

# **HUMAN GROWTH AND DEVELOPMENT**

## **GENERAL OBJECTIVES OF THE SUBJECT**

At the end of the course, Individuals will analyze the elements of the communication and will explain the basic principles of this course.

## **1. HUMAN GROWTH & DEVELOPMENT**

- 1.1 Introduction of Human Growth & Development
- 1.2 Principles of Development
- 1.3 Infancy
- 1.4 Childhood
- 1.5 Juvenile
- 1.6 Adolescence
- 1.7 Adulthood

### **1.1 Introduction Human Growth and Development**

Human Growth Development Stages: Human stages of growth and development are differentiated by age and key stages of scientifically supported psychomotor development. Psychomotor development is progress in mental and motor skill activity. The process of growing and developing begins on the cellular level even before conception in the womb and continues throughout life until death. The scientific community divides human growth into stages according to age and assesses psychomotor development as a human develops motor skills and reaches cognitive milestones. Most human stages of growth and development occur in infancy, childhood and adolescence.

The period of time between birth and adolescence is commonly divided into four growth stages: infancy, childhood, juvenile and adolescence. According to the American Academy of Pediatrics; website, every stage of development has certain milestones. At 1 month of age, for instance, a baby hearing is fully mature, and infants of this stage often respond to loud sounds and familiar voices. A cognitive milestone for a 1-year-old is being able to find missing objects after watching someone hide them. Although every child does not stay within the same time frame in development, parents should note delays in psychomotor development and bring them to the attention of a pediatrician.

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## 1.2 Principles of Development

There is a set of principles that characterizes the pattern and process of growth and development. These **principles or characteristics** describe typical development as a predictable and orderly process; that is, we can predict how most children will develop and that they will develop at the same rate and at about the same time as other children. Although there are individual differences in children's personalities, activity levels, and timing of developmental milestones, such as ages and stages, the principles and characteristics of development are universal patterns.

- ☺ **Development proceeds from the head downward.** This is called the **cephalocaudal principle**. This principle describes the direction of growth and development. According to this principle, the child gains control of the head first, then the arms, and then the legs. Infants develop control of the head and face movements within the first two months after birth. In the next few months, they are able to lift themselves up by using their arms. By 6 to 12 months of age, infants start to gain leg control and may be able to crawl, stand, or walk. Coordination of arms always precedes coordination of legs.
- ☺ **Development proceeds from the center of the body outward.** This is the principle of **proximodistal development** that also describes the direction of development. This means that the spinal cord develops before outer parts of the body. The child's arms develop before the hands and the hands and feet develop before the fingers and toes. Finger and toe muscles (used in fine motor dexterity) are the last to develop in physical development.
- ☺ **Development depends on maturation and learning.** *Maturation* refers to the sequential characteristic of biological growth and development. The biological changes occur in sequential order and give children new abilities. Changes in the brain and nervous system account largely for maturation. These changes in the brain and nervous system help children to improve in thinking (cognitive) and motor (physical) skills. Also, children must mature to a certain point before they can progress to new skills (**Readiness**). For example, a four-month-old cannot use language because the infant's brain has not matured enough to allow the child to talk. By two years old, the brain has developed further and with help from others, the child will have the capacity to say and understand words. Also, a child can't write or draw until he has developed the motor control to hold a pencil or crayon.

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Maturational patterns are innate, that is, genetically programmed. The child's environment and the learning that occurs as a result of the child's experiences largely determine whether the child will reach optimal development. A stimulating environment and varied experiences allow a child to develop to his or her potential.

- ☺ **Development proceeds from the simple (concrete) to the more complex.** Children use their cognitive and language skills to reason and solve problems. For example, learning relationships between things (how things are similar), or classification, is an important ability in cognitive development. The cognitive process of learning how an apple and orange are alike begins with the most simplistic or concrete thought of describing the two. Seeing no relationship, a preschool child will describe the objects according to some property of the object, such as color.
  - Such a response would be, “An apple is red (or green) and an orange is orange.” The first level of thinking about how objects are alike is to give a description or functional relationship (both concrete thoughts) between the two objects. “An apple and orange are round” and “An apple and orange are alike because you eat them” are typical responses of three, four and five year olds. As children develop further in cognitive skills, they are able to understand a higher and more complex relationship between objects and things; that is, that an apple and orange exist in a class called fruit. The child cognitively is then capable of classification.
  
