

Life-Span And Development

DPSY652

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UNIT 1: Introduction

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Introduction

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Objectives

- Understand the basic meaning of human development.
- Understand the basic terminologies used in the developmental psychology
- Get familiar with periods of development
- Gain familiarity with nature and nurture issue

Introduction

Developmental psychology studies the various aspects of human development. Recently, increases in human life expectancy contributed to the popularity of the lifespan approach to the study of development emphasizes extensive change from birth to adolescence (especially during infancy), little or no change in adulthood, and decline in old age. Developmental psychologists studied how growth and change occur during infancy to adulthood.

1.1. Basic terminologies

Development: development has been defined as a pattern of change that begins at conception and continues throughout life. Most development involves growth, although it also includes decline brought on by ageing and dying.

Life span development refers to the change and growth from conception to death.

Growth: growth refers to changes in the body parts or overall development of an organism.

Nature: Nature (genes) refers to temperament, abilities, and capacities inherited from parents.

Nurture: Nurture (environment) refers to the environmental influence that shapes our behaviour.

The individual's systematic changes and continuities between conception and death or "from womb to tomb" are defined as development. Development starts from the moment of origin in the mother's womb and continues until the individual reaches fullness. Developmental psychologists study how people's thoughts, feelings, and behaviours change over time. Physical development, cognitive development, and social-emotional development are the three critical dimensions examined in this field. These three aspects cover motor skills, executive functions, moral understanding, language acquisition, social transformation, personality, emotional development, self-concept, and identity formation.

From the moment we first conceived and to the day we die, we are developing and constantly changing. During the early period of life, the pace of growth is breakneck, and we can perceive it more quickly than our adulthood period. So our early phase of development seems happy as our growth is childhood to adolescence and adulthood. But afterwards, we can observe the sudden change in our outlook and our power as it declines, and we feel unhappy because we are advancing toward old age. Continuous and regular changes in physical and mental characteristics may be regarded as growth. And growth may be considered to be a progressive change. Change at one stage of growth is related to the change at another. For example, growth noticed during childhood is naturally related to during infancy. That's why growth may be regarded as one continuous whole. Due to illness or some unfavourable circumstances leads to decline; after reaching good health or recovering from illness, adverse circumstances have been removed. The significant changes in humans from infancy to old age.

1.2. Nature of development:

A chronicle of the event in any person's life event can quickly become a confusing and tedious array of details. The two concepts help provide a framework for describing and understanding an individual's development: development process and periods.

1.3. Biological (physical), cognitive and socioemotional processes

As we know, development is the pattern of change that begins at conception and continues through the lifespan. The pattern of the change is very complex because it is the product of the biological, cognitive and socioemotional processes.

Biological process:

Biological processes produce physical changes within an individual. Genes are inherited from the parent. Heredity instructions are carried by the chromosomes influence the development throughout life. It includes the development of the brain, height and weight gains, changes in motor skills, nourishment, keeping fit, the hormonal changes of adolescence, and cardiovascular declines affecting human growth.

Cognitive process:

The cognitive processes refer to the change in an individual's higher mental abilities (thought, intelligence, and language). These activities involved in cognitive processes include reading stories, solving puzzles, putting together two-word sentences. Visualizing themselves would be like superheroes.

Socioemotional process:

It refers to changes in the individual's interaction with society regarding relationships with other people, emotions, and personality changes. An aggressive action has taken by boy, if his wish was not fulfilled by his parents, love and affection between soulmate are all shown the role of socioemotional processes in development.

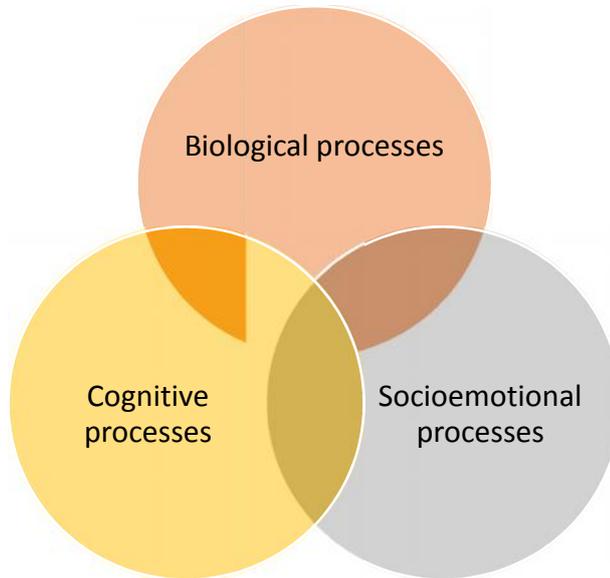


Figure 1.1 processes involved in developmental changes. Biological, cognitive, and socioemotional processes interact as individuals develop.

We can see all these development changes happen within a person simultaneously. So all these processes are inextricably intertwined. Consider an infant's smile in response to the mother's touch. It depends on combining all three development processes: biological, cognitive, and socioemotional processes.

1.4. Periods of development

The interplay of biological, cognitive and socioemotional processes produces the periods of the human lifespan. As we know, the development period refers to the timeframe in which a person's life is characterized by specific features. We describe development in terms of particular periods. There are eight periods of life classified for developmental change. These are listed below:

The prenatal period - it's a time from conception to birth. It involved excessive growth from a single cell to a complete organism with brain and behaviour capabilities in approximately nine months.

Infancy is the period of a child from birth to 18 or 24 months. It is the time when an infant has been highly dependent upon adults. During this time, many psychological activities- language development, symbolic thought process, sensory-motor coordination, and social learning- begin.

Early childhood is the developmental period from the age of 3 or 6. We can say it is preschool years. During this time, they learn how to become self-sufficient and care for themselves.

Middle and late childhood: Developmental period from about 6 to 11 years. This period is called elementary school years. During this period, they learn fundamental skills (reading, writing and arithmetic ability). They wanted to spend more time with their peers and play with them.

Adolescence is the developmental period of childhood transition to early adulthood; adolescence ranges from 12 to 19 years. It begins with rapid physical changes, including height, weight, development of sexual characteristics, changes in body shape. An identity and pursuit of independence are prominent. They think more logical, abstract, and idealistic.

Early adulthood- this developmental period begins in the early 20s and lasts through the 30s. This is a time of establishing economic independence and personal and career development. An intimate relationship between partners started a family and rearing their kids.

Middle adulthood-approximately 40 years of age to about 60 have been seen in this developmental period. In this period, they indulge in expanding personal and social involvement and fulfilling responsibility, assisting children in becoming competent, reaching and maintaining satisfaction in their career.

Late adulthood begins in the 60s or 70s and lasts until death. It is a time when individuals review their lives, think about retirement, and adjust to new social roles involving decreasing strength and health.

1.5. Interaction of Nature (Genes) and Nurture (Environment)

Human development has been influenced by both Nature and Nurture. Nurture (environment) refers to the environmental influence that shapes our behaviour, and Nature (genes) relates to temperament, abilities, and capacities inherited from one's parents. Most developmental psychologists now explore the interplay between innate and environmental factors (both/and), rather than taking such polarised viewpoints (either/or) on most aspects of development. The biopsychosocial paradigm, which posits that biological, psychological, and social (socioeconomic, socio-environmental, and cultural) elements all play a substantial influence in human development, is frequently used by developmental psychologists to frame their study.

Beyond our basic genotype, we are all born with certain genetic features inherited from our parents, such as eye colour, height, and certain personality traits.

Genes and the environment have a complex relationship. The environment, for example, has an impact on our unique experiences and interactions with the environment, which are influenced by our genes (Diamond, 2009; Lobo, 2008). Nature and nurture have a reciprocal connection in shaping who we become, but the proportional contributions are still up for debate. Heritability refers to the source of individual differences. In biology, imprint refers to the proportion of a trait's variation due to genetic differences in a population.

Individual development, especially for highly heritable features like eye colour, is influenced by various environmental circumstances, including other genes in the organism and temperature and oxygen levels during development. Gene expression can be affected by environmental factors, a relationship known as gene-environment interaction. Genes and the environment work together to develop traits by communicating back and forth.

Environment plays a vital role in determining the organism's development and the manifestation of its behaviours and traits.

- I. Culture-the impact of Indian values

- II. Race
- III. Social class - the influence of wealth, poverty, middle-class status
- IV. Ethnicity-the impact of common language, religion, or national origin

1.6. Summary

- Development starts from the moment of origin in the mother's womb and continues until the individual reaches fullness. Developmental psychologists study how people's thoughts, feelings, and behaviours change over time.
- Biological processes produce physical changes within an individual. Genes are inherited from the parent.
- The cognitive processes refer to the change in an individual's higher mental abilities (thought, intelligence, and language).
- The interplay of biological, cognitive and socioemotional processes produces the periods of the human lifespan.
- Genes and the environment have a complex relationship. The environment, for example, has an impact on our unique experiences and interactions with the environment, which are influenced by our genes.

1.7. Keywords

Life span development refers to the change and growth from conception to death.

Growth: growth refers to changes in the body parts or overall development of an organism.

Nature: Nature (genes) refers to temperament, abilities, and capacities inherited from parents.

Nurture: Nurture (environment) refers to the environmental influence that shapes our behaviour.

The prenatal period – it's a time from conception to birth. It involved excessive growth from a single cell to a complete organism with brain and behaviour capabilities in approximately nine months.

Infancy is the period of a child from birth to 18 or 24 months. It is the time when an infant has been highly dependent upon adults. During this time, many psychological activities- language development, symbolic thought process, sensory-motor coordination, and social learning- begin.

1.8. Self-assessment

1. Biological processes produce _____ within an individual.
 - a. Physical changes
 - b. Social changes
 - c. Cognitive changes
 - d. Psychological changes
2. Genes are inherited from the_____
 - a. Parents
 - b. Environment
 - c. Culture
 - d. Society
3. What is known as the period of a child from birth to 18 or 24 months?
 - a. Adolescence
 - b. Puberty
 - c. Infancy

- d. None of the above
- 4. What is known as childhood transition to early adulthood?
 - a. Infancy
 - b. Adolescence
 - c. Adulthood
 - d. None of the above
- 5. Life span development refers to the change and growth from
 - a. Conception to infancy
 - b. Conception to adulthood
 - c. Conception to adolescence
 - d. Conception to death
- 6. What does happen in adolescence periods?
 - a. The transition between childhood to adulthood
 - b. The transition between adulthood to late adulthood
 - c. The transition between adolescence to adulthood
 - d. The transition between infancy to adulthood
- 7. _____refers to changes in the body parts or overall development of an organism.
 - a. Lifespan development
 - b. development
 - c. Maturity
 - d. Growth
- 8. _____refers to temperament, abilities and capacities inherited from parents.
 - a. Environment
 - b. Syndrome
 - c. Gene
 - d. Temperament
- 9. Nurture refers to _____ influence that shapes our behaviour.
 - a. Gene
 - b. DNA
 - c. Environment
 - d. Personality
- 10. _____is defined as a pattern of change that begins at conception and continues throughout life.
 - a. Development
 - b. Nature (gene)
 - c. Nurture
 - d. Growth

Answer Key:

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|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
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| a | a | c | b | d | a | d | c | c | a |
|---|---|---|---|---|---|---|---|---|---|

1.9. Review questions

1. Explain developmental psychology?
2. Describe the human development period?
3. Explain how nature and nurture do influence human development?



Further Readings

- Hurlock, E. B. (1980). *Developmental psychology: a life-span approach*. New York: McGraw-Hill
- Shaffer, D. R., & Kipp, K. (2007). *Developmental psychology: Childhood and adolescence*. Australia: Wadsworth.

UNIT 2: Methods in Developmental Psychology

CONTENTS

Objectives

Introduction

2.1. Cross Sectional

2.2. Longitudinal

2.3 Subjective Method

2.4 Survey

2.5 Case Study

2.6. Summary

2.7. Keywords

2.8. Self-Assessment/Evaluation

2.9. Review Questions

Further Readings

Objectives

- Understand the basic meaning of the methods.
- Classify the different approaches and understand the use.
- Understand the basic terminologies used in the method of developmental psychology.

Introduction

How do we study child development?

To answer this question, there are particular methods that we can use to assess the changes and growths in child development. We use research methods to gather information, and the research design is the framework or blueprint and strategies that we use to decide how to collect and analyze data. So, research design detects which method is appropriate for the present proposed study and how we will use it.

Developmental research design techniques are used in lifespan development to study the sample. So, when we explore the developmental research designs most prominently, we use them to analyze what changes occur and what stays as it is. Thus, we can examine how age, cohort, gender, and social interaction impact development through this design technique.

The following methods are principally used in the study of developmental psychology:

1. Subjective method
2. Survey method
3. Case history method
4. Experimental method

5. Psycho-physical method
6. Clinical
7. Cross-sectional approach
8. Longitudinal approach

We are going to understand the above method below. These methods will help obtain data from persons to gather information related to development. To study child development, developmental psychologists have to follow two basic approaches. That is the cross-sectional and longitudinal approach.

2.1. Cross-Sectional

A *cross-sectional* study is widely used by a psychologist because it is less time consuming and easily affordable (less expensive). It is designed to examine participants' behaviour at different ages tested simultaneously. Observation can be used to collect data within a cross-sectional design to find developmental characteristics at the same specific or particular stage of growth and change in the overall developmental process of the children in big groups. It can be quickly completed in a shorter time. Within the cross-sectional approach, various stages of children are selected and observed to measure the growth in a group simultaneously. So based on obtained data, we can understand and estimate the average nature of growth at a specific stage of the children.

