the two students felt embarrassed when they faced each other. In the middle of the second trimester, Murerwa discovered that her lifestyle habits had changed, she couldn't eat normally because of nausea, she couldn't sit in class for a long time, and she vomited everything she ate. Her mother discovered it and took her daughter to the health center and they found out that Murerwa is pregnant. Today it is 3 years later and Murerwa has not continued her studies while John is at university.

Question

Discuss the problems that many students in age group of Murerwa and John face in relation to their physical, and social or emotional development,

6.6.1. Early adolescence

Activity 6.6.1

Hirwa is a P6 student and is 12 years old. He often comes home at night. When it's time to go home after class, Hirwa and his friends Mugabe and Sibomana stop by the Premier Betting Officer. They spend a lot of money on bets and their parents always complain about lack of money at home.

1. Do these children obey their parents?

2. Why are they disobedient to their parents?

3. Where do you think they get money for bets?

4. What would you do if you were the parent of one of these three boys?

The term **adolescence** is derived from a Latin word 'adolescere' that means to grow to adulthood. Adolescence begins as a separate developmental stage at about the age 11 and ends at about the age of 22.

The age boundaries of adolescence vary so, the adolescence developmental stage can be distinguished on the basis of physical and psychological characteristics and social roles. Adolescence is considered the transitional stage from childhood to adulthood that occurs between ages 13 and 19. But the physical and psychological changes that take place in adolescence can start earlier, during the preteen years between ages 9 and 12.

G. Stanley Hall (1844-1924) is known as the father of adolescent psychology. He constructed a psychological theory of teenage development and one major aspect of his theory was that this stage of life is characterized by 'storm and stress" that most teens are by nature moody and untrustworthy.

The many physical, sexual, cognitive, social, and emotional changes that happen during this time can bring anticipation and anxiety for both children and their families. Understanding what to expect at different stages can promote healthy development throughout adolescence and into early adulthood.

Adolescence has generally 3 stages: Early adolescence, Middle adolescence and late adolescence.

Major characteristics of early teens

During the early adolescence stage, children often start to grow more quickly. They also begin notice other *body changes*, including hair growth under the arms and near the genitals, breast development in females and enlargement of the testicles in males. They usually start a year or two earlier in girls than boys, and it can be normal for some changes to start as early as age 8 for females and

age 9 for males. Many girls may start their period at around age 12, on average 2-3 years after the onset of breast development.

These body changes can inspire curiosity and anxiety in some especially if they do not know what to expect or what is normal. Some children may also question their gender identity at this time, and the onset of puberty can be a difficult time for transgender children.

Early adolescents have concrete, black-and-white thinking. Things are right or wrong, great or terrible, without much room in between. It is normal at this stage for young people to center their thinking on themselves (called "egocentrism"). As part of this, preteens and early teens are often self-conscious about their appearance and feel as though they are always being judged by their peers.

Pre-teens feel an increased need for privacy. They may start to explore ways of being independent from their family. In this process, they may push boundaries and may react strongly if parents or guardians reinforce limits.

Effects of early maturation

Early maturation happens when girls and boys attain physical maturation much earlier than the average expected age. Irrespective of an early or late mature, a youngster will often experience social and psychological consequences of the physical changes on his /her body. Girls worry about menarche and it is a negative experience especially when it starts at very early age. They experience a high level of depression, especially those who had not been prepared for menstruation. On the other hand, girls who are prepared for this event usually accept it as a sign of feminity.

Early maturation in girls

Girls, who mature early, are characterized by the following:

– They are attractive to older boys, but not emotionally mature enough for more intimate relationships.

– They are popular among their female peers because of superior status.

– They feel socially isolated because they are in marginal social position, that is half-child, half-woman and do not fit in older groups or groups of their age.

– Develop primary and secondary sex characteristics as early as 9 years or less.

– Early physical maturation in girls is often linked to poor academic performance and unplanned pregnancies.

– They seem to be more flexible, independent and more satisfied with their lives in later years than those who mature late.

Early maturation in boys

Boys who mature early, they generally show the following characteristics:

– They tend to be self-controlled, self-confident and attractive to the opposite sex and are likely to get earlier sexual experience than those with the late maturation.

– They behave in a socially appropriate way and are popular and assertive in their peer groups and social situations.

– They have a better body image and higher self-esteem than boys who mature late.

– They are regarded as competent, natural leaders and often assume leadership roles

– Due to their strength and size, they often do well in sports.

– They are expected to live to the adult's expectation and should act more maturely than they are capable of.

– They often join older adolescents who mislead them into deviant behaviors like substance abuse, truancy, rebelling against teachers and parents, etc.

Boys get concerned very much with the uncontrolled erection of the penis and ejaculation. Although most boys are very proud of this ability and see it as a sign of virility, the ability to control erections leads to embarrassment. Nocturnal emissions also make some boys feel humiliated and guilty. Uncontrolled erections make some boys afraid of participating in activities like dancing or standing up in class or social gatherings.

Physical Development

– There is wide variation in the onset of puberty, creating early and late matures.

– Girls begin puberty, on average, two years earlier than boys.

– The physical changes of puberty become outwardly apparent, and children are more aware of their changing bodies.

– Rapid growth and physical changes cause fidgeting, squirming and difficulty being still children benefit from lots of physical activities.

Cognitive Development

– Thinking matures as children's attention, memory and problem-solving abilities improve.

– Teens develop greater abilities for logic and reason; their thinking is predominantly concrete rather than abstract.

– Teens begin to question rules and beliefs they previously accepted at face value; for example, they begin to realize that fairness cannot be measured or quantified.

– Special athletic, artistic, academic or musical talents may emerge.

– Girls move ahead of boys in terms of cognitive development.

Emotional Development

– Youth are more self-conscious and worried about what others think of them. However, because of the onset of puberty, they are less able to recognize the emotions of others.
– Adolescents seek independence and test adult authority, but retain a great need for parental support and guidance. Adult role models and heroes are important.
– Self-esteem issues may develop. Early developing boys often have higher social status/ self-esteem while early developing girls may experience more attention from boys, but are uncomfortable with the attention.
– Some boys repress their emotions and, instead, express themselves more physically

Social Development

– It becomes more emotionally important for children to have and keep friends, especially of the same sex; although, some opposite sex interaction begins.
– Peers' attention and approval is very important. Young people feel peer pressure intensely and may develop "best friend" relationships and cliques.
– Children are beginning to learn social skills (i.e., how to enter groups, how to read social cues and how to deal positively with conflict) and appreciate the social value of conversation.
– Youth may begin experimentation with sexual behaviors and illicit substances.

Application activity 6.6.1

1. Who is the father of adolescence psychology?
2. How does an early mature adolescent girl differ from early mature adolescent boy?
3. Describe emotional development of early adolescents.

6.6.2. Middle Adolescence (Ages 14 to 17)

Kagoyire is an S2 student. She reclaimed acne on his face and she's not proud of herself. She told her friend Anita, who is older than her, and Anita told her that she heard others say that acne is cured by sexual intercourse. Kawera, who overheard their conversation, secretly reported them to her aunt Mutesi. The next day in the evening, Mutesi called the three girls and told them that the acne that keeps appearing on her face was due to her development and that time would come and it would go away. The three girls thank Kawera and her aunt Mutesi for real information.

1. Why did Kagoyire feel inferior?

2. What would happen if Kagoyire took Anita's advice?

Physical changes from puberty continue during middle adolescence. Most males will have started their growth spurt, and puberty-related changes continue. They may have some voice cracking, for example, as their voices lower. Some develop acne. Physical changes may be nearly complete for females, and most girls now have regular periods.

At this age, many teens become interested in romantic and sexual relationships. They may question and explore their sexual identity which may be stressful if they do not have support from peers, family, or community. Some of adolescents enter this stage later and this may affect their development.

Effects of late physical maturation

Late maturation is when girls and boys attain physical maturation much later than the average expected age. Boys get concerned very much with the uncontrolled erection of the penis and ejaculation. Although most boys are very proud of this ability and see it as a sign of virility, the ability to control erections leads to embarrassment. Nocturnal emissions also make some boys feel humiliated and guilty. Uncontrolled erections make some boys afraid of participating in activities like dancing or standing up in class or social gatherings.

