UNIT 7  NATURE AND PRINCIPLE OF HUMAN DEVELOPMENT*

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7.0  INTRODUCTION

Fig.7.1: Sujit Kumar- The Chicken Boy of Fiji

Source: http://www.technogypsie.com

Sujit exhibited dysfunctional behaviour as a child. His parents locked him in a chicken coop. His mother committed suicide and his father was murdered. His grandfather took responsibility for him but still kept him confined in the chicken coop. He was eight years old when he was found in the middle of a road, clucking and flapping. He pecked at his food, crouched on a chair as if roosting, and

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Developmental Processes

would make rapid clicking noises with his tongue. His fingers were turned inward. He was taken to an old people’s home by care workers, but there, because he was so aggressive, he was tied with bed sheets to his bed for over 20 years. Now he is over 40 years old is cared for by Elizabeth Clayton, who rescued him from the home.

- Source: http://www.technogypsie.com/faerie/?p=2309

Even after getting treatment can care by many psychologists, Sujit kumar is still not able to talk and walk like other people. Why after so many years staying with humans Sujit is not able to learn walking and communication in human language? What do you think could be the reason of this failure? According to psychologists the reason is not able to learn any of the required behaviour within the timeline of ‘critical period’ of development. But what is critical period of development? To understand this we need to first understand the concept of development. The present unit therefore will discuss the meaning of development, issues and stages in development of humans, and then put forward different conception of stages involved in development. It also explains the importance of critical period in development.

7.1 OBJECTIVES

After reading this unit, you will be able to:

- Define and describe human development;
- Define life span development;
- Identify the human developmental periods;
- Explain the key issues involved in human development;
- Understand contextual influence on development; and
- Describe the importance of critical period.

7.2 HUMAN DEVELOPMENT

Development describes the growth of humans throughout the lifespan, from conception to death. Development does not just involve the biological and physical aspects of growth, but also the cognitive and social aspects associated with development. The scientific study of human development seeks to understand and explain how and why people change throughout life. This field examines change across a broad range of topics including motor skills and other psycho physiological processes. Cognitive development involves areas such as problem solving, moral understanding, and conceptual understanding; language acquisition; social, personality, and emotional development; and self-concept and identity formation. The scientific study of development is important not only to psychology, but also to sociology, education, and health care. By better understanding how and why people change and grow, one can then apply this knowledge to helping people live up to their full potential.

7.2.1 Topical Areas of Human Development

In this section, we will briefly discuss those areas which are the part of investigation among developmental or lifespan psychologists. Following are the major four such areas:
• **Physical Development**: It involves studying those aspects of our body that are responsible for physical development such as brain, nervous system, genes, hormones and availability of nutrition etc.

• **Cognitive Development**: The focus of this area is to understand how intellectual capacity changes with growth and physical changes.

• **Personality Development**: This area studies the development or change in one’s personality throughout the lifespan. Further, it aims at understanding the individual differences among people w.r.t. their personality structure.

• **Social Development**: Under this area, psychologists attempts to understand how people interact with other people and forms relationship with each other. It also focuses on those factors that affect social development.

A point to remember here is that these four domains or areas are not independent but are overlapping.

### 7.3 **DEFINITION OF LIFE SPAN DEVELOPMENT**

We can define life span development as given below:

“The pattern of change that begins at conception and continues through the life cycle.”