- ☺ **Growth and development is a continuous process.** As a child develops, he or she adds to the skills already acquired and the new skills become the basis for further achievement and mastery of skills. Most children follow a similar pattern. Also, one stage of development lays the foundation for the next stage of development. For example, in motor development, there is a predictable sequence of developments that occur before walking. The infant lifts and turns the head before he or she can turn over.
  - Infants can move their limbs (arms and legs) before grasping an object. Mastery of climbing stairs involves increasing skills from holding on to walking alone. By the age of four, most children can walk up and down stairs with alternating feet. As in maturation, in order for children to write or

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draw, they must have developed the manual (hand) control to hold a pencil and crayon.

- ☺ **Growth and development proceed from the general to specific.** In motor development, the infant will be able to grasp an object with the whole hand before using only the thumb and forefinger. The infant's first motor movements are very generalized, undirected, and reflexive, waving arms or kicking before being able to reach or creep toward an object. Growth occurs from large muscle movements to more refined (smaller) muscle movements.
- ☺ **There are individual rates of growth and development.** Each child is different and the rates at which individual children grow is different. Although the patterns and sequences for growth and development are usually the same for all children, the rates at which individual children reach developmental stages will be different. Understanding this fact of individual differences in rates of development should cause us to be careful about using and relying on age and stage characteristics to describe or label children. There is a range of ages for any developmental task to take place.
  - This dismisses the notion of the “average child”. Some children will walk at ten months while others walk a few months older at eighteen months of age. Some children are more active while others are more passive. This does not mean that the passive child will be less intelligent as an adult. There is no validity to comparing one child's progress with or against another child. Rates of development also are not uniform within an individual child. For example, a child's intellectual development may progress faster than his emotional or social development.

An understanding of the principles of development helps us to plan appropriate activities and stimulating and enriching experiences for children, and provides a basis for understanding how to encourage and support young children's learning.

## **1.3 Infancy**

A baby is considered an infant from birth through the first year of life. During this first year, babies develop skills that will be lifelong resources. Pediatricians look for specific markers of growth and development during this time. Learning how to

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control the head, move by crawling and sit are called gross motor skills. Using the thumb and finger to pick up pieces of food and hold a pacifier are called fine motor skills. Sensory skills are measured by observing a baby ability to see, hear, taste, touch and smell. Language skills are evident the first year of life when a baby makes sounds, learns some basic words and responds to the spoken word. Finally, social skills include how a baby interacts with family and peers.

## **1.4 Childhood**

After age 1 year, a child physical growth slows down considerably. The toddler years are more mobile and exploratory. Middle childhood occurs about age 6 years, and children have a better sense of right and wrong then. They also tend to become more independent as they begin dressing themselves and spend more time at school and with friends. Cognitive changes include rapid mental growth with a greater ability to talk situations through and focus on the environment around them instead of being self-centered.

## **1.5 Juvenile**

As children approach the ages of 9 and 10 years, they become more independent and might start noticing the physical changes of puberty. A major growth spurt can occur at this time as the body begins sexual development. This also can be a time of stress for children as peer pressure takes its toll. Body image along with emotional changes often cause children to feel less confident. Juveniles also start preparing for middle school by taking on more academic responsibilities and focusing on goal-setting and accomplishment

## **1.6 Adolescence**

From ages 12 to 18 years, children experience distinct mental and physical changes. According to the National Institutes of Health (NIH), the beginning of a girl menstrual cycle typically occurs 2 years after the onset of puberty. The NIH reports that boys do not begin puberty with a distinct marker and tend to mature with adult genitalia about age 16 or 17 years. During this time of physical change, adolescents may become more self-centered. In middle to late adolescence, teenagers are often characterized as becoming more comfortable with their body sexually and ready to have romantic friendships. Adolescent behavior often includes the teen-agers need to pull away from parents and authority figures to establish their own self-identity and make decisions on their own.

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## **1.7 Adulthood**

Adulthood is often noted when a person is considered chronologically, legally and behaviorally ready to hold responsibilities such as operating a motor vehicle, voting, taking the vows of marriage, entering into a contract and serving in the armed forces. The process of becoming mature does not end with adolescence but continues throughout adulthood as psychological, safety and self-actualization needs are met. Adulthood is often divided into three categories: young adulthood, middle age and old age.