Late maturation in girls

Late maturating girls show the following characteristics:

– Have a more positive image than those who mature early.
– Are more likely to be successful
– They tend to be assertive, active, socially poised and higher in position of leadership ability than early mature girls.
– They are more likely to acquire a tall slender figure than early mature girls.
– Develop primary and secondary characteristics between 15-17 years

Late maturation in boys

Late maturating in boys is characterized by the following:
- They are seen as less attractive, less well balanced and more tense and anxious than boys who mature early.
- Their academic achievement is often poor than that of boys who mature early.
- They are more attention seeking than their peers.
- They are restless, talkative and bossy.
- They experience feelings of guilt, inferiority, depression, rejection and general anxiety.
- They have a greater need of encouragement, sympathy and understanding from other boys than boys who mature early.
- They have difficulties in dealing with authority figures.

Physical, social, emotional and cognitive development

Many middle adolescents have more arguments with their parents as they struggle for more independence. They may spend less time with family and more time with friends. They are very concerned about their appearance, and peer pressure may peak at this age.

The brain continues to change and mature in this stage, but there are still many differences in how a normal middle adolescent thinks compared to an adult. Much of this is because the frontal lobes which are the last areas of the brain to mature are not complete until a person is well into their 20s. The frontal lobes play a big role in coordinating complex decision making, impulse control, and being able to consider multiple options and consequences.

Middle adolescents are more able to think abstractly and consider "the big picture," but they may still lack the ability to apply it in the moment. For example, in certain situations, kids in middle adolescence may find themselves thinking things like:

"I'm doing well enough in math and I really want to see this movie… one night of skipping studying won't matter."

While they may be able to walk through the logic of avoiding risks outside of these situations, strong emotions often continue to drive their decisions when impulses come into play.

- **Physical Development**

  - Puberty continues. Both boys and girls show outward, physical signs of maturation.

- Boys' voices deepen and many girls are menstruating.
- By age 15, boys have begun their growth spurt and are taller and more muscular than girls.
- By age 14 or 15, most girls have reached their final adult height.
- Rapid physical growth may cause clumsiness and many youth worry that this transitional awkwardness will last into adulthood.
- Regular exercise and games help develop coordination, reduce stress and provide an outlet for excess energy.
- Acne and body odour, along with other characteristics of their changing bodies, are concerns for adolescents.
- Young teens' need for sleep and physical rest increases.

▪ **Cognitive Development**

- Youth develop a greater ability for complex thought (i.e., they can think abstractly, use reasoning skills, show more intellectual curiosity and can understand the hypothetical questions).
- They have hypothetical deductive reasoning which is reasoning from possible to real.
- Goal-setting, including for long-term goals, becomes important.
- Youth need guidance to avoid risky behaviors as they may not recognize the consequences of their actions.
- Young teens often feel all-powerful, all-knowing and invulnerable. There is a focus on the self, alternating between high expectations and lack of confidence.
- The distance between those who are succeeding in school and those who are struggling is magnified.
- Youth experience anxiety from more challenging school work.
- Youth in this age group are the most likely to drop out of school when they are not catered for and advised a lot.

▪ **Emotional Development**

- Young teens often show less affection toward parents, with occasional rudeness. They seek independence, but still need structure and limits set by parents and other adults.
- Although teens want some distance from their parents, they often want close relationships with other adults outside the family.
- They may return to childish behaviors, particularly when under stress.

- Youth are skilled at masking their true state of mind; they often give neutral responses about whether they are happy or sad.
- Young teens have intense desire for privacy.
- Teens' self-esteem may suffer as rapid hormonal and body changes reduce their confidence.

▪ **Social Development**

- Friendship and romance are increasingly important. Teens may feel confusion over emerging sexuality and may worry about sexual orientation.
- Peer pressure is at its peak; young teens want to spend time with older teens. Teens are trying to establish their own identities separate from their families.
- Parental influence lessens, and increased tension is an issue between teens and parents regarding rules and relationships.
- Relationships deepen and become more mutual and trusting as young teens learn to step outside themselves and see others' points of view.
- Young teens may form opinions and beliefs based on unreliable sources of information (Internet and other forms of media) and are not easily persuaded to seek the real truth.
- Teens experiment with sexual behaviors and illegal substances.

Application activity 6.6.2

Outline 2 changes that characterize both male and female during middle adolescence on the following aspects of human development
- a) Physical
- b) Cognitive
- c) Social
- d) Emotional

6.6.3. Late Adolescents (18-21)

Activity 6.6.3

Boys get concerned very much with the uncontrolled erection of the penis and ejaculation. Although most boys are very proud of this ability and see it as a sign of virility, the ability to control erections leads to embarrassment. Nocturnal emissions also make some boys feel humiliated and guilty. Uncontrolled erections make some boys afraid of participating in activities like dancing or standing up in class or social gatherings.

Late adolescents generally have completed physical development and growth to their full adult height. They usually have more impulse control and may be better able to gauge risks and rewards accurately.

During this stage, teens are entering early adulthood and have a stronger sense of their own individuality and can identify their own values. Late adolescence has two meanings. First of all, it represents the final years of adolescence. It is when all the changes have taken place and the young person is ready to properly enter adulthood.

They may become more focused on the future and base decisions on their hopes and ideals. Friendships and romantic relationships become more stable. They become more emotionally and physically separated from their family. However, many re-establish an "adult" relationship with their parents, considering them more an equal from whom to ask advice and discuss mature topics with, rather than an authority figure.

Physical Development

- Physical changes are leveling off.
- Many girls completed puberty and achieved their full height.
- Boys may still be maturing physically; in particular, boys' muscles continue to develop
- Boys also develop greater heart and lung capacity.
- Boys are in general considerably taller and heavier than girls at this stage.
- Appetite increases and eating disorders may become common, especially among girls, as concerns about body image remain intense.
- Older teens experience strong sexual feelings.

Cognitive Development

- Many older, teens can now think abstractly and hypothetically. They can discern the underlying principles of a situation and apply them to new situations; can think about the future; and can consider many possibilities and logical outcomes of possible events.

- A teen may not be fully able to connect knowledge and consequences with appropriate actions because the brain continues to develop until about age 24.
- Living out of the family brings independence, including choices about vocation, post-secondary education and parenting, is the central development task.
- Older teens develop an increased capacity to understand multiple perspectives, leading to the ability for many to grasp bigger societal issues and become interested in justice or politics as they clarify their own values and morals.

Emotional Development
- Youth continue to form their own identity and may experiment with different styles, sexuality, friendships and occupations.
- As older teens develop a sense of personal identity; self-esteem continues to develop.
- Older teens continue to worry about their bodies and physical appearance.
- All experiences are intense and emotional.
- Some will experience sadness, hopelessness or depression, which can lead to (or be caused by) poor grades at school, further experimentation with sexual behaviors and illegal substances, family problems and many others.

Social Development
- Friendships with peers remain important, but older teens rely less on their peer group for their sense of identity as they begin to define themselves on their own.
- One-to-one relationships are becoming increasingly important, as friendships are based more on real intimacy rather than simply on common interests and activities.
- Cross-gender friendships become more common.
- Peer pressure levels off and there is an increased ability to view parents as individuals with their own perspectives.
- Teens need a balance between time spent with peers and with parents or other adults.
- The senior year of high school is particularly - stressful for teens and his/her relationships with parents or other adults
- Friendships with peers remain important, but older teens rely less on their peer group for their sense of identity as they begin to define themselves on their own.
- One-to-one relationships are becoming increasingly important, as

friendships are based more on real intimacy rather than simply on common interests and activities.

1. Write true or false.

    Late maturation in adolescence is when girls and boys who are in this stage attain physical maturation much later than it might be.
2. Why late adolescents are considered as adults?

6.6.4. Adolescents' egocentrism and social problems

Activity 6.3.4

Think of the problems that such behaviors may cause in society and write them down on a piece of paper.

a) Adolescents' egocentrism

This refers to the tendency by adolescent to be thoroughly embedded in their new found ideals, concepts and principles without considering the views of significant others. The egocentric problems which are common during the adolescence period include:

Argumentativeness: Adolescents have a tendency of regarding their views and principles as the best and most accurate. Parents and teachers should therefore, take part in discussing with adolescents about new issues they discover and how they (adolescents) should react to them.

Indecisiveness: Adolescents face a problem of deciding on things. This is because they have a great number of choices in every aspect of life.

Self-centered: Adolescents have a particular perception of themselves. They think that they are special, unique and not subjected to natural rules that govern the world. For instance, a girl may think that she cannot get pregnant or a boy may think that he is wise enough and cannot be addicted to smoking or cannot make a girl pregnant. They think that these things only happen to other people, but not them. This kind of thinking and reasoning make them fearlessly indulge in many risky ventures.

Finding fault with authority: Since adolescents now have the ability to imagine an ideal world, they realize that people they have honored and given esteem to are not perfect as they thought. They therefore feel compelled to try to bring reality closer and to fantasy by pointing out all the shortcomings they notice.