Lifespan development can also be defined as a methodical, intra-individual change associated with progressions corresponding to age. The development progresses in a manner implicating the level of functioning. Life-span developmental psychology is the field of psychology which involves the examination of both constancy and change in human behaviour across the entire life span, that is, from conception to death (Baltes, 1987). Development occurs in different domains, such as the biological (changes in our physical being), social (changes in our social relationships), emotional (changes in our emotional understanding and experiences), and cognitive (changes in our thought processes). Some developmental psychologists prefer to restrict the notion of development only to changes which lead to qualitative reorganisation in the structure of a behaviour, skill or ability (Crain, 2000). According to one other view (Educational Foundation, 2001) life span development is a process beginning at conception that continues until death. The progression initiates with the emergence of a fetus from a one celled organism. As the unborn child enters the world, the environment in which the child exists begins to influence the child’s development. According to Levinson, the life cycle consists of four 25 year eras. The main developmental periods are child and adolescence, early adulthood, middle adulthood and late adulthood. Each era’s transition involves a necessary change in the character of the individual’s life and sometimes takes up to six years to complete the change (Smith, 2009). The study of human development began with Darwin and other evolutionists. Darwin thought if he studied human development he could further prove his theory of evolution (Boyd & Bee, 2006). Rutter and Rutter (1992) used the following as a working definition of development in relation to humans. They stated that life span development is a systematic, organised, intra-individual change that is clearly associated with generally expected age related progressions and which is carried forward in some way that has implications for a person’s pattern or level of functioning at some later time.
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7.4 FACTORS INFLUENCING DEVELOPMENT

According to developmental psychologists, a number of factors can affect human growth and development. Some of the major factors are as follows:

1) **Heredity:** The genes that we inherit from our parents and ancestors certainly play an important role in development. Not just physical attributes but social attributes are also transmitted from parents to off-springs through these genes. Colour of your eyes, height, hair, intelligence and aptitude everything depends significantly on your genes.

2) **Sex:** Sex is a very important factor which influences human growth and development. Difference in sex leads to a difference in growth pattern and development pattern. Studies have suggested that teenage girls’ physical growth is faster than boys.

3) **Socioeconomic:** Socioeconomic factors have been found to influence at multiple levels. Children from better socioeconomic level were found to have better intelligence level, better height and better mental health. The most important reasons behind this are better nutrition, better facilities, regular meals, sleep, and exercise.

4) **Hormones:** Our body is regulated by a number of hormonal activities. One of such important group of hormones is known as endocrine glands. These glands secrete hormones directly into our bloodstream and thus regulate the process of growth and development. Undersecretion or oversecretion of any hormone can lead to abnormal developmental growth.

5) **Nutrition:** Our body requires a good amount of calories and nutrition for optimal growth. Since, growth is directly related to nutrition, poor nutrition or malnutrition may lead to many problems such as being underweight, shorter height, and of low height for age, known as stunting. Further, malnourished may also slows down overall growth process.

6) **Race:** Every race has its unique physical characteristics. Therefore, depending on your race, height, weight and colour your skin varies.

7) **Culture:** Every culture have their unique values, customs, code of conduct, expectations and appropriate rearing methods. These differences in culture significantly affect developmental processes.

7.5 ISSUES OF HUMAN DEVELOPMENT

A number of major issues have emerged in the study of human development. These issues include the following: Is development due more to genetics or environment? Does development occur slowly and smoothly, or do changes happen in stages? Do early childhood experiences have the greatest impact on development, or are later events equally important?

*Continuity and Discontinuity:* The question of whether development is solely and evenly continuous, or whether it is marked by age-specific periods. Developmental Psychologists who advocate the continuous model describe development as a relatively smooth process, without sharp or distinct stages, through which an individual must pass. That is, development is conceived of as
a process of the gradual accumulation of a behaviour, skill, or knowledge. In contrast, those who hold to the second view would suggest that developmental change is best characterised as discontinuous in nature. They describe development as a series of discrete stages, each of which is characterised by what had gone on in the past and how well the child was able to master the developmental tasks of that period etc. These theorists suggest that behaviours or skills often change qualitatively across time, and that new organisations of behaviours, skills, or knowledge emerge in a rather abrupt or discrete fashion.

**Stability and Change:** Another issue which is of importance to developmental psychologists is the issue of stability versus change. Whether development is best characterised by stability, for example, does a behaviour or trait such as shyness stay stable in its expression over time or change example: Could a person’s degree of shyness fluctuate across the life span?