2.2. Longitudinal Study

The *longitudinal study* helps to study development in humans or children over time. If researchers are interested in the studying developmental characteristics of a specific group of children of their weight, height, vocabulary, social maturity, intelligence, emotional control in a particular lifespan like the age of five, seven, nine or fourteen years of ages, longitudinal study was used for it. Through this approach, a comparative picture will be available to understand whether the child is growing satisfactorily or not. In this manner, we become acquainted with the total picture of its developmental tendencies. In fact, cumulative records of children were always available in schools are the results of longitudinal studies of children.



Limitations

1. The longitudinal study is comparatively more expensive and time-consuming than the cross-sectional study.

2.3. Subjective Method (Observational Method)

Observation is a very effective strategy for psychological investigation. It is a useful tool for describing behaviour. Throughout the day, we are occupied with witnessing a variety of things in our daily lives. We frequently fail to notice what we are seeing or what we have seen. We see, but we don't pay attention. We are only conscious of a few items that we notice on a regular basis. Have you ever been in a situation like this? You may have also noticed that observing a person or event intently for a period of time reveals a wealth of information about that person or event. In many ways, scientific observation differs from everyday observation. You may include different observational styles for studying developmental behaviour, such as:

Naturalistic observation & Controlled observation:- Naturalistic Observation is when observations are made in a natural or real-life situation (in the preceding example, the observation was made at a school). In this example, the observer makes no attempt to alter or control the situation in order to make an observation. This form of observation is carried out in a variety of settings, including hospitals, homes, schools, and day care centres. However, because they are not the topic of your study, you may need to regulate some elements that influence behaviour. As a result, many psychological investigations are carried out in laboratories. This is known as controlled observation.

Non-participant & Participant Observation:- There are two methods for observation. One option is to stand back and view the person or situation from afar. Two, the observer may become a member of the group under scrutiny. The individual being observed in the first situation may not be aware that he or she is being watched. For example, you could wish to look at how professors and students interact in a particular class. This goal can be accomplished in a variety of ways. You can use a video camera to record the activity in the classroom, which you can review and analyse later. Alternatively, you might choose to sit in a corner of the classroom and observe rather than interfere with or participate in their daily routines. Non-participant observation is the term for this form of observation.

2.4. Survey Method

In this method, questionnaires are most commonly used to gather information about attitudes, beliefs, opinions, etc. through this method, we can generate a lot of information for a reasonably low cost and provide anonymity of participants.

According to Kraemer (1991), survey research has three distinct characteristics. For starters, survey research is utilised to quantify various elements of a population. Examining the relationships between variables is a common component of these aspects. Second, the data obtained for survey research is subjective because it comes from humans. Finally, survey research employs a subset of the population from which the results can be extrapolated to the entire population.

Independent and dependent variables are used to determine the field of inquiry in survey research, although they cannot be controlled explicitly by the researcher. The researcher must create a model that identifies the expected associations between these factors before performing the survey. The survey is then created to put this model to the test against real-world data.

A survey, according to Pinsonneault and Kraemer (1993), is a "method of collecting information about the qualities, actions, or opinions of a large group of people." Surveys can also be used to analyse demand, identify needs, and assess impact (Salant & Dillman, 1994). The phrase "survey instrument" is frequently used to differentiate the survey tool from the survey study that it is intended to support. Large samples of the population can be gathered with the use of surveys. They're also great for collecting demographic information about the sample's make-up (McIntyre, 1999).

However, we can only gather participants' responses using the Likert scale but cannot see their reactions like body language. Sometimes participants are affected by social-desirable behaviour. When knowing about the historical context of occurrences is essential, surveys are often unsuitable, according to Pinsonneault and Kraemer (1993). Biases can develop, according to Bell (1996), either in the absence of responses from intended participants or in the form and accuracy of the responses obtained. Other sources of error include respondents intentionally misreporting behaviours in order to skew survey results or conceal inappropriate behavior. Finally, respondents may have trouble evaluating their own actions or recalling the circumstances surrounding their actions.

2.5. Case Study

Researchers have used this method to gather in-depth studies of one person, group, or event. By using this method, a researcher can assess every aspect of the life and history of the participants. The researcher tries to seek patterns and causes of participants' behaviour. You can take an example of Sigmund Freud's case study of a young woman whom he called "Anna O". She had hydrophobia symptoms. And through hypnosis, she was diagnosed.

Case studies are handy research methods that provide a level of detailed analysis, and through this, researchers might gain a sharpened understanding of the particular problems. You can take an example of any disease or disorder that a specific person has, such as case study on cancer patients, down syndrome etc.

2.6. Summary

- A *cross-sectional* study is widely used by a psychologist because it is less time consuming and easily affordable (less expensive). It is designed to examine participants' behaviour at different ages tested simultaneously.
- The *longitudinal study* helps to study development in humans or children over time.
- *Participant observation* allows researchers to be involved in the same activities while observing people's behaviour in the environment.
- Case studies are handy research methods that provide a level of detailed analysis, and through this, researchers might gain a sharpened understanding of the particular problems.

2.7. Keywords

Cross-sectional study: It examines participants' behaviour at different ages tested simultaneously.

Survey Method: It uses questionnaires to gather information about attitudes, beliefs, opinions, etc. through this method.

Naturalistic observation: It involves observing people's behaviour in a natural setting without manipulating the participant's surroundings.

Case Study: It provide a level of detailed analysis, and through this, researchers might gain a sharpened understanding of the particular problems.

2.8. Self-assessment questions

1. _____ research design techniques are used in lifespan development to study the sample?
 - a. Developmental
 - b. Social
 - c. Cognitive research design
 - d. Psychological changes
2. Person's in-depth study is the part of _____.
 - a. Observational study
 - b. Case study
 - c. Culture study
 - d. Social behaviour study
3. In which research study participants are affected by social-desirable behaviour?
 - a. Case study

- b. Observational study
 - c. Naturalistic observational study
 - d. Survey method
4. Which one is correct for the Likert scale?
- a. Frequently used psychological questionnaire
 - b. We can use this in survey methods
 - c. We cannot record facial reactions while using the Likert scale
 - d. All of the above
5. In which methods we can use questionnaires to gather information about attitude, belief etc.
- a. Case study
 - b. Survey method
 - c. Clinical
 - d. Longitudinal method
6. Which research study is comparatively more expensive and time-consuming than cross-sectional study?
- a. Longitudinal
 - b. Observational
 - c. Case study
 - d. None of the above
7. In which study researcher allowed to involves with participants?
- a. Naturalistic observation
 - b. Structured observation
 - c. Participative observation
 - d. Case study
8. Questionnaire are used to gather information about_____.
- a. Attitude
 - b. Belief
 - c. Opinion
 - d. All of the above
9. Observing block puzzle solving by kids is the example of _____.
- a. Naturalistic observation
 - b. Participant observation
 - c. Structured observation
 - d. None of the above
10. In depth analysis, we generally do _____.
- a. Naturalistic observation
 - b. Structured observation

- c. Participative observation
- d. Case study

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| a | b | d | d | b | a | c | d | a | d |

2.9. Review Questions

1. How do we study child development?
2. Explain the various type of research methods?
3. Explain the difference between longitudinal study and cross-sectional study?
4. What is a case study?
5. What is an observational research study and different types of observational research?



Further Readings

- Shaffer, D. R., &Kipp, K. (2007). *Developmental psychology: Childhood and adolescence*. Australia: Wadsworth.

Unit 3 Theory of development

Contents

Objectives

Introduction

3.1. Psychoanalytic Theories

3.2. Cognitive Theories

3.3. Ecological Theories

3.4. Summary

3.5. Keywords

3.6. Self-Assessment

3.7. Review Questions

Further Readings

Objectives

This unit will enable you to:

Know about different approaches to development

Understand role of different factors in development;

Understand how psychoanalytic and cognitive factors impact development;

Get familiar with processes in human development

Introduction

In development, what are the roles of stability and change, continuity and discontinuity, and nature and nurture? Why can memory declines in older adults be prevented, or can special care repair the harm inflicted by child neglect? The scientific method is the best tool we use to answer such questions.

Conceptualize a process/problem to be studied, collect research information, then analyze it and based on analysis conclusion was drawn. These are essential four-step processes in the scientific method.

A theory is an interrelated and coherent set of ideas that helps to explain phenomena and make a prediction. Theory consisted of all four-step processes of the scientific method. This chapter outlines key aspects of three theoretical orientations to developmental psychoanalytic, cognitive and ecological theories to answer the question mentioned above. Each of these theories contributed an essential piece to lifespan development.

3.1. Psychoanalytic theories

These theories explained development as an unconscious process and heavily colored by emotion. This theory was first introduced by Freud. He describes that development is an unconscious process of the mind and stresses that early experiences with their parents extensively shape child behaviours.

Analyzed his patients, he came up with the findings that problem is the result of early life experience as children grow, their focus of pleasure and sexual impulses shifts from the mouth to the anus and then genitals. Freud explains the five stages of psychosexual development.

| Oral | Anal | Phallic | Latency | Genital |
|---------------------------------|-----------------------------------|--------------------------|--|---|
| Pleasure centers-mouth | Pleasure focuses-anus | Pleasure focuses-Genital | Sexual interest and development-social and intellectual skills | Sexual reawakening and sexual pleasure become outside of the family |
| Birth to 1 ^{1/2} years | 1 ^{1/2} years to 3 years | 3 years to 6 years | 6 years to puberty | Puberty onward |

Three processes of psyche suggested by Freud of personality. The id – based on pleasure principle it means unconscious source of primitive sexual, dependency, and aggressive impulses; the superego – subconsciously interjects societal mores, setting standards to live by; and the ego – represents a sense of self and mediates between current realities and psychic needs and conflicts, according to psychoanalytic theory. Pain prevents the satisfaction of dependence and sexual demands, as well as the healthy dissipation of hostile sentiments, according to psychoanalytic works. Inner unrest results from the inability to communicate these demands. Pain, on the other hand, provides for unconscious fulfilment of ambivalent dependency demands when it is recognized as a legitimate physical concern.

Eric Erikson is known as one of the important revisionists of Freud's ideas Psychosocial theory. He pointed out that Freud misjudged some critical dimensions of human development. They stressed that we develop in psychosocial stages rather than in psychosexual stages. Freud said that the primary motivation for human behaviour is sexual; according to Erikson, it is social and reflects a desire to affiliate with other people.

The stages that make up his theory are as follows:

Stage 1: Trust vs. Mistrust

Stage 2: Autonomy vs. Shame and Doubt

Stage 3: Initiative vs. Guilt

Stage 4: Industry vs. Inferiority

Stage 5: Identity vs. Confusion

Stage 6: Intimacy vs. Isolation

Stage 7: Generativity vs. Stagnation

Stage 8: Integrity vs. Despair

| Psychosocial Stages: A Summary Chart | | | |
|--|------------------------------|----------------------|------------|
| Age | Conflict | Important Events | Outcome |
| Infancy (birth to 18 months) | Trust vs. Mistrust | Feeding | Hope |
| Early Childhood (2 to 3 years) | Autonomy vs. Shame and Doubt | Toilet Training | Will |
| Preschool (3 to 5 years) | Initiative vs. Guilt | Exploration | Purpose |
| School Age (6 to 11 years) | Industry vs. Inferiority | School | Confidence |
| Adolescence (12 to 18 years) | Identity vs. Role Confusion | Social Relationships | Fidelity |
| Young Adulthood (19 to 40 years) | Intimacy vs. Isolation | Relationships | Love |
| Middle Adulthood (40 to 65 years) | Generativity vs. Stagnation | Work and Parenthood | Care |
| Maturity (65 to death) | Ego Integrity vs. Despair | Reflection on Life | Wisdom |

Stage 1:- Trust versus 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.

Stage 2:- Autonomy versus shame and doubt

Erikson's theory of psychosocial development has a second stage that occurs throughout early infancy and focuses on children gaining a greater sense of personal control.

Independence's Importance

Children are just beginning to obtain some independence at this stage of development. They are beginning to take basic acts on their own and making simple selections about their preferences. Parents and caregivers can help children to develop a sense of autonomy by making decisions and gaining control.

Stage 3:- Initiative vs. Guilt

During the preschool years, the third stage of psychosocial development occurs. Children learn to establish their authority and control over the world. At this stage of psychological children develop by guiding play and other social interactions. Those Children succeed at this stage believe they are capable of leading others. Those who do not develop these skills experience remorse, self-doubt, and a lack of effort.

Stage 4: Industry vs. Inferiority

The fourth psychosocial stage occurs in the early school years, between 5 years and 11 years. Children have started to develop a sense of pride in their accomplishments and talents due to social interactions. New social and academic demands must be met by children. Failure leads to emotions of inferiority, whilst success leads to feelings of competence.

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 yourself, 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.

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 must develop or nurture something that will outlast them, which they frequently do by having children or by making a beneficial change that benefits others. Failure leads to a shallow sense of connection in the world, whereas success leads to feelings of usefulness and accomplishment. We continue to create our lives as adults, focusing on our careers and families. Those that succeed in this phase will feel as though they are making a difference in the world by being involved in their home and community. Those who do not master this talent will feel unproductive and disconnected from the rest of the world.

Stage 8: Integrity vs. Despair

The final psychosocial stage comes in old age and is centred on life reflection.

People at this stage of development reflect on the events of their lives to see if they are satisfied with their lives or if they have regrets about the things they did or did not do. Erikson's theory was unique among others in that it addressed development across the lifespan, including old age. Older people need to reflect on their lives and feel fulfilled. At this stage, success brings sentiments of wisdom, whereas failure brings feelings of regret, bitterness, and despair. At this point, people look back on their lives and assess their accomplishments. Those who reflect on a life well lived will feel fulfilled and prepared to face the end of their lives with confidence. Those who look back with only regret will be afraid that their life will end without completing the tasks they believe they should have completed.