Self-consciousness: Adolescents have the mentality that others constantly watch and make comments about them. Adults should therefore avoid making public criticism or ridicule.

During adolescence, many adolescents are more concerned with their body image.

b) Juvenile delinquency

Juvenile delinquency is the habitual committing of criminal acts or offences by a young person, especially one below the age at which ordinary criminal prosecution is possible. A delinquent can be defined as a child or youth between ages 6-18 years who breaks laws enacted by authorities.

Causes of delinquency

Some youngsters commit crimes to relieve boredom and frustration. Adolescents' needs for recognition, independence and affection may make them to turn to antisocial behavior so as to reduce tension. The following are other causes:

Some delinquents are drug addicts who need money to support their habits.

Conflicts in families: rejection by the family generally by the father, conflicts in the family, brutal or overly weak and inconsistent discipline at home.

Signs of delinquency

The following are the signs of delinquency:

- Delinquents are characterized by behaviors such as: violation of disciplinary measures of parents, truancy, stealing, robbery, disobedience, violence, vandalism, student unrest, student protest as well as uncontrolled premarital sex.
- Premature school dropout
- Poor participation in extra-curricular school activities
- Poor personal and social adjustment
- Excessive experimentation with drug abuse
- Low self-esteem and poor self-image

Ways of preventing delinquency

- Both the school and the home should create an atmosphere that will strengthen the resistance of children to the pressures of delinquency. A child should not be subjected to any unnecessary temptation. The school should be made an interesting and rewarding experience.
- A child should clearly understand that delinquent acts are punishable, but once punished, accept the child again as a member of the class, family or community.
- Ensure that there is security and certainty in both the home and the school, otherwise the young person might want to escape from an emotionally intolerance situation.
- Establish good child-parent and teacher-child relationships and ensure that there is affection, security and certainty in both home and the school. Adolescents should be encouraged to talk about their problems and discuss freely the consequences of delinquency.
- Try to identify the early signs of maladjustment as well as the child's mixing with problematic friends in life.
- Both the school and the home should emphasize a stable system of moral values and the value of self-discipline.
- Direct the energies of these young growing people into socially acceptable channels. Provide ample opportunities, that is outdoor and indoor activities where aggression and frustration can be reduced.
- Potential delinquents should be given some special, responsible tasks. Show them that they are worth something.

c) School dropout

For a number of reasons, situation can arise where the child can no longer cope with school, subsequently, she/he may drop out. The most obvious reasons for dropping out of the school might include: Poor teacher-student and student-student relationship, continual failures, Peer group influence and family background.

Ways of preventing learners from dropping out of school

Parents, teachers, leaders and the community in general have an important role to play in helping students from dropping out of school. They can:
- Inculcate positive attitudes in students and adapt learning content to the needs and abilities of individual groups of learners so that learning should happen in a conducive environment.
- Establish a strong school guidance and career service.
- Positive attempts should be made to build the children's morale, the general image they have of themselves.
- Early intervention programs should form an integral part of a developing society's education program.

d) Drug abuse

Drug abuse or substance abuse is the use of certain chemicals for the purpose of creating pleasurable effects on brain (Dr. Ananya Mandal, 2019). This may cause many problems to drug abusers such as: distortion in thinking, disrespect, auto accidents and senseless crime, unwanted pregnancies and many of drugs provoke psychological dependence.

The reasons of abusing drugs are various and include the following:
- Curiosity and peer pressure especially among school children and young adults.
- The use of prescription drugs had been originally intended to target pain relief many have turned into recreational use and become addictive.
- Beliefs held about drugs
- Peer pressure
- Availability of drugs in the community.
- Once a person is addicted, it becomes difficult for him or her to refrain from it.

The task of the school, teachers, parents and all those concerned with youth in Rwanda today should be:
- To sensitize the youth about the dangers of using drugs and alcohol
- Set a good role model to adolescents
- Combine effort and provide advice to adolescents.

1. Identify 3 common social problems faced by adolescents during adolescence.
2. How can we prevent juvenile delinquency?

6.6.5. Key messages and recommendation practices during adolescence

Activity 6.6.5

Referring to the problems that observed behaviors may cause in the society, which advice can you give to adolescent people?

Children and their parents/teachers often struggle with changing dynamics of family/school relationships during adolescence, but parents and teachers are still a critical support throughout this time. The following are some pieces of advices to help children effectively navigate their adolescence for smooth transition from childhood to adulthood:

Help your child anticipate changes in his or her body: Learn about puberty and explain what is ahead. Reassure them that physical changes and emerging sexuality is part of normal, healthy development.

Start early conversations about other important topics and keep conversations positive.

Maintain open communication about health relationships, sex, sexuality, consent, and safety. This will build a good framework for discussions later.

Discuss risky behaviors: There might be discussions around the topics of sexual activities, substance use and the related consequences. Be sure to set a positive example yourself. This can help teens consider or rehearse decision-making ahead of time and prepare for when situations arise.

Honor independence and individuality

This is all part of moving into early adulthood. Always remind your child that you are there to help when needed. By maintaining positive and respectful parent-child relationships during this period, your family can (try to) enjoy the ride!

Remember you're a parent and a friend

Teens crave the security of knowing that their parents and teachers understand them, appreciate them, and love them. They do want the relationship to be a form of friendship.

Try to be there after school

Never think that the adolescents' drug use or sex abuse happens only over the weekend in night clubs, however in some evening hours during work days they can happen as well. Arrange flex time at work if you can, if your child will be with friends; make sure there's adult supervision, not just an older sibling.

Keep your standards high

Your teen wants to be his or her best self. Our job as parents is to support our teens in doing that. But, don't expect your child to achieve goals you decide for him/her; she needs to begin charting his/her own goals now, with the support of a parent who adores her just as she/he is and believes that she/he can do anything he/she aims to. Support your teen's passions and explorations as she finds her unique voice.

Make it a high priority to have meals together

Meals are a great opportunity to talk about the days' events, to unwind, reinforce and bond. They're also your best opportunity to keep in touch with your teen's life and challenges, and to spot brewing problems. Finally, an important factor in kids' happiness and overall success is whether they feel they get time to "just hang out and talk" with parents every day.

Keep the lines of communication humming?

If you don't know what's going on, you lose all hope of influencing the outcome.

Continue family meetings

Held regularly at a mutually agreed upon time, family meetings provide a forum for discussing triumphs, grievances, sibling disagreements, schedules, any topic of concern to a family member. Ground rules help, everyone gets a chance to talk; one person talks at a time without interruption; everyone listens, and only positive, constructive feedback is allowed.

Application activity 6.6.5

1. In your own words explain tips parents can use to effectively help their adolescents navigate adolescence stage.

2. Delinquents are largely a product of the environment in which people grow up from or of the upbringing they have received or a combination of the two. Explain.

Assessment on adolescence Period

1. Outline 4 emotional characteristics of an adolescent that can affect his/her learning.

2. Give reasons why many adolescents' social development and interpersonal relationships with parents are difficult.

3. Explain the cognitive development during adolescence.

4. Amina is a Senior two student. She spends many hours without eating. When asked the reason she says that she is afraid that her boyfriend Elisa may not like her size but on the other side Elisa eat too much with the intention of developing his chest and building his body.

   a) Compare and contrast an adolescent and an early childhood boy's characteristics on the dimension of social/emotional development

   b) Which problem does Amina have?

   c) Think of the causes of such a problem.

   d) How can you advise her?

6.7. Developmental milestones during adulthood (21-50/60 years)
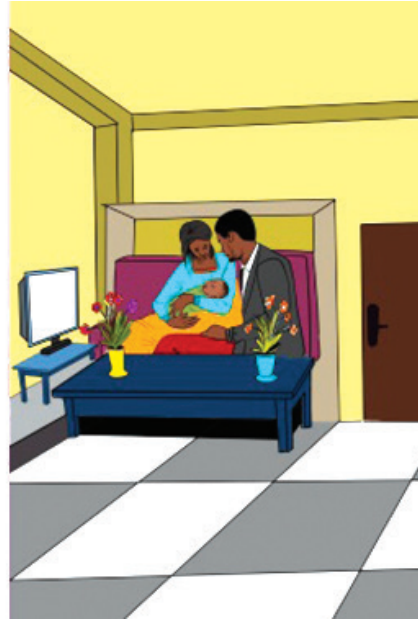
JABO is a mediator at Sector level. He has been working for 35 years and is now retired. He advises young people to behave well and be productive in society. He often regrets the time he didn't use effectively as a youth and doesn't want anyone to be like he was when he was a youth. He knows this is happening because many youth lack the advice of their elders and role models. He works hard even though his physical abilities are declining every day. Iradukunda, the village chief, after the monthly community work (umuganda), asked people to respect adults for their contribution to the development of the community and the country as a whole. John is a S3 student and has changed following the advice of JABO and is working hard to change his peers.