**Nature vs. Nurture:** Whether the behaviour ultimately developed by the child is due to hereditary factors or environmental factors. This issue is of great importance to psychologists. The debate over the relative contributions of inheritance and the environment is one of the oldest issues in both philosophy and psychology. This debate concerns the relative degree to which heredity and learning affect the behaviour of the individual. Both genetic traits and environmental circumstances are involved in an individual’s development, although the amount of influence the two has is not clearly evident. In fact it may be stated that the individual and his or her circumstances decide how much of the behaviour is influenced by heredity factors and how much by environmental factors. Today, most psychologists believe that it is an interaction between these two forces that causes development. Some aspects of development are distinctly biological, such as puberty. However, the onset of puberty can be affected by environmental factors such as diet and nutrition.

### Self Assessment Questions (SAQ I)

Fill in the blanks:

1) ................................................ secrete hormones directly into our bloodstream and thus regulate the process of growth and development.

2) ...................................................... is a process beginning at conception that continues until death.

3) The study of human development began with ..........................................

4) Growth is directly related to .................................................................

5) Both .............................................. and ..................................... are involved in an individual’s development.

### 7.6 PERIODS OF DEVELOPMENT

Human development periods span the lifetime from conception to the end of life. These periods are as follows, prenatal, early, middle and late childhood, puberty, adolescence, hyoung adulthood, early, middle and later adulthood old age. As the child grows and approaches adulthood the periods are adolescence, early, middle and late adulthood. Numerous theories have been put forward about the periods of development and the movement from one period to the next stage
Developmental Processes

Various theories attempt to define how movement from one level to the next level of development occurs (Boyd & Bee, 2006). The periods of development are given below. Each period has certain important tasks to accomplish by the individual and depending on the success or completion of the tasks, the movement to the next stage of development take place. These periods are given below:

Table 7.1: Major Periods of Human Development

<table>
<thead>
<tr>
<th>Period</th>
<th>Approximate Age Range</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal</td>
<td>Conception to birth</td>
<td>The one-celled organism transforms into a human baby with remarkable capacity to adjust to the life outside the womb.</td>
</tr>
<tr>
<td>Infancy and toddlerhood</td>
<td>Birth-2 years</td>
<td>Dramatic changes in the body and brain support the emergence of a wide array of motor, perceptual, and intellectual capacities and first intimate ties to others.</td>
</tr>
<tr>
<td>Early childhood</td>
<td>2-6 years</td>
<td>During the “play years,” motor skills are refined, thought and language expand at an astounding pace, a sense of morality is evident, and children begin to establish ties to peers.</td>
</tr>
<tr>
<td>Middle childhood</td>
<td>6-11 years</td>
<td>The school years are marked by advances in athletic abilities; logical thought processes; basic literacy skills; understanding of self, morality, and friendship; and peer-group membership.</td>
</tr>
<tr>
<td>Adolescence</td>
<td>11-18 years</td>
<td>Puberty leads to an adult-sized body and sexual maturity. Thought becomes abstract and idealistic and school achievement more serious. Adolescents focus on defining personal values and goals and establishing autonomy from the family.</td>
</tr>
<tr>
<td>Early adulthood</td>
<td>18-40 years</td>
<td>Most young people leave home, complete their education, and begin full-time work. Major concerns are developing a career; forming an intimate partnership; and marrying, rearing children, or establishing other lifestyles.</td>
</tr>
<tr>
<td>Middle adulthood</td>
<td>40-65 years</td>
<td>Many people are at the height of their careers and attain leadership positions. They must also help their children begin independent lives and their parents adapt to aging. They become more aware of their own mortality.</td>
</tr>
<tr>
<td>Late adulthood</td>
<td>65-death</td>
<td>People adjust to retirement, to decreased physical strength and health, and often to the death of a spouse. They reflect on the meaning of their lives.</td>
</tr>
</tbody>
</table>