3.2. Cognitive theories of development

The very first theorist ever to study cognitive development scientifically and methodically was Jean Piaget, whose research generated the most influential theory of cognitive development to date.

According to Piaget's stages of cognitive development, children are not capable of performing certain tasks or understanding certain concepts until they arrive at a particular stage of cognitive development

Three Basic Components to Piaget's Cognitive Theory

Cognitive structure (Schemas):- A schema, or scheme, is an abstract concept proposed by J. Piaget to refer to our, well, abstract concepts. Schemas (or schemata) are units of understanding that can be hierarchically categorized and webbed into complex relationships with one another. For example, think of a house.

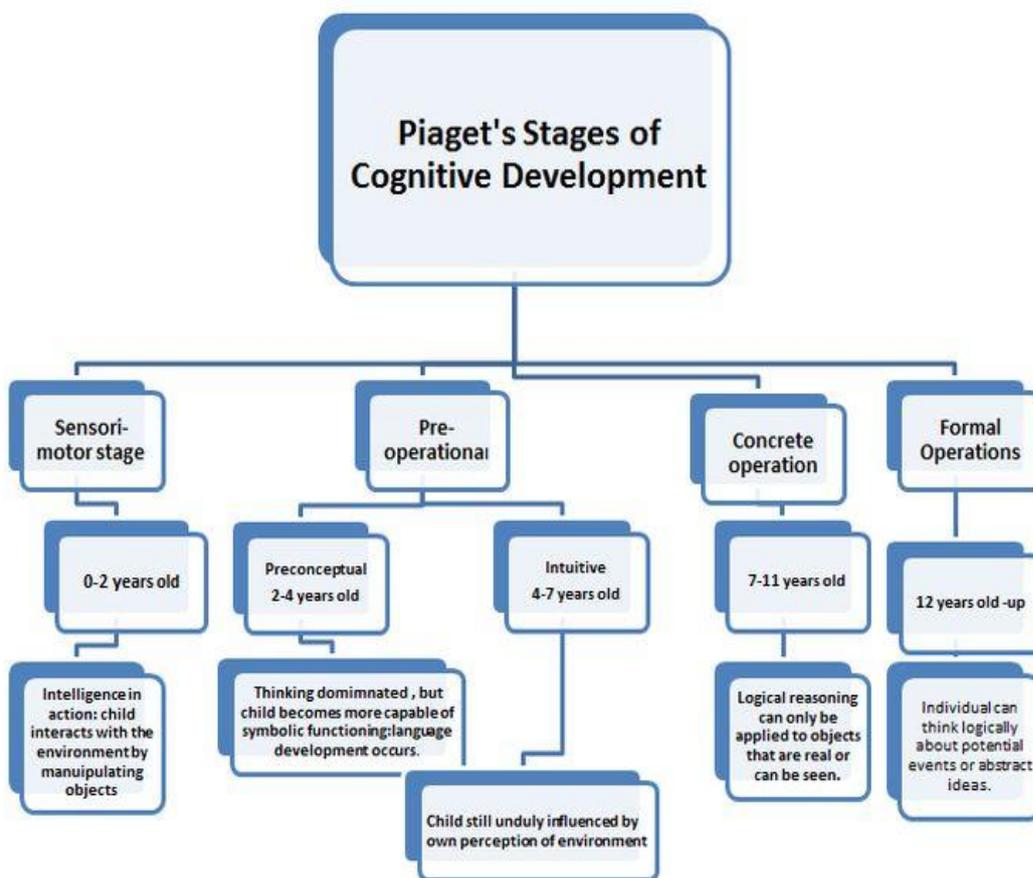
Cognitive function (Assimilation, Accommodation, Equilibration) - Cognitive development has been related to ideas on how children process knowledge. How children organize 'data' and settle on two fundamental responses stimuli: assimilation of knowledge and accommodation of knowledge.

"Assimilation is like adding air into a balloon. You just keep blowing it up. It gets bigger and bigger. For example, a two-year-old's schema of a tree is "green and big with bark" — over time, the

child adds information (some trees lose their leaves, some trees have names, we use a tree at Christmas, etc.) - Your balloon just gets full of more information that fits neatly with what you know and adds onto it.

Accommodation is when you have to turn your round balloon into the shape of a poodle. This new balloon 'animal' is a radical shift in your schema (or balloon shape)...Now that they are in college in the redwood forest, we have conceptualization (schema) of trees as a source of political warfare, a commodity, a source of income for some people, we know that people sit and live in trees to save them; in other words, trees are economical, political, and social vehicles. This complete change in the schema involves a lot of cognitive energy, or accommodation, a shift in our schema."

Piaget suggested 4 stages for cognitive development



1. Sensorimotor Period (birth to 2 years)

During this stage, a child has little competence in representing the environment using images, language, or other symbols. An important discovery during this stage is the concept of object permanence, the awareness that an object continues to exist even when it is not present.

Major Characteristics and Developmental Changes

- The infant knows 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 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.

2. The Preoperational Stage (2 to 7 Years)

The most important development during the preoperational stage is the use of language. Children develop internal representational systems that describe people, events, and feelings.

During the preoperational period, children gradually improve their mental images. Although progress in symbolic thought continues.

Major Characteristics and Developmental Changes

- Children begin to think symbolically and 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.

3. Concrete Operational Period (7 to 11yrs)

Concrete operations stage because children can perform operations only on images of tangible objects and actual events.

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.

4. Formal Operational Period from 11th year

The final stage in Piaget's theory is the formal operational period, which typically begins around 11 years of age. In this stage, children begin to apply their operations to abstract concepts in addition to concrete objects.

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.

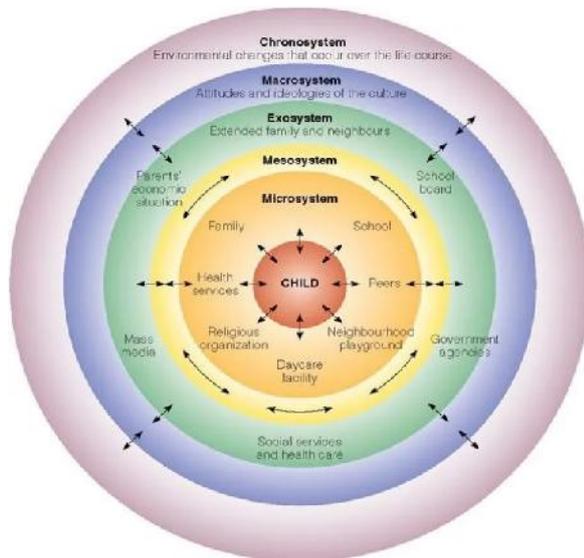
- Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning.
- Begin to use deductive logic, or reasoning from a general principle to specific information.

3.3. Ecological theory

Bronfenbrenner's ecological systems theory views child development as a complex system of relationships affected by multiple levels of the surrounding environment, from immediate family and school settings to broad cultural values, laws, and customs. To study a child's development then, we must look not only at the child and her immediate environment but also at the interaction of the larger environment. Bronfenbrenner divided the person's environment into five different systems: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem.

Five Ecological Systems

Bronfenbrenner (1977) suggested that the child's environment is a nested arrangement of structures, each contained within the next. He organized them in order of how much impact they have on a child. Because the five systems are interrelated, the influence of one system on a child's development depends on its relationship with the others.



The Microsystem

The microsystem is the first level of Bronfenbrenner's theory and are the things that have direct contact with the child in their immediate environment, such as parents, siblings, teachers and school peers. Relationships in a microsystem are bi-directional, meaning the child can be influenced by other people in their environment and can also change the beliefs and actions of other people. Furthermore, the child's reactions to individuals in their microsystem can influence how they treat them in return.

The interactions within microsystems are often very personal and are crucial for fostering and supporting the child's development. If a child has a strong nurturing relationship with their parents, this is said to positively affect the child. Whereas distant and unaffectionate parents will have a negative effect on the child.

The Mesosystem

The mesosystem encompasses the interactions between the child's microsystems, such as the interactions between the child's parents and teachers or between school peers and siblings. The mesosystem is where a person's individual microsystems do not function independently but are interconnected and assert influence upon one another.

For instance, if a child's parents communicate with the child's teachers, this interaction may influence the child's development. Essentially, a mesosystem is a system of microsystems.

According to the ecological systems theory, if the child's parents and teachers get along and have a good relationship, this should positively affect the child's development, compared to the adverse impacts on development if the teachers and parents do not get along.

The Exosystem

The exosystem is a component of the ecological systems theory developed by Urie Bronfenbrenner in the 1970s. It incorporates other formal and informal social structures, which do not contain the child but indirectly influence them as they affect one of the microsystems. Examples of exosystems include the neighbourhood, parent's workplaces, parent's friends and the mass media. These are environments in which the child is not involved and external to their experience, but it affects them anyway.

An instance of exosystems affecting the child's development could be if one of the parents had a dispute with their boss at work. The parent may come home and have a short temper with the child due to something which happened in the workplace, resulting in a negative effect on development.

The Macrosystem

The macrosystem is a component of Bronfenbrenner's ecological systems theory that focuses on how cultural elements affect a child's development, such as socioeconomic status, wealth, poverty, and ethnicity. Thus, individuals' culture may influence their beliefs and perceptions about events that transpire in life.

The macrosystem differs from the previous exosystems as it does not refer to the specific environments of one developing child, but the already established society and culture in which the child is developing. This can also include socioeconomic status, ethnicity, geographic location, and cultural ideologies. For example, a child living in a third world country would experience a different development than a child living in a wealthier country.

The Chronosystem

The fifth and final level of Bronfenbrenner's ecological systems theory is known as the chronosystem. This system consists of all of the environmental changes that occur over the lifetime, which influence development, including major life transitions and historical events. These can include normal life transitions such as starting school and non-normative life transitions such as parents getting a divorce or having to move to a new house.

3.4. Summary

- Eric Erikson is known as one of the important revisionists of Freud's ideas Psychosocial theory. He pointed out that Freud misjudged some critical dimensions of human development.
- The very first theorist ever to study cognitive development scientifically and methodically was Jean Piaget, whose research generated the most influential theory of cognitive development to date.
- Adults must develop or nurture something that will outlast them, which they frequently do by having children or by making a beneficial change that benefits others.
- The microsystem is the first level of Bronfenbrenner's theory and are the things that have direct contact with the child in their immediate environment, such as parents, siblings, teachers and school peers.
- The macrosystem differs from the previous ecosystems as it does not refer to the specific environments of one developing child, but the already established society and culture in which the child is developing.

3.5. Keywords

Psychoanalytic Theory: These theories explained development as an unconscious process and heavily colored by emotion

Schemas: Schemas (or schemata) are units of understanding that can be hierarchically categorized and webbed into complex relationships with one another. For example, think of a house.

Macrosystem: It is a component of Bronfenbrenner's ecological systems theory that focuses on how cultural elements affect a child's development, such as socioeconomic status, wealth, poverty, and ethnicity.

Chronosystem: This system consists of all of the environmental changes that occur over the lifetime, which influence development, including major life transitions and historical events.

3.6. Self-Assessment

1. On which stage pleasure center was mouth?
 - a. Anal
 - b. Oral
 - c. Genital

- d. None of the above
- 2. Freud has proposed which theory?
 - a. Psychoanalysis
 - b. Ecological theory
 - c. Cognitive
 - d. Contextual theory
- 3. Psychoanalytic theory explained that development as an _____ process.
 - a. Conscious
 - b. Subconscious
 - c. Unconscious
 - d. None of the above
- 4. Which one is correct sequence of psychosexual development stages?
 - a. Anal -Oral- Phallic- Latency - Genital
 - b. Phallic- Latency - Genital- Anal -Oral
 - c. Oral- Anal- Phallic- Latency - Genital
 - d. None of the above
- 5. The fifth stages of psychosocial theory?
 - a. Integrity vs disappear
 - b. Identity vs Role confusion
 - c. Trust vs mistrust
 - d. All of the above
- 6. Who has given psychosocial theory of development?
 - a. Freud
 - b. Eric Erikson
 - c. Maslow
 - d. Gardner
- 7. Who has proposed contextual theory of development?
 - a. Bronfenbrenner
 - b. Freud
 - c. Eric Erikson
 - d. Maslow
- 8. What is schema?
 - a. Mental representation
 - b. Concept
 - c. Mental map
 - d. All of the above
- 9. Which one is the not the part of Jean Piaget theory?
 - a. Pre-operational
 - b. Formal operation
 - c. Concreate operation
 - d. None of the above

10. Five ecological system given by_____.

- a. Bronfenbrenner
- b. Freud
- c. Eric Erikson
- d. Maslow

Answer key:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| b | a | c | c | b | b | a | d | d | a |

3.7. Review Questions

- 1. What do you mean by development?
- 2. Explain psychoanalytic theory of development?
- 3. Explain cognitive development theory?
- 4. Explain ecological theory of development with appropriate example?



Further Readings

- Shaffer, D. R., &Kipp, K. (2007). *Developmental psychology: Childhood and adolescence*. Australia: Wadsworth.

Unit 4 – Foundations of Development

Contents

Objectives

Introduction

4.1. Evolutionary and Genetic Perspective

4.2. Nature vs. Nurture

4.3. Reproductive Challenges during Pregnancy

4.4. Summary

4.5. Keywords

4.6. Self-Assessment

4.7. Review Questions

Further Readings

Objectives

This unit will enable you to:

Know about different perspectives of human development;

Understand role of nature and nurture in development;

Acquire knowledge about evolutionary and genetic development;

Get familiar with reproductive challenges during pregnancy

Introduction

It is essential to understand the factors that determine the development process. Each of us is a product of genetic factors and environmental influences. The roles of growth and learning have been briefly described in the previous section. Let us now consider in detail the contributions of heredity and environment.