Based on the story above, think of the contribution that adults have in your community. Think about JABO's behavior when he was a teenager and compare it to the behavior he has today. What lesson can you learn from the story.

Being older doesn't necessarily mean being unable to do things and not enjoy life According to Psychologist Malcolm Knowles (1989), there are four definitions of adult:

Biologically: We become *adult biologically* when we reach the age at which we can reproduce….

Legally: We become adult legally when we reach the age at which the law says we can vote, get a driver's license, and marry without consent….

Socially: We become adult socially when we start performing adult roles.

Psychologically: We become adult psychologically when we arrive at self-concept of being responsible for our own lives, of being self-directing.

From the view point of learning, it is the psychological definition that is most crucial.

Conventionally, we define adulthood as three age periods or stages**: young adulthood** (20s and 30s), **middle adulthood** (40s and 50s), and **late adulthood** (age 60 and over).

a) Early adulthood

Early adulthood coincides with the 20 years and early 30 years. People generally form intimate relationships through friendship and love during early adulthood. Many people become engaged or marry during this period. Often they are completing their education and becoming established in a career. Health problems in young adults tend to be minor some of them are like: Selecting a mate, learning to live with a married partner, starting a family, rearing children, managing a home, getting started in an occupation, taking on civic responsibility and finding a congenial social group.

Physical development

Physical maturation is complete. Physical abilities are at their peak, including muscle strength, reaction time, sensory abilities, and cardiac functioning. Many women have children in the early-adulthood years.

– The aging process, although not overt, begins during early adulthood.
– Around the age of 30, many changes begin to occur in different parts of the body, the lens of the eye starts to stiffen and thicken, resulting in changes in vision (usually affecting the ability to focus on close objects).
– Sensitivity to sound decreases: this happens twice as quickly for men as for women.
– Hair can start to thin and become grey around the age of 35, although this may happen earlier for some individuals and later for others.
– The skin becomes drier and wrinkles start to appear by the end of early adulthood.

- The immune system becomes less adept at fighting off illness, and reproductive capacity starts to decline.

Cognitive development
- Cognition begins to stabilize, reaching a peak around the age of 35.
- Early adulthood is a time of relativistic thinking, in which young people begin to become aware of more than simplistic views of right vs. wrong.
- They begin to look at ideas and concepts from multiple angles and understand that a question can have more than one right (or wrong) answered.
- The need for specialization results in pragmatic thinking using logic to solve real-world problems while accepting contradiction, imperfection, and other issues.
- Finally, young adults develop a sort of expertise in either education or career, which further enhances problem-solving skills and the capacity for creativity
- Young adults tend to score higher on tests of fluid intelligence, while middle adults tend to score higher on tests of crystallized intelligence.
- They may want absolute answers from absolute authorities.
- Many young adults particularly those who have attended college develop the ability to reason logically, solve theoretical problems, and think abstractly. They have reached Piaget's formal operations stage of cognitive development.
- Cognition begins to stabilize, reaching a peak around the age of 35.

Psychosocial development

As human beings get old in age, there are some changes that happen in his/ her thinking abilities and his relationship with others as well is affected. With respect to decision making, they become independent while as to relationship, their understanding about love differs much from that of adolescents.

Independence: Age 17-28

Much psychosocial development occurring during this period is in conjunction with significant life changes, such as leaving home, finding a long-term romantic relationship, beginning a career, and starting a family. An important aspect of establishing intimacy with a partner is first being able to separate from the **family of origin,** or family of procreation. Most young adults have familial attachments from which they are separating. This process normally begins during Daniel Levinson's **early adult transition** (ages 17–22), when many young adults first leave home to attend college or to take a job in another city. By age 22, young adults have attained at least some level of attitudinal, emotional, and physical

independence. They are ready for Levinson's **entering the adult world** (ages 22–28) stage of early adulthood, during which relationships take Centre stage.

Relationships: Age 17–45

Love, intimacy, and adult relationships go hand-in-hand. Robert Sternberg proposed that **love** consists of three components: passion, decision/commitment, and intimacy:

- Passion concerns the intense feelings of physiological arousal and excitement (including sexual arousal) present in a relationship,
- Decision/commitment concerns the decision to love the partner and maintain the relationship.
- Intimacy relates to the sense of warmth and closeness in a loving relationship, including the desire to help the partner, self-disclose, and keep him or her in one's life. People express intimacy in the following three ways: physical intimacy, or mutual affection and sexual activity; psychological intimacy or the sharing of feelings and thoughts; Social intimacy, or having the same friends and enjoying the same types of recreation.

Establishing a Career: Age 22–33

Another important activity during Levinson's **entering the adult world** (ages 22–28) and **age-30 transition** (ages 28–33) stages is establishing a career. This process normally begins in college or trade school, where young adults prepare themselves to enter the work force. Young adults commonly explore various career options before settling into one field of work.

Starting a Family: Age 33–45

As young adults enter the **culminating phase of early adulthood** (ages 33–45), they enter the **settling down** (ages 33–40) stage. By this time, their careers (at least the first one) have been established and a spouse is found.

Parenthood is generally thought to strengthen marriages, even though research indicates that marital satisfaction often declines after the birth of the first child. This decline may be due to such stressors as changes in usual roles and routines, increases in family responsibilities, and additional strains on finances.

Note that Adulthood does not have a definite starting point. A person may be physically mature by age 16 or 17, but not defined as an adult by law until older ages. As we get old, our bodies change in physical ways. One can expect a variety of changes to take place through the early and middle adult years. Each person experiences age related changes based on many factors: biological factors such as molecular and cellular changes are called primary aging, while aging that occurs due to controllable factors, such as lack of physical exercise and poor diet, is called secondary aging.

b) Middle adulthood

Middle adulthood is the period of age beyond young adulthood, but before the onset of old age. In general, the middle adulthood is characterized by the following: decline of physical skills, increase of responsibilities, increase of self-satisfaction and increase of awareness of time.

Physical development characteristics

The following are the physical characteristics of a person experiencing the middle adulthood:

– There is a decrease of height, and after 55 years, approximately 2 inches lost for men, and 1 inch for women.
– There is an increasing of weight
– Their bone's density decreases as well and the loss is twice fast for women.
– There is decreasing of strength, whereby 10% of their strength loses by 60 years.
– The organs no longer function as efficiently as they once did.
– Lung and heart capacities decrease.
– There is a decreasing of vision and light sensitivity, and the hearing abilities decrease.
– The bio psychosocial changes that accompany midlife are menopause (the cessation of menstruation) in women and male climacteric (male menopause) in men.

Cognitive development characteristics

Two forms of intelligence: **crystallized and fluid** are the main focus of middle adulthood. **Crystallized intelligence** is dependent upon accumulated knowledge and experience we have gathered throughout our lifetime. **Fluid intelligence** is more dependent on basic information-processing skills and starts to decline even prior to middle adulthood. Cognitive processing speed slows down during this stage of life, as does the ability to solve problems and divide attention.

– Increase of practical problem-solving skills. These skills are necessary to solve real-world problems and figure out how to best achieve a desired goal.
– Decision making is based upon personal responsibilities towards others, this is called executive stage/ cognitive decline.

Application activity 6.7

1. During which period of development do most people generally form intimate relationships, both in friendship and love?

2. Think of people either in your village or in your academic daily life who are in middle adulthood and explain their physical characteristics.

3. Differentiate fluid intelligence from crystallized intelligence.

6.8. Developmental milestones during late adulthood (age 60 and over)

Activity 6.8

1. Based on the above picture, think of physical characteristics of people who are in this period of human development.
   What are the problems associated with this stage of development?

2. "Umusaza upfuye ni nk'inzu y'ibitabo ihiye". Explain this Rwandan proverb based on the importance of old people in the Rwandan society.

Old age consists of ages nearing or surpassing the average life span of human beings, and thus the end of human life cycle.

Daniel Levinson depicts the late adulthood period as those years that encompass age 65 and beyond. Other developmental psychologists further divide late adulthood into young-old (ages 65–85) and old-old (ages 85 and beyond) stages.

The study of old age and aging is called gerontology.

Late adulthood is the stage of life from the 60 years onward; it constitutes the last stage of physical change. Aging inevitably means physical decline, some of which may be due to lifestyle, such as poor diet and lack of exercise, rather than illness or the aging process.