7.7 LIFE-SPAN PERSPECTIVE ON DEVELOPMENT

Life-span perspective, proposed by Paul Baltes (1987) considers development is the result of multiple factors in different frameworks. Theorists who support the view of lifespan perspective on development view development as a lifelong process and give all age period equal importance. Paul Baltes and his colleagues have identified four underlying principles of the lifespan perspective:

- Development is lifelong
- Development is multidimensional
- Development is multidirectional
- Development is highly plastic
- Development is influenced by multiple interacting factors

1) Development is Lifelong: This assumption or principle states that all age period play equally important role in development and no single age period or developmental stage is supreme in its impact on life course than other. Therefore, development takes place throughout one’s life instead of taking place in parts or stages only, proposed by other theorists.

2) Development is Multidimensional: Multidimensionality refers to the fact that development cannot take place in one dimension rather it is a result of development in all dimensions (physical, personality, cognitive, and social).

3) Development is Multidirectional: This assumption states that there is no single and fixed path of development. Development does not mean that there will always be a growth, rather, at any point of time development may be a joint expression of growth and decline.

4) Development is Highly Plastic: Plasticity means that we have the ability to adapt and modify. This means one can develop skills and abilities throughout one’s life span. Plasticity may vary across individual.

5) Development is influenced by Multiple Interacting Factors: There is no single factor that can influence developmental trajectory rather there are multiple interacting factors influencing developmental process. According to Baltes, three such factors include age-graded influences, history-graded influences, and non-normative influences.

Age-graded influences: Age-grade refers to specific age group such as infants, adolescence, adult etc. People belonging to same age-grade, share similar experiences due to similar biological changes. However, their experiences can be similar due to shared social customs and values such as, starting school around 5 years or getting driving license at age 18.

History-graded influences: The time period in which you are born influence your experiences. Examples include war, any natural calamity, economic prosperity or depression or any technological advances (such as introduction of computers, internet or mobile phones). Due to these history-graded influences people born and brought-up around same time period carry tend to be alike in many ways.
Non-normative influences: The above discussed influences (age-graded and history-graded) are normative i.e., shared by a large number of people. Whereas, there are certain events that can be experienced only by one person or a few people such as death of parents, divorce or getting affected by some disease.

7.8 CONTEXTUAL INFLUENCE ON DEVELOPMENT

Urie Bronfenbrenner (1979) has proposed one of the most influential theories explaining the role of context in our development. His theory is known as “Ecological System Theory”. Now we will discuss this theory in detail:

Ecological Systems Theory

The ecological system theory proposed that human development is influenced by many socio-cultural or environmental forces. He has envisioned the environment consisting of five structures namely, microsystem, mesosystem, exosystem, macrosystem and chronosystem.

![Structure of the environment in ecological systems theory. Please note chronosystem is not pictured here.](image)


Microsystem: This is the immediate environmental structure where an individual have direct interaction with their significant others such as parents, sibling, teachers, and peers. According to Bronfenbrenner, in this system the relationship between individual and significant others is bidirectional i.e., if parents are exerting any influence on a child’s behaviour then child’s behaviour or characteristic will also affect his parents’ behaviour.

Mesosystem: This is the second level structure of this model. This level is comprised of connections between microsystems. For example, how parents of a child relate to the teachers or how parents treat their child’s friends affect child’s behaviour.
**Exosystem:** It includes those social contexts on which a developing individual have no control. Events occurring in this social context can affect mesosystem and the experiences of developing person such as, parent’s transfer, work schedule, availability of maternity, paternity leave or availability of hospital.

**Macrosystem:** It includes cultural values, customs and laws. It is the outermost level and does not have specific context.

**Chronosystem:** The term ‘chrono’ refers to time. According to Bronfenbrenner, it is a temporary level; it changes quickly and refers to any socio-historical events such as war or economic condition of the country.