4.1. Evolutionary and Genetic Perspective

An evolutionary developmental perspective posits that an extended childhood is necessary to acquire the skills needed for the complexities of the human social world. Human children have a longer juvenile period than any other mammal, suggesting that there is a substantial benefit associated with this costly trait, such as allowing for the development of a large brain capable of acquiring the skills necessary to navigate the social world (Bjorklund, Cormier, and Rosenberg, 2005; Dunbar, 1995, 2010). The intricacies of the social world are highly varied, and acquiring the ability to compete and cooperate with other complex humans takes time.

Darwin advocated the evolutionary theory for natural selection. According to this theory, behaviour and characteristics change and evolve with each generation. Many young are produced, but not all can survive. The best chance of survival will be those with features that help them cope with the demands of the environment they can live in.

Darwin wanted to determine how new species emerge, as well as how others vanish and why the component parts of animals- the long necks of giraffes, the wings of birds, the trunks of elephants--

existed in those particular forms. And he wanted to explain the apparent purposive quality of those forms or why they seem to function to help organisms accomplish specific tasks.

The result must be a "struggle for existence," in which favorable variations tend to be preserved, and unfavorable ones tend to die out. When this process is repeated generation after generation, the end result is forming a new species. Darwin's answer to all these puzzles of life was the theory of natural selection and its three essential ingredients: variation, inheritance, and selection. Individuals that possess favorable traits or variations are more likely to survive and produce offspring. Environmental context determines whether a trait is beneficial and inherited and passed on to the next generation.

A. Genetic Influences

At the time of conception, the ovum of the mother and the sperm cell of the father unite to form a new cell. The small particles in the nucleus of the cell are called chromosomes. The chromosomes have been existed in pairs. The human cells have 46 chromosomes that arranged in 23 pairs. One member from each pair comes from the mother and the other one from the father. Chromosomes store and transmit genetic information. The genes, which are the actual trait carriers, are found in very large numbers in each chromosome. The fertilized zygote brings together various combinations of chromosomes. In this way, different genes are transferred from each child of the same set of parents. Due to this reason each child bears greater similarity to his or her blood relatives than to anyone else. At the same time there are also many differences amongst blood relatives.

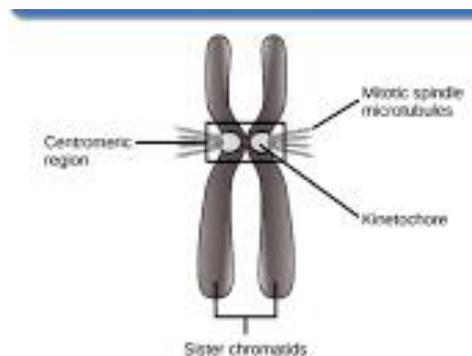
B. Genotypes and Phenotypes

Genetic transmission is a complex process. Most characteristics that we observe in human beings are combinations of many genes. Innumerable permutations and combinations of genes are responsible for the large differences in physical and psychological characteristics. Only identical or monozygotic twins have exactly the same set of chromosomes and genes as they are formed by duplication of a single zygote. Most twins are fraternal or di-zygotic, who develop from two separate zygotes. These fraternal twins may resemble each other like brother and sister, but they will also be different from one another in many ways.

Heredity: Sum total of potentials inherited at the time of birth.

Heredity instructions are carried by the chromosomes influence the development throughout the life.

Chromosomes: molecule of DNA that contains the instructions to make proteins. Organized into genes. Small thread-like structures. The nucleus of every human body cell consists of 46 chromosomes and transmit coded instructions of heredity behaviour. Receive one half of our chromosomes and genes from each of our parent.



DNA (Deoxyribonucleic acid): Special molecule that contains the genetic material of the organism. Ladder like structure.

Gene: Biological unit of heredity and it holds the information to build and maintain their cells and pass genetic traits to offspring. In cells, gene is portion of DNA.

Dominant and recessive genes: Some more active genes in influencing the trait are called dominant.

Example - (brown) colour of eye, hair, skin etc.

Some genes that are less active in influencing the trait are called recessive gene. The genes on one pair - the sex chromosomes (23rd pair of chromosomes) determine the sex of the individuals. Genes work in pairs. A child who inherits 2 X chromosomes (XX) will be a female. A child who inherits an X chromosome paired with a Y chromosome (XY) child will be a male child.

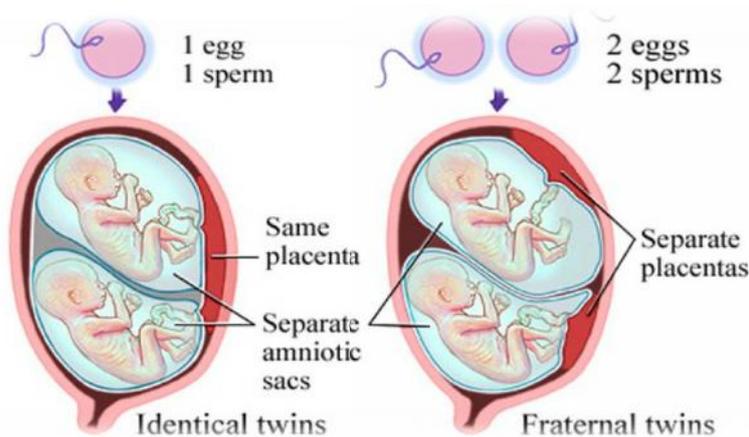
4.2. Nature VS Nurture

Developmental psychologists seek to understand whether nature (genetic) influences human development or nurture (Environment). An essential issue in developmental psychology is the relationship between the innateness of an attribute (whether or not it is part of our nature) and the influence of the environment on this attribute (whether it is influenced by our environment or upbringing). This is often referred to as the nature versus nurture debate, or nativism versus empiricism.

- The nativist ("natural") view of development asserts that the process in question is innate and influenced by the organism's genes. Natural human behavior is seen as the result of already present biological factors, such as genetic code.
- An empiricist ("nurture") perspective would argue that these processes are acquired through interaction with the environment. Nurtured human behavior is seen as the result of environmental interaction, which can provoke brain structure and chemistry changes. For example, situations of extreme stress can cause problems like depression.

The nature vs nurture discussions seeks to understand how our personality and traits are shaped by our genetic makeup, biological factors, and environment, including our parents, peers, and culture. For example, why do biological children sometimes behave like their parents? Is it due to genetic similarity or the childhood environment and what children learn from their parents?

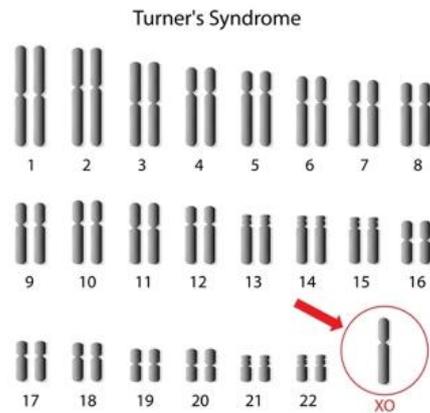
Dizygotic (fraternal) twins - two sperm penetrating two ova, and 50% of their genes. Monozygotic twins - originate from one zygote, and share 100% genes.



4.3. Reproductive challenges during pregnancy

Down syndrome or trisomy 21, Turner syndrome (47, XXY), Cri du chat syndrome, or the "cry of the cat" syndrome (46, XX or XY), Sickle cell disease, Huntington's disease, Muscular dystrophy, Schizophrenia, Addiction, Near-sightedness and diabetes are common disease that infer child health due to intake of substance and some complication during pregnancy.

Turner's syndrome: Completely or partially missing X chromosome. A chromosomal disorder in which a female is born with only one X chromosome. Symptoms include short stature, delayed puberty, infertility, heart defects and certain learning disabilities.



Cri du chat syndrome is a rare genetic disorder due to a partial chromosome deletion on chromosome 5. Its name is a French term ("cat-cry" or "call of the cat") referring to the characteristic cat-like cry of affected children. It was first described by Jérôme Lejeune in 1963.

Sickel cell disease: A group of disorders that cause red blood cells to become misshapen and break down. This inherited red blood cell disorder.

4.4. Summary

An evolutionary developmental perspective posits that an extended childhood is necessary to acquire the skills needed for the complexities of the human social world.

Darwin wanted to determine how new species emerge, as well as how others vanish and why the component parts of animals- the long necks of giraffes, the wings of birds, the trunks of elephants-- existed in those particular forms.

Most characteristics that we observe in human beings are combinations of many genes.

An essential issue in developmental psychology is the relationship between the innateness of an attribute (whether or not it is part of our nature) and the influence of the environment on this attribute (whether it is influenced by our environment or upbringing).

4.5. Keywords

Chromosomes:The small particles in the nucleus of the cell

Heredity: Sum total of potentials inherited at the time of birth.

DNA (Deoxyribonucleic acid): Special molecule that contains the genetic material of the organism.

Gene: Biological unit of heredity and it holds the information to build and maintain their cells and pass genetic traits to offspring. In cells, gene is portion of DNA.

Sickel cell disease: A group of disorders that cause red blood cells to become misshapen and break down. This inherited red blood cell disorder.

4.6. Self-Assessment

1. Fraternal twins are separated from _____.
 - a. Single egg
 - b. 2 eggs with 2 sperm
 - c. Both of the above
 - d. None of the above
2. Human cells have ____ chromosomes.
 - a. 46
 - b. 54
 - c. 42
 - d. 50
3. All chromosomes arrange in _____ pairs.
 - a. 21
 - b. 24
 - c. **23**
 - d. 29
4. Chromosomes store and transmit _____ information.
 - a. Environmental
 - b. **Genetic**
 - c. Social
 - d. Cognitive
5. Genes are transferred from each child of the same set of _____.
 - a. Culture
 - b. Grandparents
 - c. Parents
 - d. None of the above
6. Which pairs of chromosomes determine the sex of the individuals?
 - a. 22
 - b. 23
 - c. 21
 - d. 19
7. A child who inherits 2 X chromosomes (XX) will be a _____ child.
 - a. Boy
 - b. Transgender
 - c. Girl
 - d. None of the above
8. A child who inherits an X chromosome paired with a Y chromosome (XY) child will be a _____ child.
 - a. Boy
 - b. Transgender
 - c. Girl
 - d. None of the above
9. In Turner's syndrome _____ chromosome is completely or partially missing.
 - a. Y
 - b. Z
 - c. C

- d. X
10. In _____ disorder, a female is born with only one X chromosome.
- Chromosomal disorder
 - Personality disorder
 - Down syndrome
 - None of the above

| | | | | | | | | | |
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| b | a | c | b | c | b | c | a | d | a |

4.7. Review Questions

1. Explain the evolutionary perspective of development?
2. Discuss how nature and nurture do shape human development?
3. Write a note on reproductive challenges during pregnancy.



Further Readings

- Hurlock, E. B. (1980). *Developmental psychology: a life-span approach*. New York: McGraw-Hill
- Shaffer, D. R., & Kipp, K. (2007). *Developmental psychology: Childhood and adolescence*. Australia: Wadsworth.

UNIT – 5 Prenatal and Perinatal Development

CONTENTS

Objectives

Introduction

5.1 Conception

5.2 Prenatal Period

5.3 Hazards of prenatal development

5.4. Post-Partum Period

5.5. Summary

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5.7 Self-assessment questions

5.8 Review Questions

Further Readings

Objectives:

After reading this unit you will be able to learn:

- What is the course of prenatal development?
- What is teratology, and what are some of the main hazards to prenatal development?
- What are the three main stages of birth?
- What is postpartum period?

Introduction

Prenatal development, also called antenatal development, in humans, the process encompassing the period from the formation of an embryo, through the development of a fetus, to birth (or parturition). The human body, like that of most animals, develops from a single cell produced by the union of a male and a female gamete (or sex cell).

5.1 Conception

*Conception occurs when an egg from the mother is fertilized by a sperm from the father. In humans, the conception process begins with **ovulation**, when an ovum, or egg (the largest cell in the human body), which has been stored in one of the mother's two ovaries, matures and is released into the fallopian tube. Ovulation occurs about halfway through the woman's menstrual cycle and is aided by the release of a complex combination of hormones. In addition to helping the egg mature, the hormones also cause the lining of the uterus to grow thicker and more suitable for implantation of a fertilized egg.*

5.2. Pre-natal period

This union marks the beginning of the prenatal period, which in humans encompasses three distinct stages: (1) the **pre-embryonic/germinal stage**, the first two weeks of development, which is a period of cell division and initial differentiation (cell maturation), (2) the **embryonic period, or period of organogenesis**, which lasts from the third to the eighth week of development, and (3) the **fetal period**, which is characterized by the maturation of tissues and organs and rapid growth of the body. The prenatal period ends with parturition and is followed by a long postnatal period. Only at about age 25 years are the last progressive changes completed.

Genes and Chromosomes

All genes are composed of specific sequences of DNA (deoxyribonucleic acid) molecules. All cells in your body, except the sperm and egg, have 46 chromosomes arranged in 23 pairs. These cells reproduce by a process called **mitosis**. During mitosis, the cell's nucleus—including the chromosomes—duplicates itself and the cell divides. Two new cells are formed, each containing the same DNA as the original cell, arranged in the same 23 pairs of chromosomes. However, a different type of cell division—**meiosis**—forms eggs and sperm (or gametes). During **meiosis**, a cell of the testes (in men) or ovaries (in women) duplicates its chromosomes but then divides twice, thus forming four cells, each of which has only half of the genetic material of the parent cell. By the end of meiosis, each egg or sperm has 23 unpaired chromosomes. During **fertilization**, an egg and a sperm fuse to create a single cell, called a zygote (see Figure 2.4). In the zygote, the 23 unpaired chromosomes from the egg and the 23 unpaired chromosomes from the sperm combine to form one set of 23 paired chromosomes—one chromosome of each pair from the mother's egg and the other from the father's sperm. In this manner, each parent contributes half of the offspring's genetic material.