Physical development

- Energy reserves dwindle (diminish).
- Cells decay. Muscle mass decreases.
- The immune system is no longer as capable as it once was in guarding against disease.
- Body systems and organs, such as the heart and lungs, become less efficient. Over all, regardless of people's best hopes and efforts, aging translates into decline.
- while energy is lost, the ability to conserve energy is gained
- Most hearing loss is not noticed.
- There is lessening or cessation of sexual function, sometimes because of physical symptoms such as erectile dysfunction in men, but often simply a decline in libido.
- Effect on appearance, sensation, and motor abilities.
- An older adult's appearance changes as wrinkles appear and the skin becomes less elastic and thin.
- Hair thins and turns gray as melanin decreases, and height lessens perhaps by an inch or two as bone density decreases.
- The senses begin to dull.
- It is estimated that at age 65, fifty percent people have lost all their teeth. This increases the risk of tooth decay.

Health

- The mental, emotional, and behavioral problems typically encountered by older adults are depression, anxiety, and dementia (mental deterioration, also known as organic brain syndrome).
- Depression is the whole body illness, mood and thought.
- Anxiety is a general term for several disorders that cause nervousness, fear and worrying. It is characterized by a long lasting fear or worry about nonspecific life events, objects and situations.

– Dementia is the progressive deterioration in cognitive function, the ability to process thought (intelligence). Dementia is characterized by memory loss, moodiness because the part of brain that control emotion becomes damaged, communicative difficulties because the affected person finds it harder to talk, read, and write. Dementia can be caused by Alzheimer's disease.

– Alzheimer's disease which is called also Senile Dementia is a progressive neurological disease of the brain leading to the irreversible loss of neurons and the loss of intellectual abilities, including memory and reasoning, which become severe enough to impede social or occupational functioning.

Intelligence and memory

– Older adult tend to learn more slowly and perform less well on tasks involving imagination and memorization than do young adults, but what older adults may be lacking in terms of specific mental tasks, they make up for wisdom, or experts and practical knowledge based on life experience.

– Practice and repetition may help minimize the decline of memory and other cognitive functions.

– Many older adults complain about not being able to remember things as well as they once could. Memory problems seem to be due to sensory storage problems in the short-term rather than long-term memory processes.

– That is, older adults tend to have much less difficulty recalling names and places from long ago than they do acquiring and recalling new information.

Application activity 6.8

1. Write short notes on: dementia, senescence
2. Define menopause
3. Discuss why people over 75 years old have significant hearing impairment.
4. Describe the general effect of Alzheimer's disease and its likely outcome.
5. Discuss the difference between crystallized and fluid intelligence.
6. Discuss neuronal death and aging.

1. Explain how babies learn before birth

2. Describe risks or influences for women or infants during pregnancy that are most likely to occur in our society and suggest ones that we can learn to manage.

3. Suggest recommended practices during pregnancy for either mothers or their husbands or other people in the society to help pregnant women.

4. Discuss how genes and chromosomes during prenatal period contribute in shaping our behavior.

5. As the development pace of children differ from one another and thus all have go through the same developmental stages, conduct a research and indicate when to confirm that a child has particular problems which can hinder his development.

6. Use a poem and appreciate your parents, teachers, adults who assisted in your development considering each domain of development and milestones from the time you can remember till now.

7. Arnaud is two months. What do you think parents, caregivers and other adults will do to ensure proper parenting and holistic development during infancy, early, middle and late childhood periods?

🔑 **Key unit competence:** Examine the factors of human development

Introductory activity

1. Based on these Rwandan proverbs "Inyana ni iya mweru" , "Mwene Samusure avukana isunzu" and the pictures below; brainstorm and give examples of how a child can resemble and act like parents.


2. Anne and Rebecca are the true twins but they grew up in different environment. Anne is good at music but she cannot play football while Rebecca is good at playing football but it is not the same thing when it comes to music. Based on the picture below,explain why they have these differences yet they are true.

7.1. Definition of key terms related to factors of human development

Source: https://www.verywellmind.com/what-is-nature-versus-nurture-2795392
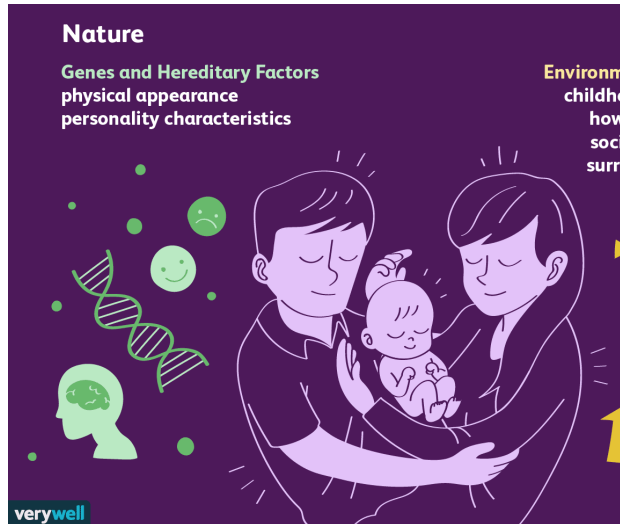
Activity 7.1

Observe this picture and use internet or books available in the library and explain the following terminologies: Nature, Nurture, Heredity, Genes, DNA, Environment, Interaction, Chromosome, Chromosomal abnormalities, Toxic stress.

Nature: Is the natural heredity genes that are present in person while at birth, this refers to our inherited characteristics. Nature looks at the impact of such physical approaches as neurotransmitters and genome sequencing on child's development.

Nurture: defines the environment or surroundings of a person that shape and mold an individual's personality. It focuses on aspects such as peer pressure and social influence.

Heredity: transmission of physical characteristics from parents to children through their genes. They are inborn traits or characteristics inherited from the biological parents. It influences all aspects of physical appearance such as height, weight, body structure, and the color of eyes, the texture of the hair, and even intelligence and aptitudes. Diseases and conditions such as heart disease, diabetes, and obesity…can also be passed through genes, there by affecting the growth and development of the child adversely.

Genes: is a basic physical and functional unit of heredity. They are made up of DNA.

For example if both of your parents have green eyes you might inherit the trait for green eyes from them.

DNA: A self-replicating material that is present in nearly all living organisms as the main constituent of chromosomes. It is the carrier of genetic information. **Deoxyribonucleic acid (DNA)** is made up of genes and gives instructions on each gene.

Environment: the world outsider the self-beginning. It plays a critical role in the development of children and it represents the sum total of physical and psychological stimulation the child receives. Some of the environmental factors influencing early childhood development involve physical surroundings and geographical condition of the place the child lives in as well his social environment and relationships with family and peers.

Chromosome: A threadlike structure of nucleic acids and protein found in the nucleus of most living cells, carrying genetic information in the form of genes. It contains an important genetic substance called deoxyribonucleic acid (DNA) with associated molecules that have genetic information.

Chromosomal abnormalities: Chromosome abnormalities usually occur when there is an error in cell division. Some chromosomal abnormalities occur when there is an extra chromosome while others occur when a section of a chromosome is deleted or duplicated.

Example: down syndrome, trisomy 18, trisomy 13, xyy syndrome, turner syndrome.

Chromosomal abnormalities can be numerical or structural. A numerical abnormality mean an individual is either missing one of the chromosomes from a pair or has more than two chromosomes instead of a pair. A structural abnormality means the chromosome's structure has been altered in one of several ways.

Toxic stress: This is the body's response to lasting and serious stress, without enough support from a caregiver. When a child doesn't get the help he needs, his body can't turn off the stress response normally. This lasting stress can harm a child's body and brain and can cause lifelong health problems. Toxic stress weakens the architecture of the developing brain, which can lead to lifelong problems in learning, behavior, physical and mental health. Examples of toxic stress include abuse, neglect, extreme poverty, violence, household dysfunction, and food scarcity.

7.2. Biological factors (nature / heredity)

All species transmit characters from one generation to the other through the mechanisms of genetics. It implies that every human being carries genetic traits which are inherited from parents. Those genetic traits are located within every cell in our body. **Heredity** is therefore the transmission of traits from one generation to the other.

It is known that heredity is a necessary factor for human development but likewise the environment is also necessary. Neither of the factors alone is necessary and sufficient to cause all complex human behavior. Psychologists concentrate their research on the mechanism of the interaction between heredity and environment. Each new human being has a set of characteristics. When a male sperm combines with the female ovum, at the same time the child's parents/ grand parents have each contributed genes that will determine skin, color, general body shape and size, hair and eyes color and a thousand other characteristics.