Thus, in a nutshell, the ecological model of development suggests that there is no single factor that affects the development of the individual significantly rather it is result of interacting factors. Recently Bronfenbrenner have characterized his perspective as a *bioecological model* (Bronfenbrenner & Evans, 2000).

### 7.9 CRITICAL PERIOD HYPOTHESIS

![Critical Period](https://en.wikipedia.org)

**Source:** https://en.wikipedia.org

Critical Period Hypothesis (CPH) states that there is a biologically determined time period during which children are more sensitive to external stimuli and environment than at other times. To be more specific, children’s nervous system is more sensitive to certain environmental stimuli and if for some reason child does not receive those appropriate stimulus during critical period then the child will not be able to process those environmental stimuli in his or her future also. The hypothesis of critical period is not only limited to human only it is equally applicable on animals also. For instance, newborn mice must experience normal whisker sensation in the first few days of life or they will develop abnormal tactile sensitivity in the face region; cats must be allowed normal visual input during the first three months or their vision will be permanently impaired; and monkeys need consistent social contact during the first six months or they will end up extremely emotionally disturbed. Similarly, in humans also if children won’t receive normal visual stimulus or language stimulus or opportunity for waking then the child will not be able to see or acquire language or walk normally like other humans.

Another term similar to ‘critical’ period is known as ‘sensitive’ period- extended time period during which some learning is still possible. However, many psychologists consider both terms similar.
**Self Assessment Questions (SAQ II)**

State whether the following are ‘True’ or ‘False’:

1) The ecological model of development suggests that there is no single factor that affects the development of the individual significantly.  (   )

2) The ecological system theory proposed that human development is influenced by many socio-cultural or environmental forces.  (   )

3) Mesosystem is the immediate environmental structure where an individual have direct interaction with their significant others.  (   )

4) Critical Period Hypothesis (CPH) states that there is a biologically determined time period during which children are more sensitive to external stimuli and environment than at other times.  (   )

5) Development is unidirectional and unidimensional.  (   )

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**7.10 LET US SUM UP**

In this unit we learned the concept of human development. We started with the meaning of human development and life-span development. Then we moved on to discuss the factors affecting development and basic issues of development. Perspective on life-span development was covered followed by ecological model of development. Lastly, we covered the meaning and importance of critical period in human development in this unit.

**7.11 UNIT END QUESTIONS**

1) What do you understand by life-span development? What are the major areas of studying human development?

2) Write any three major issues of human development.

3) What is lifespan perspective on development?

4) Distinguish among age-graded, history-graded, and nonnormative influences on lifespan development. Cite an example.

5) What is ecological system model of development?

6) Write a note on the role of critical period in human development with an appropriate example.

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**7.12 GLOSSARY**

**Life Span Development**: The pattern of change that begins at conception and continues through the life cycle.

**Multidimensionality**: It refers to the fact that development cannot take place in one dimension rather it is a result of development in all dimensions (physical, personality, cognitive, and social).

**Plasticity**: It refers to our ability to adapt and modify. This means one can develop skills and abilities
Nature and Principle of Human Development

Age-graded Influences: Age-grade refers to specific age group such as infants, adolescence, adult etc. People belonging to same age-grade, share similar experiences due to similar biological changes.

The Ecological System Theory: It proposed that human development is influenced by many socio-cultural or environmental forces. And our environment consisting of five structures namely, microsystem, mesosystem, exosystem, macrosystem and chronosystem.

Critical Period Hypothesis (CPH): It states that there is a biologically determined time period during which children are more sensitive to external stimuli and environment than at other times.

7.13 ANSWERS TO SELF ASSESSMENT QUESTIONS (SAQ)

Self Assessment Questions I

1) Endocrine glands
2) Life span development
3) Darwin and other evolutionists
4) nutrition
5) genetic traits and environmental circumstances

Self Assessment Questions II

1) True
2) True
3) False
4) True
5) False

7.14 REFERENCES AND SUGGESTED READING


### 7.15 REFERENCE FOR IMAGES