Compare monozygotic twins with dizygotic twins

When a cluster of cells in the ovum split off within the first 2 weeks after fertilization, the result is two genetically identical zygotes. Because they come from the same original zygote, are called **monozygotic or identical twins**. Monozygotic twins are twins who are genetically identical. Any differences in their future development can be attributed only to environmental factors, since genetically they are exactly the same.

There is a second, and actually more common, mechanism that produces multiple births. In these cases, two separate ova are fertilized by two separate sperm at roughly the same time. Twins produced in this fashion are known as **dizygotic twins or fraternal twins**. Because they are the result of two separate ovum-sperm combinations, they are no more genetically similar than two siblings born at different times.

How the sex of a child is determined

There are 23 matched pairs of chromosomes. In 22 of these pairs, each chromosome is similar to the other member of its pair. The one exception is the twenty-third pair, which is the one that determines the sex of the child. In females, the twenty-third pair consists of two matching, relatively large, X-shaped chromosomes, appropriately identified as XX. In males, one consists of an X-shaped chromosome, but the other is a shorter, smaller, Y-shaped chromosome. This pair is identified as XY.

If the sperm contributes an X chromosome when it meets an ovum (which, remember, will always contribute an X chromosome), the child will have an XX pairing on the twenty-third chromosome—and will be a **female**. If the sperm contributes a Y chromosome, the result will be an XY pairing—a **male**.

How genes transmit information

In some cases, one gene of a pair always exerts its effects; it is **dominant**, overriding the potential influence of the other gene, called the **recessive gene**. This is the dominant-recessive genes principle. A recessive gene exerts its influence only if the two genes of a pair are both recessive. If you inherit a recessive gene for a trait from each of your parents, you will show the trait. If you inherit a recessive gene from only one parent, you may never know you carry the gene. Brown hair, farsightedness, and dimples rule over blond hair, nearsightedness, and freckles in the world of dominant-recessive genes.

Keep in mind, however, that genetic material relating to both parent plants is present in the offspring, even though it cannot be seen. The genetic information is known as the organism's **genotype**. A genotype is the underlying combination of genetic material present (but outwardly invisible) in an organism. In contrast, a **phenotype** is the observable trait, the trait that is actually seen.

Figure 5.1 Chromosomal and gene linked abnormalities

Chromosome and Gene-Linked Abnormalities

- **Down syndrome** – The presence of a 47th chromosome, leading to a child with specific physical characteristics and mental limitations.
- **Klinefelter syndrome** – A sex-linked abnormality found in males who have an extra X chromosome affecting sexual traits.
- **Fragile X syndrome** – An abnormality in the X chromosome, causing mental retardation and learning disabilities.
- **Turner syndrome** – Females missing an X chromosome, leading to possible infertility and some learning disabilities.
- **XYY syndrome** – An extra Y chromosome in males, causing above-average height.
- **Phenylketonuria** – Organism cannot metabolize an amino acid – could cause mental retardation and hyperactivity.
- **Sickle-cell anemia** – Most often found in African Americans, affecting red blood cells, causing anemia and possibly early death.

Down Syndrome An individual with Down syndrome has a round face, a flattened skull, an extra fold of skin over the eyelids, a protruding tongue, short limbs, and retardation of motor and mental abilities. The syndrome is caused by the presence of an extra copy of chromosome 21. It is not known why the extra chromosome is present, but the health of the male sperm or female ovum may be involved. Down syndrome appears approximately once in every 700 live births. Women between the ages of 16 and 34 are less likely to give birth to a child with Down syndrome than are younger or older women. African American children are rarely born with Down syndrome.

Klinefelter syndrome is a genetic disorder in which males have an extra X chromosome, making them XXY instead of XY. Males with this disorder have undeveloped testes, and they usually have enlarged breasts and become tall. Klinefelter syndrome occurs approximately once in every 600 live male births.

Turner syndrome is a chromosomal disorder in females in which either an X chromosome is missing, making the person XO instead of XX, or part of one X chromosome is deleted. Females with Turner syndrome are short in stature and have a webbed neck. They might be infertile and have difficulty in mathematics, but their verbal ability is often quite good. Turner syndrome occurs in approximately 1 of every 2,500 live female births.

The XYY syndrome is a chromosomal disorder in which the male has an extra Y chromosome. Early interest in this syndrome focused on the belief that the extra Y chromosome found in some males contributed to aggression and violence. However, researchers subsequently found that XYY males are no more likely to commit crimes than are XY males.

Gene-Linked Abnormalities

Phenylketonuria (PKU) is a genetic disorder in which the individual cannot properly metabolize phenylalanine, an amino acid. It results from a recessive gene and occurs about once in every 10,000 to 20,000 live births. Today, phenylketonuria is easily detected, and it is treated by a diet that prevents an excess accumulation of phenylalanine. If phenylketonuria is left untreated, however, excess phenylalanine builds up in the child, producing mental retardation and hyperactivity. Phenylketonuria accounts for approximately 1 percent of institutionalized individuals who are mentally retarded, and it occurs primarily in Whites.

Sickle-cell anemia, is a genetic disorder that impairs the body's red blood cells. Red blood cells carry oxygen to the body's cells and are usually shaped like a disk. In sickle-cell anemia, a recessive

gene causes the red blood cell to become a hook-shaped “sickle” that cannot carry oxygen properly and dies quickly. As a result, the body’s cells do not receive adequate oxygen, causing anemia and early death. About 1 in 400 African American babies is affected by sickle-cell anemia. One in 10 African Americans is a carrier, as is 1 in 20 Latin Americans.

Prenatal testing

A variety of techniques can be used to assess the health of an unborn child if a woman is already pregnant. The earliest test is a first-trimester screen, which combines a blood test and ultrasound sonography in the eleventh to thirteenth week of pregnancy and can identify chromosomal abnormalities and other disorders, such as heart problems. In ultrasound sonography, high-frequency sound waves bombard the mother’s womb. These waves produce a rather indistinct, but useful, image of the unborn baby, whose size and shape can then be assessed. Repeated use of ultrasound sonography can reveal developmental patterns. Although the accuracy of blood tests and ultrasound in identifying abnormalities is not high early in pregnancy, it becomes more accurate later on.

A more invasive test, **chorionic villus sampling (CVS)**, can be employed in the tenth to thirteenth week of the first trimester if blood tests and ultrasound have identified a potential problem or if there is a family history of inherited disorders. CVS involves inserting a thin needle into the fetus and taking small samples of hair-like material that surrounds the embryo. The test can be done between the eighth and eleventh week of pregnancy. However, it produces a risk of miscarriage of 1 in 100 to 1 in 200. Because of the risk, its use is relatively infrequent.

The Zygote

Within several hours of conception, half of the 23 chromosomes from the egg and half of the 23 chromosomes from the sperm fuse together, creating a **zygote** – a *fertilized ovum*. The zygote continues to travel down the fallopian tube to the uterus. Although the uterus is only about four inches away in the woman’s body, the zygote’s journey is nevertheless substantial for a microscopic organism, and fewer than half of zygotes survive beyond this earliest stage of life. If the zygote is still viable when it completes the journey, it will attach itself to the wall of the uterus, but if it is not, it will be flushed out in the woman’s menstrual flow. During this time, the cells in the zygote continue to divide: the original two cells become four, those four become eight, and so on, until there are thousands (and eventually trillions) of cells. Soon the cells begin to *differentiate*, each taking on a separate function. The earliest differentiation is between the cells on the inside of the zygote, which will begin to form the developing human being, and the cells on the outside, which will form the protective environment that will provide support for the new life throughout the pregnancy.

The Embryo

Once the zygote attaches to the wall of the uterus, it is known as the embryo. During the embryonic phase, which will last for the next six weeks, the major internal and external organs are formed, each beginning at the microscopic level, with only a few cells. The changes in the embryo’s appearance will continue rapidly from this point until birth.

While the inner layer of embryonic cells is busy forming the embryo itself, the outer layer is forming the surrounding protective environment that will help the embryo survive the pregnancy. This environment consists of three major structures: The **amniotic sac** is the *fluid-filled reservoir in which the embryo (soon to be known as a fetus) will live until birth, and which acts as both a cushion against outside pressure and as a temperature regulator.* The **placenta** is an organ that allows the exchange of nutrients between the embryo and the mother, while at the same time filtering out harmful material. The filtering occurs through a thin membrane that separates the mother’s blood from the blood of the fetus, allowing them to share only the material that is able to pass through the filter. Finally, the **umbilical cord** links the embryo directly to the placenta and transfers all material to the fetus. Thus the placenta and the umbilical cord protect the fetus from many foreign agents in the mother’s system that might otherwise pose a threat.

The Fetus

Nine week after conception, the embryo becomes a fetus. The defining characteristic of the fetal stage is growth. All the major aspects of the growing organism have been formed in the embryonic phase, and now the fetus has approximately six months to go from weighing less than an ounce to weighing an average of six to eight pounds. That’s quite a growth spurt.

The fetus begins to take on many of the characteristics of a human being, including moving (by the third month the fetus is able to curl and open its fingers, form fists, and wiggle its toes), sleeping, as well as early forms of swallowing and breathing. The fetus begins to develop its senses, becoming able to distinguish tastes and respond to sounds. Research has found that the fetus even develops some initial preferences. A newborn prefers the mother's voice to that of a stranger, the languages heard in the womb over other languages, and even the kinds of foods that the mother ate during the pregnancy. By the end of the third month of pregnancy, the sexual organs are visible.

5.3. Hazards of pre-natal development

Prenatal development is a complicated process and may not always go as planned. About 45% of pregnancies result in a miscarriage, often without the mother ever being aware it has occurred. Although the amniotic sac and the placenta are designed to protect the embryo, *substances that can harm the fetus*, known as **teratogens**, may nevertheless cause problems. Teratogens include general environmental factors, such as air pollution and radiation, but also the cigarettes, alcohol, and drugs that the mother may use. Teratogens do not always harm the fetus, but they are more likely to do so when they occur in larger amounts, for longer time periods, and during the more sensitive phases, as when the fetus is growing most rapidly. The most vulnerable period for many of the fetal organs is very early in the pregnancy — before the mother even knows she is pregnant.

Harmful substances that the mother ingests may harm the child. Cigarette smoking, for example, reduces the blood oxygen for both the mother and child and can cause a fetus to be born severely underweight. Another serious threat is **fetal alcohol syndrome (FAS)**, *a condition caused by maternal alcohol drinking that can lead to numerous detrimental developmental effects, including limb and facial abnormalities, genital anomalies, and intellectual disabilities*. Each year in Canada, it is estimated that nine babies in every 1,000 are born with fetal alcohol spectrum disorder (FASD), and it is considered one of the leading causes of intellectual disabilities in the world today. Because there is no known safe level of alcohol consumption for a pregnant woman, there is no safe amount or safe time to drink alcohol during pregnancy. Therefore, the best approach for expectant mothers is to avoid alcohol completely. Maternal drug abuse is also of major concern and is considered one of the greatest risk factors facing unborn children.

The environment in which the mother is living also has a major impact on infant development. Children born into homelessness or poverty are more likely to have mothers who are malnourished, who suffer from domestic violence, stress, and other psychological problems, and who smoke or abuse drugs. And children born into poverty are also more likely to be exposed to teratogens. Poverty's impact may also amplify other issues, creating substantial problems for healthy child development.

Mothers normally receive genetic and blood tests during the first months of pregnancy to determine the health of the embryo or fetus. They may undergo sonogram, ultrasound, amniocentesis, or other testing. The screenings detect potential birth defects, including neural tube defects, chromosomal abnormalities (such as Down syndrome), genetic diseases, and other potentially dangerous conditions. Early diagnosis of prenatal problems can allow medical treatment to improve the health of the fetus.

5.4. Postpartum period

The postpartum (or postnatal) period begins immediately after childbirth as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state. The terms puerperium, puerperal period, or immediate postpartum period are commonly used to refer to the first six weeks following childbirth. The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and newborn deaths occur during this period.

The postpartum period can be divided into three distinct stages; the initial or acute phase, 8–19 hours after childbirth; subacute postpartum period, which lasts two to six weeks, and the delayed postpartum period, which can last up to eight months. In the subacute postpartum period, 87% to 94% of women report at least one health problem. Long-term health problems (persisting after the delayed postpartum period) are reported by 31% of women.

A woman giving birth in a hospital may leave as soon as she is medically stable, which can be as early as a few hours postpartum, though the average for a vaginal birth is one to two days. The average caesarean section postnatal stay is three to four days. During this time, the mother is monitored for bleeding, bowel and bladder function, and baby care. The infant's health is also

monitored. Early postnatal hospital discharge is typically defined as discharge of the mother and newborn from the hospital within 48 hours of birth.

5.5. Summary

- Development begins at the moment of conception, when the sperm from the father merges with the egg from the mother.
- Within a span of nine months, development progresses from a single cell into a zygote and then into an embryo and fetus.
- The fetus is connected to the mother through the umbilical cord and the placenta, which allow the fetus and mother to exchange nourishment and waste. The fetus is protected by the amniotic sac.
- The embryo and fetus are vulnerable and may be harmed by the presence of teratogens.
- Smoking, alcohol use, and drug use are all likely to be harmful to the developing embryo or fetus, and the mother should entirely refrain from these behaviours during pregnancy or if she expects to become pregnant.
- Environmental factors, especially homelessness and poverty, have a substantial negative effect on healthy child development.

5.6. Keywords

Pre-embryonic/germinal stage, the first two weeks of development, which is a period of cell division and initial differentiation (cell maturation).