It has long been known that certain physical characteristics are biologically determined by genetic inheritance. For example:

– Color of eyes
– Color of hair
– Straight or curly hair
– Pigmentation of the skin
– Certain diseases

Other physical characteristics, if not determined, appear to be at least strongly influenced by the genetic make-up of our biological parents.

- Height
- Weight
- Hair loss (in men)
- Life expectancy
- Vulnerability to specific illnesses (e.g. breast cancer in women)

These facts have led many to speculate as to whether psychological characteristics such as behavioral tendencies, personality attributes and mental abilities are also "wired in" before we are even born.

Application activity 7.2

1. Explain the meaning of heredity?
2. Outline 3 examples of physical characteristics which are determined by biological factors.

7.3. Function of genes and chromosomes in determining traits

Activity 7.3

Make a set of 46 cards of the same size. Divide them into 2 equal groups. Number the 1st group in black figures from 1 to 22 and mark the last one X. Number the second group in red figures from 1 to 22 and mark the last one as X or Y. Let each card represent one chromosome ant its attendant genes, the red being those from the father and the black those from the mother. If you shuffle all these cards together and lay them face up, you will see the chromosomes' arrangement that originated at every individual's conception and which are now represented in every cell of of his/her body

What sex of a baby if it has 2 X sex cells? What if it has one X and one Y?

How many chromosomes will the baby have? Why?

A trait is any gene-determined characteristic. Many traits are determined by the function of more than one gene. **For example**, a person's height is likely to be determined by many genes, including those affecting growth, appetite, and muscle mass, and activity level. However, some traits are determined by the function of a single gene.

All living beings have genes, and they exist throughout the body. Genes are a set of instructions that determine what the organism is like, its appearance, how it survives, and how it behaves in its environment. Genes are made of a substance called Deoxyribonucleic Acid (DNA). They give instructions for a living being to make molecules called proteins (Wu, 2017).

Where do genes come from?

A gene is a basic unit of heredity in a living organism. Genes come from our parents. We may inherit our physical traits and the likelihood of getting certain diseases and conditions from a parent. Genes contain the data needed to build and maintain cells and pass genetic information to offspring.

Each cell contains two sets of chromosomes: One set comes from the mother and the other comes from the father. The male sperm and the female egg carry a single set of 23 upaired chromosomes each, including 22 autosomes plus an X or Y sex chromosome. A female inherits an X chromosome from each parent, but a male inherits an X chromosome from their mother and a Y chromosome from their father.

Function

Genes decide almost everything about a living being. One or more genes can affect a specific trait. Genes may interact with an individual's environment too and change what the gene makes. Genes affect hundreds of internal and external factors, such as whether a person will get a particular color of eyes or what diseases they may develop. Some diseases, such as sickle-cell anemia and Huntington's disease are inherited, and these are also affected by genes.

In search of hereditary functions of genes, through his experiments on garden peas and fruit flies, Mendel hypothesized that some genes are dominant and others recessive. Like chromosomes, the genes also occur in pairs. Each of the pair is donated by one of the parents. An offspring thus may be found to derive a gene pair in one of the following forms:

-A dominant gene from one of the parents and recessive gene from the other.

-Dominant genes from both the parents.

-Recessive genes from both the parents.

In simple meaning a dominant gene must exhibit his dominance over the recessive ones. For example, if one parent furnishes a gene for brown eyes (known to be dominant) and the other provides a gene for a blue (a recessive gene), the offspring will have the brown eyes (characteristics of the dominant gene).

However, the fact that a particular trait is recessive in one generation is no way rules out its appearance in the future. For example, in above example of the mutation between brown and blue genes resulting into brown eyes, a recessive blue gene lies in a wait. If that offspring is copulated with someone with another gene for blue eyes (even if he or she may not possess blue eyes) their offspring, the third generation might have blue eyes (Mangal , 1988).

Application activity 7.3

1. Write true or false

   a) A child inherits 23 pairs of chromosomes from each parent.

   b) Recessive gene exhibits its dominance over dominance ones.

2. Explain the function of genes and chromosomes in determination of our traits.

3. Differentiate the term recessive gene and dominant gene.

7.4. Genetic abnormalities/disorders

Activity 7.4

Ali is a P1 student; he has flattened face, small nose, almond-shaped eyes because of large eyelid folds, respiratory and heart problems. He hardly finishes his work and participates in group. He struggles in many activities and this is the 4th year in P1. His teacher advises the parents to seek advice from the doctor. When the father asked the doctor about the behavior of his son, he diagnoses Ali and found that he has genetic abnormality.

   a) Outline the unusual behavior and characteristics of Ali.

   b) What is the effect of Ali's unusual behavior on his studies and his life in general?

   c) What is the cause of the unusual behavior and characteristic of Ali?

A genetic disorder is a detrimental trait caused by an abnormal gene. The abnormal gene may be inherited or may arise spontaneously as a result of a mutation. Gene abnormalities are fairly common. A genetic disorder is a genetic problem caused by one or more abnormalities formed in the genome. Most genetic disorders are quite rare and affect one-person in every several thousands or millions.

Genetic disorders may be hereditary or non-hereditary, meaning that they are passed down from the parents' genes. However, in some genetic disorders, defects may be caused by new mutations or changes to the DNA. In such cases, the defect will only be passed down if it occurs in the germ line. Genetic disorders can be monogenic (caused by a mutation in one gene), multifactorial (mutations in multiple genes), or chromosomal (changes in the number or structure of entire chromosomes, the structures that carry genes).

A chromosome is made of a very long strand of DNA and contains many genes (hundreds to thousands). The genes on each chromosome are arranged in a particular sequence, and each gene has a particular location on the chromosome (called its locus). In addition to DNA, chromosomes contain other chemical components that influence gene function.

Mutation

To prevent mistakes during replication, cells have a "proofreading" function to help ensure that bases are paired properly. There are also chemical mechanisms to repair DNA that was not copied properly. However, because of the billions of base pairs involved in, and the complexity of, the protein synthesis process, mistakes can happen. Such mistakes can occur for numerous reasons (including exposure to radiation, drugs, or viruses) or for no apparent reason. Minor variations in DNA are very common and occur in most people. Most variations do not affect subsequent copies of the gene. Mistakes that are duplicated in subsequent copies are called mutations: **Chromosome anomaly, abnormality or aberration is missing, extra or irregular portion of chromosomal DNA.**

Break down in the transmission of chromosomal information can also cause physical or mental defects. Occasionally sperm or ova are produced having more or fewer than the normal 23 chromosomes. During the process of crossing over, chromosomal fragment may not accurately separate and reattach. During the next step in meiosis, a pair of autosomes or sex chromosomes may end up in the sane gamete. Another gamete then is missing a chromosome from that pair.

Some chromosomal abnormalities

Disorder	Description	Physical signs	Effect on the development
Down syndrome	Most have an extra 21st chromosome. Therefore, the disorder is called trisomy 21.	Flattened face, small nose, and almond-shaped eyes because of large eyelid folds, respiratory and heart problems that lower life expectancy.	Initially normal development, but retarded intellectual development before one year; moderate to severe mental retardation in childhood and adulthood.
Trisomy 13	Three chromosomes of type 13	Small head, malformed ear, eye disorders, abnormal brain structures and heart defects.	Severe mental retardation; nearly all die less than a year.
Turner syndrome	45-x or X0 only one sex chromosome on X	Female in appearance, but sterile; short stature and minor physical abnormalities.	Normal verbal intelligence, but poor visual- spatial abilities.
Klinefelter syndrome or XXY syndrome	47-XXY (two X and one Y): some cases have more than one Y	Male in appearance and above average in height; secondary sex characteristics do not develop normally and most are sterile.	May show lower intelligence, sometimes retarded language development.
XYY syndrome	47-XYY (two Y chromosomes and one X), there could be more than one Y and one X.	Unusually tall	May show lower intelligence, but findings are inconsistent

There are several types of chromosome abnormalities. A person may have an abnormal number of chromosomes or have abnormal areas on one or more chromosomes. Many such abnormalities can be diagnosed before birth (Testing for chromosome and gene abnormalities).

Abnormal numbers of non-sex chromosomes usually result in severe abnormalities. For example, receiving an extra non-sex chromosome can be fatal to a fetus or can lead to abnormalities such as Down syndrome, which commonly results from a person having three copies of chromosome 21. Absence of a non-sex chromosome is fatal to the fetus. Large areas on a chromosome may

be abnormal, usually because a whole section was left out (called a deletion) or mistakenly placed in another chromosome (called translocation). For example, chronic myelogenous is sometimes caused by translocation of part of chromosome 9 onto chromosome 22. This abnormality can be inherited or be the result of a new mutation.