Klinefelter syndrome is a genetic disorder in which males have an extra X chromosome, making them XXY instead of XY.

Genotype is the underlying combination of genetic material present (but outwardly invisible) in an organism

Phenotype is the observable trait, the trait that is actually seen.

Teratogens substances that can harm the fetus

Fetal alcohol syndrome, a condition caused by maternal alcohol drinking that can lead to numerous detrimental developmental effects, including limb and facial abnormalities, genital anomalies, and intellectual disabilities.

5.7. Self Assessment

1. Conception is the stage of
 - a) Egg unites with sperm
 - b) Egg is adhered to wall of uterus
 - c) Egg divided into two
 - d) None of above
2. Which of these is not a prenatal developmental stage?
 - a) Germinal
 - b) Embryonic
 - c) Fetal
 - d) Infancy
3. Once the zygote attached to the wall of uterus, it is called –

- a) Embryo
 - b) Fetus
 - c) Infant
 - d) None of above
4. _____ gene exerts its influence only if the two genes of a pair are both recessives
- a) Dominant
 - b) Recessive
 - c) Allied
 - d) Sex linked
5. _____ is fluid filled reservoir in which embryo/fetus lives until birth
- a) Corpus luteum
 - b) Placenta
 - c) Amniotic sac
 - d) Womb
6. Substances that can harm the fetus are called
- a) Teratogens
 - b) Radiation
 - c) Abusive drugs
 - d) Hazards
7. Fetal alcohol syndrome (FAS), a condition caused by
- a) Excessive alcohol drinking by father
 - b) Excessive alcohol drinking by mother
 - c) Use of sedative drugs
 - d) Teratogens
8. Postpartum period is the period after:
- a) Gestation
 - b) Birth
 - c) Conception
 - d) Fertilization
9. Environmental factor that has a substantial negative effect on healthy child development is -
- a) Poverty
 - b) Fragile X syndrome
 - c) Down syndrome
 - d) Educated mother
10. Parameters to be noted during post-partum period does not include:
- a) New born health
 - b) Bleeding in mother
 - c) Bowel of mother
 - d) Vision of mother

| | | | | | | | | | | |
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| Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | a | d | a | b | c | a | b | b | a | d |

5.8. Review Questions

1. What behaviours must a woman avoid engaging in when she decides to try to become pregnant, or when she finds out she is pregnant? Do you think the ability of a mother to engage in healthy behaviours should influence her choice to have a child?
2. Given the negative effects of poverty on human development, what steps do you think societies should take to try to reduce poverty?



Further Readings

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Unit 6- Infancy

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Objectives

This unit will enable you to:

Know about different facets of development in infancy;

Understand the process of physical development in infancy;

Gain familiarity with how cognitive development occurs in infancy;

Acquire knowledge about socio-Emotional development of infancy.

Introduction

Social Psychology is an ever growing field that tries to keep up with the changing nature of issues and challenges that the society faces.

6.1. Physical Development

Physical development refers to physical changes in the body; it involves changes in bone thickness, size, weight, gross motor, fine motor, vision, hearing, and perceptual development. During the early childhood years, the growth is slow; height and weight increase at the lower rate during this period. During early childhood all the parts of the child's body grow, but at different rates. During early childhood, the forehead area develops faster than the lower part of the face. This is due to rapid growth of the brain. The trunk grows longer and broader in the early years of childhood.

Reflexes

Infants at birth have reflexes as their sole physical ability. A reflex is an automatic body response to a stimulus that is involuntary; that is, the person has no control over this response. Blinking is a reflex which continues throughout life. There are other reflexes which occur in infancy and also disappear a few weeks or months after birth. The presence of reflexes at birth is an indication of normal brain and nerve development. When normal reflexes are not present or if the reflexes continue past the time they should disappear, brain or nerve damage is suspected.

Some reflexes, such as the rooting and sucking reflex are needed for survival. The rooting reflex causes infants to turn their head toward anything that brushes their faces. This survival reflex helps them to find food such as a nipple. When an object is near a healthy infant's lips, the infant will

begin sucking immediately. This reflex also helps the child get food. This reflex usually disappears by three weeks of age.

Motor Sequence

Physical development is orderly and occurs in predictable sequence. For example, the motor sequence (order of new movements) for infants involves the following orderly sequence:

- Head and trunk control (infant lifts head, watches a moving object by moving the head from side to side occurs in the first few months after birth.
- Infant rolls over turning from the stomach to the back first, then from back to stomach - four or five months of age.

Children must have manual or fine motor (hand) control to hold a pencil or crayon in order for them to write, draw, or color. Infants have the fine motor ability to scribble with a crayon by about 16 to 18 months of age when they have a holding grip (all fingers together like a cup). By the end of the second year, infants can make simple vertical and horizontal figures. By two years of age, the child shows a preference for one hand; however, hand dominance can occur much later at around four years of age. By the age of four, children have developed considerable mastery of a variety of grips, so that they can wrap their fingers around the pencil. Bimanual control is also involved in fine motor development, which enables a child to use both hands to perform a task, such as holding a paper and cutting with scissors, and catching a large ball.

Vision

At birth, an infant's vision is blurry. The infant appears to focus in a center visual field during the first few weeks after birth. In infants, near vision is better developed than their far vision. They focus on objects held 8 to 15 inches in front of them. As their vision develops, infants show preference for certain objects and will gaze longer at patterned objects (disks) of checks and stripes than disks of one solid color.

Studies also show that infants prefer bold colors to soft pastel colors. They also show visual preference for faces more than objects. By two months of age, an infant will show preference (gaze longer) at a smiling face than at a face without expression.

As infants grow older they are more interested in certain parts of the face. At one month of age, their gaze is on the hairline of a parent or other caregiver. By two months of age, infants show more interest in the eyes of a face. At three months of age, the infant seems very interested in the facial expression of adults. These changes in the infant's interest in facial parts indicate that children give thought to certain areas of the face that interest them.

Hearing

Hearing also develops early in life, and even before birth. Infants, from birth, will turn their heads toward a source or direction of sound and are startled by loud noises. The startle reaction is usually crying. Newborns also are soothed to sleep by rhythmic sounds such as a lullaby or heartbeat. Infants will look around to locate or explore sources of sounds, such as a doorbell. They also show reaction to a human voice while ignoring other competing sounds. A newborn can distinguish between the mother's and father's voices and the voice of a stranger by three weeks old. At three to six months, vocalizations begin to increase. Infants will increase their vocalizations when persons hold or play with them.

Perception

To explore their world, young children use their senses (touch, taste, smell, sight, and hearing) in an attempt to learn about the world. They also think with their senses and movement. They form perceptions from their sensory activities. Sensory-Perceptual development is the information that is collected through the senses, the ideas that are formed about an object or relationship as a result of what the child learns through the senses. When experiences are repeated, they form a set of perceptions. This leads the child to form concepts (concept formation). For example, a child will see a black dog with four legs and a tail and later see a black cat with four legs and a tail and call it a dog. The child will continue to identify the cat as a dog until the child is given additional information and feedback to help him learn the difference between a dog and a cat. Concepts help children to group their experiences and make sense out of the world. Giving young children a variety of experiences helps them form more concepts.

6.2. Cognitive Development

Cognitive development is the process in which a child learns to reason, identify objects, solve problems, and think logically. It includes the acquisition and consolidation of knowledge. Infants draw on social-emotional, language, motor and perceptual experiences and abilities for cognitive development. This is the stage when the child shows a great interest in the environment around him or her. Parents can boost the child's cognitive development by providing him or her safe ground by incorporating simple activities to their daily routine. Cognitive development proceeds as a result of the dynamic and reciprocal transaction of internal and external factors; it is constructed within a social context and involves both stability and plasticity over time.

Cognitive development is the emergence of the ability to think and understand. The study of cognitive development (the changes that occur in children's mental abilities over the course of their lives) is one of the most diverse and exciting topics in all of the developmental sciences. Earlier it was believed that infants are remained without cognition until they learned language, but soon after cognitive development study it was proved that infants are aware about the surroundings and explore since birth.

A large portion of research has gone into understanding how a child imagines the world. Jean Piaget was a major force in the establishment of this field, forming his "theory of cognitive development". His development stage theory posited that a combination of maturation and nonlinguistic experiences during early childhood shape an individual's cognitive development. He proposed that children are organizing the world around them through mental operations that become more complex and adult-like by adolescence.

In recent years, however alternative models have been advanced, including information processing theory, neo-Piagetian theories of cognitive development, which aim to integrate Piaget's ideas with more recent models and concepts in developmental and cognitive science, theoretical cognitive neuroscience, and social-constructivist approaches.

Piaget's Theory of Cognitive Development

Jean Piaget, a Swiss psychologist was particularly concerned with the way thinking develops in children from birth till they become young adults. To understand the nature of this development, he conducts the research on his own three children as infants: how they explored new toys, solved simple problems that he prepared for them, and generally came to understand themselves and their world. Later, Piaget studied larger samples of children through what became known as the clinical method, a flexible question-and answer technique he used to discover how children of different ages solved various problems and thought about everyday issues. From these naturalistic observations of topics ranging from the rules of games to the laws of physics, Piaget formulated his grand theory of intellectual growth.

According to Piaget, children are born with a very basic mental structure (genetically inherited and evolved) on which all subsequent learning and knowledge is based. According to him, cognition develops through the refinement and transformation of mental structures, or schemes. Schemes are unobservable mental systems that underlie intelligence. A scheme is a pattern of thought or action and is most simply viewed as some enduring knowledge base by which children interpret their world. Schemes, in effect, are representations of reality. Children know their world through their schemes. Schemes are the means by which children interpret and organize experience. For Piaget, cognitive development is the development of schemes, or structures. Children enter the world with some reflexes by which they interpret their surroundings, and what underlies these reflexes are schemes. When a child's existing schemas are capable of explaining what it can perceive around it, it is said to be in a state of equilibrium, i.e. a state of cognitive (i.e. mental) balance. Piaget emphasized the importance of schemas in cognitive development, and described how they were developed or acquired.

Piaget believed that humans also adapt to their physical and social environments in which they live. The process of adaptation begins since birth. Piaget saw this adaptation in terms of two basic processes: Assimilation and Accommodation.

Assimilation: It refers to the process by which new objects and events are grasped or incorporated within the scope of existing schemes or structures.

Accommodation: It is the process through which the existing schemes or structure is modified to meet the resistance to straightforward grasping or assimilation of a new object or event.

Piaget believed that assimilation and accommodation work together to promote cognitive growth. They do not always occur equally as in the preceding example; but assimilations of experiences that do not quite “jibe” with existing schemes eventually introduce cognitive conflict and prompt accommodations to those experiences.

Piaget’s Stages of Cognitive Development

Piaget identified four major periods, or stages, of cognitive development: the sensorimotor stage (birth to 2 years), the preoperational stage (2 to 7 years), the stage of concrete operations (7 to 11 years), and the stage of formal operations (11 years and beyond)

The Sensorimotor Stage (Birth to 2 Years)

During the sensorimotor period, infants coordinate their sensory inputs and motor capabilities, forming behavioral schemes that permit them to “act on” and to get to “know” their environment. In this stage, infants are only aware of what is immediately in front of them. They focus on what they see, what they are doing, and physical interactions with their immediate environment. Because they don't yet know how things react, they're constantly experimenting with activities such as shaking or throwing things, putting things in their mouths, and learning about the world through trial and error.

At about age 7 to 9 months, infants begin to realize that an object exists (objective permanence) even if it can no longer be seen. This important milestone known as object permanence is a sign that memory is developing. After infants start crawling, standing, and walking, their increased physical mobility leads to increased cognitive development. Near the end of the sensorimotor stage, infants reach another important milestone, early language development, a sign that they are developing some symbolic abilities.

6.3. Socio-Emotional Development

Emotional development refers to the ability to recognize, express, and manage feelings at different stages of life and to have empathy for the feelings of others. The development of these emotions, which include both positive and negative emotions, is largely affected by relationships with parents, siblings, and peers.

Infants experience, express, and perceive emotions before they fully understand them. In learning to recognize, label, manage, and communicate their emotions and to perceive and attempt to understand the emotions of others, children build skills that connect them with family, peers, teachers, and the community. These growing capacities help young children to become competent in negotiating increasingly complex social interactions, to participate effectively in relationships and group activities, and to reap the benefits of social support crucial to healthy human development and functioning. Healthy social emotional development for infants and toddlers unfolds in an interpersonal context, namely that of positive on-going relationships with familiar, nurturing adults. Young children are particularly attuned to social and emotional stimulation. Even new born appear to attend more to stimuli that resemble faces. They also prefer their mothers’ voices to the voices of other women.

Responsive care giving supports infants in beginning to regulate their emotions and to develop a sense of predictability, safety, and responsiveness in their social environments. Early relationships are so important to developing infants that research experts have broadly concluded that, in the early years, “nurturing, stable and consistent relationships are the key to healthy growth, development and learning”. Experiences with family members and teachers provide an opportunity for young children to learn about social relationships and emotions through exploration and predictable interactions. Professionals working in child care settings can support the social-emotional development of infants and toddlers in various ways, including interacting directly with young children, communicating with families, arranging the physical space in the care environment, and planning and implementing curriculum.

6.4. Summary

- During the early childhood years, the growth is slow; height and weight increase at the lower rate during this period.
- Infants at birth have reflexes as their sole physical ability.

- At about age 7 to 9 months, infants begin to realize that an object exists even if it can no longer be seen.
- According to Piaget, children are born with a very basic mental structure (genetically inherited and evolved) on which all subsequent learning and knowledge is based.
- Responsive care giving supports infants in beginning to regulate their emotions and to develop a sense of predictability, safety, and responsiveness in their social environments.