Application activity 7.4

1. Write true or false

   a) Down syndrome is characterized by severe mental retardation; nearly all die less than a year.

   b) A person who has Turner Syndrome is a female in appearance, but sterile; short stature and minor physical abnormalities.

   c) Many chromosome abnormalities cannot be diagnosed before birth.

2. What are the causes of mistakes that happen during replication?

3. Where do genetic disorders come from?

4. Revise the scenario of Ali (see the first activity 7.4) and state the type of syndrome that he had.

7.5. Environmental factors (Nurture/ Experiential)

Activity 7.5

Nyirarukundo is a working mother who has a 9 months baby. In her absence, the baby stays with Mutoni, the caregiver. Mutoni is a good caregiver who is very responsive to the baby's needs... The baby always enjoys staying with Mutoni. The baby would cry in her (Mutoni) absence instead of her mother. She (the baby) even cries when in his/ her mother's hands.

   – Why does the baby cry when in her mothers' hand?

   – What advice would you give to other mothers to avoid the same situation?

Impact of relationships (serve and return)

Brain research shows that early experiences affect how the brain develops. And the most important factor for a child is to have loving relationships with a caregiver. When a child has responsive parent who is warm, interactive, and gentle, this lays a foundation for all of the child's future relationships and shapes the adult he/she will become.

Children's relationships shape the way they see the world and affect all areas of their development. Through relationships children learn about their world. That's because relationships let children express themselves – a cry, a laugh, a question – and get something back – a cuddle, a smile, an answer. What children 'get back' gives them very important information about what the world is like and how to act in the world – how to think, understand, communicate, behave, show emotions and develop social skills. This back-and-forth communication strengthens relationships. It also helps children learn more about the world all the time. A child's most important early relationships are with his/her parents, other family members and caregivers.

It's not just the relationship between parents and their child that shapes his/her development. It's also parental relationships with others. Children see how their parents behave and communicate with other people in life – for example, husband/wife, family members, friends and neighbors. This gives children a model of how to be and behave with others and how other people will behave in return. If children see kind and respectful relationships, they will learn to act this way in relationships with others.

From the moment they're born, babies are very social. They want to spend time with you and communicate with their parents. And how parents respond help babies to learn. For example, it's natural for baby to want to communicate through babbling, facial expressions and gestures – for example, waving, nodding and shaking his head. It's important for parents to respond with the same kind of 'talking' and gesturing.

By responding in a warm, loving and gentle way, parents **help their child learn** about communication, behavior and emotions. Parents make their child feel safe and secure, and promote a strong relationship with their child.

When the child feels safe and attached, s/he is likely to have the **confidence to explore** the world. That's because s/he knows a caring adult is there to support, encourage and share new experiences with her/him. Warm and loving interactions between parents and children develop confidence, resilience and communication. This prepares children for things they'll come across later in her life, like working through problems, dealing with stress and forming healthy relationships with other people in adolescence and adulthood. Strong attachments and relationships early in life also means children are more likely to have better mental health and fewer behavior problems.

1) What will be the role of attachment in child's development?

2) Re-read the content above on impact of relationships. Take an example of a person you know, describe his/her past relationships with people in his/her family and community. Explain the impact these relationships had on his/her current life and studies.

7.6. Influence of Socializing Agents on Human Development

Activity 7.6

Think about your past and write down on a piece of paper how you were supported in your development, especially on the social aspect.

The family

Family is the first agent of socialization. Mothers and fathers, siblings and grandparents, plus members of an extended family, all teach a child what he or she needs to know. For example, they show the child how to use objects (such as clothes, computers, eating utensils, books, bikes); how to relate to others (some as "family," others as "friends," still others as "strangers" or "teachers" or "neighbors"); and how the world works (what is "real" and what is "imagined"). As you are aware, either from your own experience as a child or from your role in helping to raise one, socialization includes teaching and learning about an unending array of objects and ideas.

A family is the fundamental unit of the society. It helps us to learn sex roles, social skills and language. The pattern of family interaction, family size and quality of attention among family affect profoundly the development of an individual.

Peers

This is where children come under the influence of others of their own age group. This mostly affects their development and patterns of responses. These influences continue throughout life.

A peer group is made up of people who are similar in age and social status and who share interests. Peer group socialization begins in the earliest years, such as when kids on a playground teach younger children the norms about taking turns, the rules of a game, or how to shoot a basket. As children grow into

teenagers, this process continues. Peer groups are important to adolescents in a new way, as they begin to develop an identity separate from their parents and exert independence. Additionally, peer groups provide their own opportunities for socialization since kids usually engage in different types of activities with their peers than they do with their families. Peer groups provide adolescents' first major socialization experience outside the realm of their families. Interestingly, studies have shown that although friendships rank high in adolescents' priorities, this is balanced by parental influence.

School

Students are not in school only to study math, reading, science, and other subjects. Schools also serve a latent function in society by socializing children into behaviors like practicing teamwork, following a schedule, and using textbooks. School and classroom rituals, led by teachers serving as role models and leaders, regularly reinforce what society expects from children. Sociologists describe this aspect of schools as the hidden curriculum, the informal teaching done by schools. Schools influence a person's intellect, social skills, mental health and other aspects of behavior through formal and informal programs.

Media

Mass media distribute impersonal information to a wide audience, via television, newspapers, radio, and the Internet. It is believed that what we read and watch and listen to, from newspaper, TV, or Radio greatly influences our behavior and personality, values and expression of emotions. These factors influence how children think, socialize and become self-aware. Economic and political institutions, the media and cultural values all guide children how they live their lives.

Religion

While some religions are informal institutions, here we focus on practices followed by formal institutions. Religion is an important avenue of socialization for many people. For some people, important ceremonies related to family structure—like marriage and birth—are connected to religious celebrations. Many religious institutions also uphold gender norms and contribute to their enforcement through socialization. From ceremonial rites of passage that reinforce the family unit to power dynamics that reinforce gender roles, **organized religion fosters a shared set of socialized values that are passed on through society**.

The Workplace

Just as children spend much of their day at school, many adults at some point invest a significant amount of time at a place of employment. Although socialized into their culture since birth, workers require new socialization into a workplace, in terms of both material culture (such as how to operate the copy machine) and nonmaterial culture (such as whether it's okay to speak directly to the boss or not). Different jobs require different types of socialization.

Application activity 7.6

1)   What is the first socialization agent that the child meets?

2)   Explain any other three socializing agent.

3)   Multiple choice questions

i) Which of the following is typically the earliest agent of socialization?

   a) School

   b) Family

   c) Mass media

   d) Workplace

ii) Why are wealthy parents more likely than poor parents to socialize their children toward creativity and problem solving?

   a) Wealthy parents are socializing their children toward the skills of white-collar employment.

   b) Wealthy parents are not concerned about their children rebelling against their rules.

   c) Wealthy parents never engage in repetitive tasks.

   d) Wealthy parents are more concerned with money than with a good education.

iii) Which of the following is a manifest function of schools?

   a) Understanding when to speak up and when to be silent

   b) Learning to read and write

   c) Following a schedule

   d) Knowing locker room etiquette

iv) How do schools prepare children to one day enter the workforce?

   a) With a standardized curriculum

   b) Through the hidden curriculum

   c) By socializing them in teamwork

   d) All of the above

v) Which one of the following is not a way people are socialized by religion?

    a) People learn the material culture of their religion.

    b) Life stages and roles are connected to religious celebration.

    c) An individual's personal internal experience of a divine being leads to their faith.

    d) Places of worship provide a space for shared group experiences.

7.7. Influence of physical /natural environment

Activity 7.7

Kabibi and Kayezu are identical twins. Last year they sat for O-Level examination and Kabibi performed well. Kabibi went to study in a boarding school while Kayezu continued his studies in day school where both children attended O-Level. Explain how that different school environment will influence their behaviors.

Physical environment is another factor which affects a child's development. There are various environmental factors that determine human development; we can say for example physical and social factors.

Physical factors

These factors include climate, pure air and water. All these factors affect the growth of the body and mind. Many phenotype factors in human being are genetically transferred from parents to offsprings. However, people who live in a particular place, express similar traits. This is because of the environmental situation they are exposed to. The role of environment impacting on individual's behavior can be seen on its effects on prenatal and post-natal development. Environment begins to affect an organism as soon as conceptions take place.

The influence of environment on human development can be well shown by the following examples:

a) The most famous case of a human being surviving in total isolation for an extended period of time is that of Victor, the "wild boy of Aveyron," Victor is estimated to have been born around 1788 and died in 1828.

Victor was a normal child at birth but was neglected by his alcoholic parents from an early age. Subsequently, he then left civilization and fended for himself in the wild Victor was prepubescent when he was captured in 1800, but experienced puberty within a year or two.

It is not known when or how he came to live in the woods near Saint-Sernin-sur-Rance, though he was reportedly seen there around 1794. In 1797 he was spotted by three hunters; he ran from them but they were able to catch him when he tried to climb a tree. They brought him to a nearby town where he was cared for by a widow. However, he soon escaped and returned to the woods; he was periodically spotted in 1798 and 1799. On 8 January 1800, he emerged from the forests on his own. His age was unknown, but citizens of the village estimated his age to be about 12. His lack of speech, as well as his food preferences and the numerous scars on his body, suggested to some that he had been in the wild for most of his life.

The wild child Victor of Aveyron was found in Aveyron, in the central forest of France. The boy was baptized Victor and taken care of by a physician called Jean Marc Gaspard Itard from national institute of deaf mute. He could not speak any word and dress in cloth. He was used to sleeping on trees, but after training, he could pronounce very few words and could dress to please his caretakers. Although he remained totally unable to speak, Victor showed great improvements in socialization and cognitive ability in the course of several years spent working with Itard.

b) The second example of "feral children" (children educated by wolves) is that of Kaspar Hauser. Unlike Victor, the young man named Kaspar Hauser who appeared in Nuremberg, Germany, in 1828 had apparently been locked up in isolation for an extended period, but without being totally deprived of human care. A 17-year-old with the mentality of a child of three, Hauser was reeducated over the next five years, regaining many of the faculties that had been stunted by extreme social and **sensory deprivation**, to the point where he could communicate verbally although his speech was substandard. After an earlier assassination attempt, Hauser was murdered in 1833, presumably by someone who sought to prevent his origins from becoming known.

c) Another example is two girls Amala and Kamala who were 4 years and 8 years respectively. **Amala** (c. 1918 – 21 September 1921) and **Kamala** (died 14 November 1929) were two "feral girls" from Bengal, India, who were alleged to have been raised by a wolf family. They grew up with wolves and they walked and backed like wolves. They were discovered in 1920 and cared for by missionaries. One died after one year and the other 4 years later but could speak very few words.

Joseph Amrito Lal Singh, the rector of the local orphanage who claimed to have discovered the girls, claims in his diary that, at the orphanage, the two girls showed wolf-like behaviour typical for feral children. They would not allow themselves to be dressed, scratched and bit people who tried to feed them, rejected cooked food and walked on all fours. Both girls had developed thick calluses on their palms and knees from having walked on all fours. The girls were mostly nocturnal, had an aversion to sunshine, and could see very well in the dark. They also exhibited an acute sense of smell and an enhanced ability to hear.

The girls enjoyed the taste of raw meat and would eat out of a bowl on the ground. They seemed to be insensitive to cold and heat and appeared to show no human emotions of any kind, apart from fear. At night they would howl like wolves, calling out to their "family". They did not speak.

Environmental factors

These factors include family members, peer group, the school environment and the community. All of these influence much the development of the child.

The family is the fundamental unit of the society. It helps us to learn sex roles, social skills and language. The pattern of family interaction, family size and quality of attention among family affect profoundly the development of an individual.

Peers: This is where children come under the influence of others of their own age group. This mostly affects their development and patterns of responses. These influences continue throughout life.

School: Schools influence a person's intellect, social skills, mental health and other aspects of behavior through formal and informal programs.

Media: It is believed that what we read and watch and listen to, from newspaper, TV, or Radio greatly influences our behavior and personality, values and expression of emotions.

These factors influence how children think, socialize and become self-aware. Economic and political institutions, the media and cultural values all guide children how they live their lives.

Application activity 7.7

Based on the story of Amala and Kamala explain the role of physical environment to the human development.

7.8. Impact of toxic stress

Mugisha is a primary one student. His father and mother always quarrel at evening. Mugisha many times hide himself under the bed when it is evening because the father likes to bit them when he is too much drunkard.

Think about the impact of this family relationship to the future behaviour of Mugisha. Discuss your ideas with your near classmate. Then after, one of the pair will present explain to the whole class what you have discussed in pair.

Stress occurs continually, or is triggered by multiple sources that can take a toll on child's health. Toxic stress that children suffer not only shapes their emotional lives as adults, but also affects their physical and longevity.

Stress may have different forms: **Positive stress** which is response to a normal and essential part of a health development (an example of positive stress is being called for interview which requires an individual to prepare more and try harder).

Tolerable stress which is response to activates the body's alert systems to a greater degree (an example is when a person is frightened by a car accident).

Toxic stress is a response that occurs when a child experiences a strong, frequent and/or prolonged adversity which results in changes to their baseline state. Examples of toxic stress include physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence or the accumulated burdens of family economic hardship. The prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems and increase the risk for stress-related disease and cognitive impairment, well into adult years.

Toxic stress has the potential to change your child's brain and brain anatomy and even gene expression. Toxic stress weakens the architecture of the developing brain, which can lead to lifelong problems in learning behavior, physical and mental health. When a child experiences toxic stress, the hypothalamic pituitary and adrenal hormone axis is over activated. This result in blood levels of the stress hormone cortisol being higher which can result in long term changes in inflammation and immunity. Studies have shown association between toxic stress and changes in brain structure. The consequences of this can include more anxiety as well as impaired memory and mood control. Toxic stress responses can also include changes in gene expression, meaning which genes in your DNA are turned on or off.

Choose one of the possible causes of toxic stress and describe what it might look like in your community context by writing a case study of a child in such situation.

7.9. Impact of drug abuse on human development

Activity 7.9.

Observe the picture below and describe the impact of such behavior on human development.

Chronic use of drugs leads to both short and long term challenges in the brain, which result in mental health issues like paranoia, depression, anxiety, aggression, hallucination…long term effects include also high blood pressure, stroke, and serious heart problems.Many who suffer from addiction are also diagnosed with a mental disorder.

General signs and symptoms of drug addiction are:

- changes in physical appearance,
- changes in behavior with family or friends,
- being chronically late or not showing up for obligations of work responsibilities,
- limit time spent on social or recreational activities due to substance use,

- acting out of character,
- lacks energy when participating in daily activities,
- becomes defensive when confronted about their drug or substance use,
- urges beyond their control to use the drug or substance regularly,
- fails in attempts to stop using the drug or substance,
- increases usage of the drug or substance to get the same effect of smaller dosage,
- maintains a supply of the drug or substance even if they can't afford it.

Drug abuse effect

Drug abuse can affect several aspects of a person's physical and psychological health. Certain drugs can lead to drowsiness and slow breathing, while others may cause insomnia, paranoia, or hallucinations. Chronic drug use is associated with cardiovascular, kidney and liver disease. In addition to its physical effects, drug abuse can adversely affect a person's relationship, home and work life, and mental health.

Care providers should tailor treatment to a person's needs. Community-based organizations and state-funded treatment programs usually involve a combination of behavioral therapy, group therapy, and medication.

Drug Addiction Treatment

Anyone providing drug addiction treatment should tailor it to suit a person's individual needs to ensure that it is effective.Treatment may involve some of the following components:

Behavioural therapy, which helps people build positive coping strategies and develop problem-solving skills.

Group therapy, which gives people the chance to acknowledge, share, and work through the psychological aspects of recovery with a group of peers under professional guidance.

Medications: to help minimize withdrawal symptoms.

Additional medical care, which may include vocational training and other resources that address problems associated with chronic drug abuse, such as mental health conditions, unemployment, and medical conditions.

Application activity 7.9.

1) What is drug abuse?
2) Drug abuse may cause some mental illness, provide some examples.

1. Which of the following is predominantly a heredity related factor?

   a) Attitude towards peer group

   b) Thinking pattern

   c) Colour or the eyes

   d) Participation in social activities

2. Environmental factors that shape development include all of the following except

   a) quality of education

   b) physique

   c) quality of nutrition

   d) culture

3. In the context of 'nature vs. nurture' debate, choose the most appropriate statement among the following.

   a) child is like a blank slate whose character can be molded by the environment into any shape

   b) Environmental influences only have a little value in shaping up

   c) child's behaviour which is primarily genetically determined

   d) Heredity and environment are inseparably interwoven and both influence development

   e) Children are genetically predisposed to what they would be like irrespective of whatever environment they grow up in

   1. Environment is one of the factors that influence human development. Describe the components of good and stimulating environment for holistic development of a child.

   2. If parents can influence negatively or positively the child's development. What do you think the parents should do to influence the child' development in positive ways.

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