6.5. Key Words

Assimilation: It refers to the process by which new objects and events are grasped or incorporated within the scope of existing schemes or structures.

Accommodation: It is the process through which the existing schemes or structure is modified to meet the resistance to straightforward grasping or assimilation of a new object or event.

Sensri-motor stage: In this stage, infants are only aware of what is immediately in front of them. They focus on what they see, what they are doing, and physical interactions with their immediate environment.

Reflex: an automatic body response to a stimulus that is involuntary; that is, the person has no control over this response.

6.6. Self-Assessment

1. Physical development includes changes in _____
 - A. bone thickness
 - B. size & weight
 - C. gross motor skills
 - D. All of these
2. Cognitive development is the emergence of the ability to _____ -
 - A. think
 - B. understand
 - C. both of these
 - D. none of these
3. Piaget states that all children are born with a very basic mental structure (genetically inherited and evolved) on which all subsequent learning and knowledge is based.
 - A. True
 - B. False
4. Cognitive development is the process in which a child learns to _____
 - A. Reason
 - B. Identify Objects
 - C. Solve Problems
 - D. All of these
5. The sensri-motor stage lasts from _____
 - A. Conception to birth
 - B. Conception to two years
 - C. Birth to two years
 - D. Birth to one year
6. Healthy social emotional development for infants and toddlers is unrelated to an interpersonal context

- A. True
 - B. False
7. Objective permanence takes place before 12 months of age
- A. True
 - B. False
8. Infants are able to express emotions even when they do not understand them fully
- A. True
 - B. False
9. Responsive care giving supports infants in_____
- A. Objectivity
 - B. Differential Demarcation
 - C. Delienation
 - D. None of these
10. _____refers to the process by which new objects and events are grasped or incorporated within the scope of existing schemes or structuresTrue
- A. Attenuation
 - B. Accommodation
 - C. Accumulation
 - D. None of these

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| D | C | A | D | C |
| 6 | 7 | 8 | 9 | 10 |
| B | A | A | D | D |

6.7. Review Questions

1. Discuss the various aspects of physical development in infancy.
2. What are the various developments of socio-emotional nature during infancy?
3. What are the various stages of Piaget’s theory related to infancy?
4. Discuss the negative impacts of crowd.

Further Readings



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This unit will enable you to:

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Introduction

Social Psychology is an ever growing field that tries to keep up with the changing nature of issues and challenges that the society faces.

7.1. Physical Development

Though children grow very fast over the first two years, growth decelerates during early childhood. From 2 years of age to 6 years, an average child grows 2 to 3 inches taller while gaining 5 pounds approximately in weight with every passing year. The average 6-year-old child weighs about 45 pounds and is about 46 inches tall. Physical growth is influenced by genetics. The height and rate of growth of children are closely linked to that of their parents. The amount of hormones released is controlled by genes, which determines the rate of growth. Hormones are substances produced by glands and secreted into the bloodstream. Hormones have an effect on cells and are a means of translating genetic instructions into physical development. Growth hormone is produced from birth and has an impact on practically every element of the body's development. Growth hormone deficiency causes slower growth in children, however growth hormone supplements can help to accelerate growth when it's needed.

Between the ages of three and six, children make significant progress in gross motor skills, such as running and jumping. They gain physical strength when their bone and muscle strength, as well as their lung capacity, improve. As the areas of the brain responsible for sensory and motor skills mature, children improve their coordination. They may now play more aggressively and engage in more complex play activities such as running, jumping, and climbing. Poor motor skills are linked to socioeconomic disadvantage, as are other elements of physical (and, as we will see, cognitive)

development, possibly due to poor nutrition and fewer opportunities to practise motor skills in the environment (McPhillips & Jordan-Black, 2007). Low-income communities are more likely to be short on resources that promote children's development.

Young children exercise the use of their big motor abilities to jump; run; and experience tri-cycles, pedal cars, and different driving toys. Coordinating complicated movements, like those entailed in driving a bicycle, is tough for younger children because it calls for controlling a couple of limbs, balancing, and extra. As they develop and benefit competence of their motor abilities, younger children end up even extra coordinated and start to reveal hobby in skipping, balancing, and gambling video games that contain feats of coordination, consisting of throwing and catching a ball.

Fine motor talents just like the potential to button a shirt, pour milk right into a glass, placed puzzles together, and draw pictures contain eye-hand and small muscle coordination. As kids get higher at those talents, they may be capable of grow to be greater impartial and do greater for themselves. Young kids grow to be higher at greedy ingesting utensils and grow to be greater self-enough at feeding. Many first-class motor talents are very hard for younger kids due to the fact they contain each fingers and each facets of the brain

| AGE | GROSS MOTOR SKILL | FINE MOTOR SKILL |
|-----------|---|---|
| 2-3 years | Walks more smoothly, runs but cannot turn or stop suddenly, jumps, throws a ball with a rigid body and catches by trapping ball against chest, rides push toys using feet | Unzips large zippers, puts on and removes some clothing, uses a spoon |
| 3-4 years | Runs, ascends stairs alternating feet, jumps 15 to 24 inches, hops, pedals and steers a tricycle | Serves food, can work large buttons, copies vertical line and circle, uses scissors |
| 4-5 years | Runs more smoothly with control over stopping and turning, descends stairs alternating feet, jumps 24 to 33 inches, skips, throws ball by rotating the body and transferring weight to one foot, catches ball with hands, rides tricycle and steers effectively | Uses scissors to cut along a line, uses fork effectively, copies simple shapes and some letters |
| 5-6 years | Runs more quickly, skips more effectively, throws and catches a ball like older children, makes a running jump of 28 to 36 inches, rides bicycle with training wheels. | Ties shoes, uses knife to cut soft food, copies numbers and simple words |

7.2. Cognitive Development

Cognitive development proceeds as a result of the dynamic and reciprocal transaction of internal and external factors; it is constructed within a social context and involves both stability and plasticity over time. Piaget was the first psychologist to make a systematic study of cognitive development. His contributions include a theory of cognitive child development, detailed observational studies of cognition in children, and a series of simple but ingenious tests to reveal different cognitive abilities. Before Piaget's work, the common assumption in psychology was that children are merely less competent thinkers than adults. He showed that young children think in strikingly different ways compared to adults.

Piaget identified four major periods, or stages, of cognitive development: the sensorimotor stage (birth to 2 years), the preoperational stage (2 to 7 years), the stage of concrete operations (7 to 11 years), and the stage of formal operations (11 years and beyond). These stages of intellectual growth represent qualitatively different levels of functioning and form what Piaget calls an invariant developmental sequence; that is, all children progress through the stages in the same order. Piaget argued that stages can never be skipped because each successive stage builds on the accomplishments of previous stages. Although Piaget believed that the sequencing of intellectual stages is fixed, or invariant, he recognized that there are tremendous individual differences in the ages at which children enter or emerge from any particular stage. In fact, his view was that cultural factors and other environmental influences may either accelerate or retard a child's rate of intellectual growth, and he considered the age norms that accompany his stages (and sub stages) as only rough approximations at best.

The Preoperational Stage (2 to 7 Years)

This stage is called Pre-Operational because the children have not yet mastered the ability to perform mental operations. Children's thinking during this stage is governed by what is seen rather than by logical principles. During this stage, children are able to think about things symbolically. Their language use becomes more mature. They also develop memory and imagination, which allows them to understand the difference between past and future, and engage in make-believe. But their thinking is based on intuition and still not completely logical. They cannot yet grasp more complex concepts such as cause and effect, time, and comparison. This stage is divided into more two stages (1) The Pre-conceptual stage and (2) Intuitive Thought stage.

- i. **The Pre-conceptual sub-stage:** This stage occurs between about the ages of 2 and 4. During this stage child is able to formulate designs of objects that are not present. Other examples of mental abilities are language and pretend play. Although there is advancement in progress, there are still limitations such as egocentrism and animism.
- ii. **The Intuitive Thought sub-stage:** This stage occurs between 4 and 7, in this stage children tend to grow very curious and ask many questions; they begin the use of primitive reasoning. There is an emergence in the interest of reasoning and wanting to know why things are the way they are. Piaget called it the Intuitive sub-stage because children realize they have a vast amount of knowledge but don't know how they know it.

Vygotsky's Theory

Vygotsky believed everything is learned on two levels. First, through interaction with others, and then integrated into the individual's mental structure. "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals."

A second aspect of Vygotsky's theory is the idea that the potential for cognitive development is limited to a "zone of proximal development" (ZPD). According to Vygotsky, the zone of proximal development "is the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers."

He also proposed that children learn best when they are taught within their "zone of proximal development" with a focus on emerging skills rather than skills that are too advanced. His theory also emphasized language as a tool of sharing and organizing knowledge and thoughts. Vygotsky argued that children acquire knowledge by participating in cultural activities, such as preparing food, in which they observe and mimic, and eventually internalize, expert action. This internalization process is mediated by the child's language use and involves cultural artifacts, tools, and icons (e.g., spoons and recipes for preparing food).

Vygotsky believed that language develops from social interactions, for communication purposes. Vygotsky viewed language as man's greatest tool, a means for communicating with the outside world. According to Vygotsky (1962) language plays two critical roles in cognitive development: (1) It is the main means by which adults transmit information to children, and (2) Language itself becomes a very powerful tool of intellectual adaptation.

Vygotsky (1987) differentiates between three forms of language: social speech which is external communication used to talk to others (typical from the age of two); private speech (typical from the age of three) which is directed to the self and serves an intellectual function; and finally private speech goes underground, diminishing in audibility as it takes on a self-regulating function and is transformed into silent inner speech (typical from the age of seven). For Vygotsky, thought and language are initially separate systems from the beginning of life, merging at around three years of age. At this point speech and thought become interdependent: thought becomes verbal, speech becomes representational. When this happens, children's monologues internalized to become inner speech. The internalization of language is important as it drives cognitive development.

Vygotsky (1987) was the first psychologist to document the importance of private speech. He considered private speech as the transition point between social and inner speech, the moment in development where language and thought unite to constitute verbal thinking.



Notice a child in your surroundings and jot down the characteristics they display in accordance to Piaget's second stage of development.

7.2. Socio-Emotional Development

Brain research indicates that emotion and cognition are profoundly interrelated processes. Specifically, recent cognitive neuroscience findings suggest that the neural mechanisms underlying emotion regulation may be the same as those underlying cognitive processes. Emotion and cognition work together, jointly informing the child's impressions of situations and influencing behaviour. The rich interpenetrations of emotions and cognitions establish the major psychic scripts for each child's life. Together, emotion and cognition contribute to attentional processes, decision making, and learning. Furthermore, cognitive processes, such as decision making, are affected by emotion. Brain structures involved in the neural circuitry of cognition influence emotion and vice versa. Emotions and social behaviors affect the young child's ability to persist in goal-oriented activity, to seek help when it is needed, and to participate in and benefit from relationships.

Three year onwards of age children become competent enough to start managing emotions. Children are ready to begin preschool at this age. A new social context and increased freedom offer tremendous opportunities for growth, but they also bring with them new problems. Sharing, listening, and playing together can generate conflict between kids, and since they can't always rely on their parents, they'll have to learn new coping strategies to handle on their own. Preschool caregivers play an important part in this development by providing a safe environment and providing direction.

Young children learn social and emotional skills such as managing emotions, sharing with others, and following directions during their first few years of life. These talents serve as a basis for the development of literacy, numeracy, and other cognitive abilities that are necessary for academic and personal success. Nurturing and responsive connections with family members and other caregivers, particularly those who provide care in early learning settings, are essential for healthy social and emotional development. Early care and education specialists in child care and preschool classrooms play a crucial role in promoting social and emotional development and ensuring that the youngest students are ready for school and on the road to success. Caregivers who are responsive and supportive are critical for social and emotional well-being. New brain connections are formed and strengthened when parents or other primary caregivers respond to an infant's babbles, cries, and gestures with eye contact, touch, and speech (a process known as "serve and return"). These ties aid in the development of a child's physical and mental wellbeing. For young children, positive ties with caregivers can help to buffer and lessen the disruptive impacts of adversity.

Parent-child relationships aren't the exclusive source of social and emotional learning. Family, community, and culture all have an impact on social and interpersonal conventions, values, expectations, and language, as well as child-rearing views and attitudes. Other non-parental caregivers, family members, and experts can help young children develop good social and emotional skills and treat mental health issues. Pediatricians and other health-care professionals also assist parents in understanding developmental phases, promoting appropriate caregiver-child interactions, screening for developmental and behavioural concerns, and referring families to needed services and supports. The acquisition of a set of abilities is required for social and emotional growth. Among the most important are the abilities to:

- Recognize and comprehend one's own emotions
- Accurately sense and interpret people's emotional states
- In a constructive manner, manage intense emotions and their expressions.
- Self-control is the ability to control one's own conduct.
- Empathy for others should be developed.
- Create and maintain relationships

Warning signs for problematic socio-emotional development in early childhood

- Shows most preferences and excessive addiction
- Do not show fear of strangers

- Being overly frustrated or anxious
- Inappropriate or limited ability to express emotions
- Lack of interest and curiosity about people and toys
- Do not explore the surroundings
- Often looks sad and withdrawn



Notice an infant and a child in your surroundings and jot down the socio-emotional differences among them.

7.4. Summary

- The height and rate of growth of children are closely linked to that of their parents. The amount of hormones released is controlled by genes, which determines the rate of growth.
- Although Piaget believed that the sequencing of intellectual stages is fixed, or invariant, he recognized that there are tremendous individual differences in the ages at which children enter or emerge from any particular stage.
- Vygotsky believed that language develops from social interactions, for communication purposes.
- Vygotsky considered private speech as the transition point between social and inner speech, the moment in development where language and thought unite to constitute verbal thinking.
- Young children learn social and emotional skills such as managing emotions, sharing with others, and following directions during their first few years of life.
- Caregivers who are responsive and supportive are critical for social and emotional well-being.
- New brain connections are formed and strengthened when parents or other primary caregivers respond to an infant's babbles, cries, and gestures with eye contact, touch, and speech

7.5. Key Words

Pre-Operational Stage: Developmental stage where the children have not yet mastered the ability to perform mental operations.

Social speech: external communication used to talk to others

Private speech: speech directed to the self and serves an intellectual function

The Intuitive Thought sub-stage: This stage occurs between 4 and 7, in this stage children tend to grow very curious and ask many questions; they begin the use of primitive reasoning.

Zone of proximal development: the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers.

7.6. Self-Assessment

1. Concept of zone of Proximal Development was given by_____
 - A. Piaget
 - B. Miller
 - C. Vygotsky
 - D. Lorenz
2. The height and rate of growth of children are closely linked to that of their parents.
 - A. True

- B. False
- 3. Caregivers should be _____ for social and emotional well-being of a child.
 - A. Responsive
 - B. Supportive
 - C. Both of these
 - D. None of these
- 4. Emotions impact cognitive processes.
 - A. True
 - B. False
- 5. _____ are source of social and emotional learning
 - A. Parents
 - B. Community
 - C. Values
 - D. All of these
- 6. A child able to eat with a spoon is an example of _____
 - A. Fine Motor Skill
 - B. Globe Motor Skill
 - C. Refined Motor Skill
 - D. None of these
- 7. Language is crucial for cognitive development.
 - A. True
 - B. False
- 8. _____ the moment in development where language and thought unite to constitute verbal thinking
 - A. Social Speech
 - B. Private Speech
 - C. Inner Speech
 - D. None of these
- 9. _____ are examples of fine motor skills
 - A. button a shirt
 - B. pour milk right into a glass
 - C. placed puzzles together
 - D. All of these
- 10. Pre-Operational stage is further divided into four stages.
 - A. True
 - B. False

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| C | A | C | A | D |
| 6 | 7 | 8 | 9 | 10 |
| A | A | B | D | B |

7.8. Review Questions

1. Discuss the various types of gross motor skills.
2. What are Vygotsky's views on cognitive development of a child?
3. Write a note on socio-emotional development of a child.
4. Discuss the Warning signs for problematic socio-emotional development in early childhood

Further Readings



Slater, A., Bremner, J.G. An Introduction to Developmental Psychology. Second Edition. BPS Blackwell.2003

Unit 8 Late Childhood

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Introduction

8.1. Physical Development

8.2. Cognitive Development

8.3. Socio-Emotional Development

8.4. Summary

8.5. Self-Assessment

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Further Readings

Objectives

This unit will enable you to:

Know about different facets of development in late childhood;

Understand the process of physical development in late childhood;

Gain familiarity with how cognitive development occurs in late childhood;

Acquire knowledge about socio-emotional development of late childhood.

Introduction

Late childhood is the period between ages of around 7 to 13 years, i.e., the period of just before adolescence. This period is crucial in the sense that children gain greater control over body movement, and motor skills. There are various challenges occurred in this phase of life which could be socio-cognitive and emotional in nature. Along with physical development, greater reasoning and flexibility of thought also developed. Just after this, the most challenging phase of a person's life started where physical growth spurts and may lead to a lot of emotional turmoil. School plays an important part in social transition during this period as it opens the door to outside world for them, bring their peers in more focus and lead to changes in parent-child connection. A child becomes self-sufficient with his/her increasing cognitive and social abilities.

Due to the activities and developmental tasks during this phase, it's been referred by different names. As a child becomes sexually mature during this period, most likely till the age of 13 for girls and 14 for boys, this phase is considered as 'troublesome', or 'quarrelsome'. It is also called as 'elementary school age' by educators whereas 'gang-age', 'age of creativity' or 'age of conformity' by psychologists.

As described by Eccles (1999) "children learn about the world outside the family, match themselves against the expectations of others, compare their performance with their peers, and develop customary ways of responding to challenges and opportunities. Through these years, they forge a personal identity, a self-concept, and an orientation toward achievement that will play a significant role in shaping their success in school, work, and life".

8.1. Physical Development

During late childhood (7-12 years) various changes occur in height, weight and proportion of body with a good pace as compared to the earlier stage. The rapid lengthening of legs and an increase in height are the characteristics of this stage. Though in this stage, they get weary after physical activity, still shows high interest in competitions and sports. Moreover, a slow process of gaining muscle strength and balance along with motor skills and lung capacity can also be seen which enable them to perform strenuous physical activities for longer spans. Before puberty, growth spurt occurs two years earlier for girls (at mean age nine) than boys (at mean age eleven). Good nutrition is important for better growth and development. The children at this stage are prone to infections and allergies due to social interactions in schools and also to accidents and injuries due to increasing mobility and the confidence with respect to various factors such as hereditary, culture, gender and social class. At this point in life, Children are more likely to make efforts to improve their fine (cutting their fingernails, holding a pencil as it involves small muscles) and gross motor skills (like riding a bike as it involves large muscles). Due to the use of different muscles, males tend to perform better at gross skills whereas females perform better at fine motor skills. Brain areas also grow during this phase, especially prefrontal cortex and hippocampus that assist a child in attention and memory processes respectively. Moreover, myelination is an important factor that facilitates sensory, intellectual and motor functioning and consequently lead to development and improvement in logic, planning, memory, information processing speed, coordination using both hemispheres, reaction time and control on emotional outbursts. Though physical growth is slow and even during this phase, but influence of certain factors is evident which include sex, immunization, intelligence, nutrition and health, being a developmental stage.

8.2. Cognitive Development

Cognitive development simply means the development of cognition which includes thinking, problem-solving, reasoning, decision making and linguistic abilities. It covers various theories such as Piaget, Bruner, Vygotsky, the information processing approach etc. In this phase of life rapid mental development occurs. The Intellectual development of a child mostly happens in formal educational institutions or schools. Due to mental development, a child takes interest in social interactions, discussion on different topics as well as his interests also widened. As Piaget, this stage is concerned with concrete operations (recognising the basic features of objects such as number, mass or weight).

At this stage, the child interacts with people, make comparisons between different perspectives with his own and take decisions. Due to this, the development of the ability to cooperate and compete occurs. The development of various cognitive skills continues to expand at this stage as children begin to think more logically and in organized manner while dealing with concrete data. Moreover, they comprehend past, present, and future, enable them to plan goals and work towards it. Furthermore, they can understand addition, subtraction, and cause-and-effect relationships.

Concrete Operational Thought

In the Concrete Operational Stage of cognitive development theory by Piaget, children aged 7 to 11 years use logic in concrete ways which refers to something that is tangible; something that can be seen, heard, felt or experienced. For instance, understanding cause, effect, size, and distance.

The Children can utilize rationale to tackle issues attached to their own immediate experience, yet experiences difficulty taking care of speculative issues or thinking about more abstract issues.

Children at this stage utilize Inductive Reasoning, which is a logical process wherein different premises accepted to be valid are consolidated to get a particular conclusion. For example, a child has three siblings who are rude, so, he/she may conclude that siblings are rude.

In this stage children learn to classify organisms into categories and sub-categories by building schemata with increasing development of their vocabulary and experience. There are various other features of this particular stage.

Identity: It is the ability to understand that objects have characteristics that don't change regardless of whether the article is modified somehow or another. For example, a piece of chalk will remain a chalk even when scattered into pieces.

Reversibility: The children discovers that few things that have been changed can be changed back to their earlier state. Water can be frozen and afterward defrosted to become fluid once more.

Conservation: Concrete operational children can comprehend the idea of conservation *which* implies that transforming one quality (as for instance, water level or height) can be made up for by changes in another quality (width Therefore, each container contains the same amount of water, the difference is that one is taller and narrower whereas the other is shorter and wider.

Decentration: Children pay attention to the transformations in other dimensions of objects (such as the height, size along with width) rather than only a single.

Seriation: Arranging things along a quantitative aspect, like length or weight, in a calculated way is currently exhibited by a child in this stage. For instance, they can arrange a series of sticks of different sizes in an organized manner with respect to length.

According to Piaget, children still can't think in abstract and scientific terms.

At this stage, children begin to solve basic mathematical problems, like adding, subtracting, multiplying and dividing and can classify and combine these classifications of concrete objects. Moreover, children can develop logical connections from simple associations.

Information Processing: Children vary in their memory capacities, and these distinctions foresee both their preparation for school and scholastic performance in school.

The limit of working memory grows during late childhood period, and they become enabled to prevent irrelevant data from entering memory as well as speeding up the process for effective working of memory.

Attention: The capacity to restrain insignificant data improves during this phase, alongwith that a huge improvement in selective attention from age six into adolescence also occurs. Children also have greater flexibility in their attention i.e. easily shifting attention from one task to other.

Knowledge Base: Due to these sharp improvements a child's ability to learn, remember and store data also enhances. As children experiences the world more by entering into school, the development of more categories for concepts occurs. This enables children to learn more effective ways for storing and retrieving data.

Metacognition: Children in late childhood better comprehend their performance on tasks, as well as the difficulty level. Children in this phase begins to *figure out* their priorities and check the significance and insignificance of the task. Accordingly, they foster metacognition. Metacognition denotes the awareness about our own thinking as well as the ability to utilize this consciousness to manage our own cognitions.

Critical Thinking: Critical thinking is a detailed analysis of beliefs, strategies, and proofs, which involves teaching children how to think. It includes better comprehension of a problem through gathering, assessing, and choosing appropriate information, and by considering numerous potential solutions. This age enables a child for deductive reasoning. Metacognition is important for critical thinking as it enables us to consider the data in order to take decisions.

Language Development: The language acquisition is found to be consistent across various cultures and children (Hatch, 1983). Children are considered as biologically predisposed to acquire language. As far as late childhood is concerned, a 7-year-old child can fluently speak and use slangs. The vocabulary becomes more sophisticated as they begin to tell literal jokes especially which include punch lines or repeated words, for instance, "A man fell down in the mud! Isn't that funny?". Moreover, they flexibly learn grammar rules.

8.3. Socio-Emotional Development

According to Erik Erikson's theory of psychosocial development, the period of late childhood lies in elementary school age (grade schoolers) in which children become more competitive. They want follow their peers in every activity and that enables them to learn to read, write, doing math, and even playing sports and if they perform those activities well, they feel proud and confident, otherwise inferiority feelings develop. During this stage, teachers have a significant role to teach them such skills. Moreover, children's social network expands and they understand their and others abilities. Furthermore, that leads them to make comparison between them and their peers to validate their competency.

In addition to it, this theory also emphasizes certain crisis during developmental stages, in this particular stage, children face the crisis of 'industry vs inferiority' and the resolution of this crisis at this particular stage leads to the development of the virtue of "competence". This virtue is demonstrated by making things, getting results, applying skills and feeling capable. However, among children of this age "friendship" is based upon nearness, like living nearby, being in same school etc.

Companionships enables a child to judge one's own worth, capability, and attractiveness, as well as providing the chance to mastering interpersonal skills. Children learn from each other with respect to ideas, clothing, what to talk, how to get famous, and different behaviours. And this transfers their focus from family to peers as peers play a very influential role during this phase of life of children. As for instance, the self-esteem and confidence of children suffers while getting rejected by friends and only be recovered by acceptance. Socially unacceptable children are more likely to be either withdrawn, shy, reserved or aggressive, "problem" type that provoke others.

During this stage, children form group that referred to as gang sometimes. It gives them independence from the authority of elders and help to fulfil their needs in context of society dominated by adults. Such formal groups are typically formed for enjoyment and play. Moreover, voluntary gender segregation can also be seen for the purpose of sexual exclusivity. In later childhood, males are more likely to form gangs as compared to females. These groups enable children for social comparisons and also enhance cooperation skills with others. Due to this, the awareness about social differences may enhance quickly in this stage. Subsequently, children developed prejudice which can be nurtured by near and dear ones, especially the primary social circle.

The socialisation process occurs rapidly in this phase because of diversity of exposures from environmental influences apart from the parental influences. These factors include, school, extended family, community, peer group, media, and the teachers. During late childhood, a child spends minimum time under parental guidance and maximum time under supervision of adults related to different social roles like teachers, coaches, etc through which they start getting exposed and habitual of such formal environments in the Mesosystems. This assists them in learning coordination and cooperation, comparison and observation skills.

Moreover, children spend more time during this stage with the same age peers willingly or unwillingly and expected to adjust with them. Consequently, they are being compared with other peers and this has made them to focus their attention on learning as well as making comparisons between abilities, skills and personalities. As they learn by observing the behaviour of other peers, so, they also learn the skills of negotiation and assimilation with the peers. Along with that, the support from family members facilitates the development of good self-image, and the communication and comparisons with friends may increase or decrease the influence of family. Having friends during this stage is correlated with self-esteem and confidence in adolescence years as well as in adulthood.

Factors in Childhood Social Development:

1. The Physiological factors: It has an impact on Growth and social behaviour. Physically handicapped child may experience of being handicap in social relations too among his peers. Some features of the nervous system as well as the endocrine glands influence a child's behaviour patterns and attitude towards life.

2. The Family: Family is the primary as well as the significant social group that influences a child's social development. It provides environmental surroundings, personal and supportive relationship and cultural models. The relation between parents and children is the basis for socialisation in context of his adjustment in the societal spheres. This adjustment is totally determined by the treatment, a child receives from the family, for instance, "acceptance-rejection", "dominance-submission", "democracy-authoritarianism", "trust-distrust", "reward-punishment" so on and so forth.

3. Religion: It is one of the primary social institutions that plays a dominant role in determining social attitudes and social development.

4. Government: Government is extremely potential factor in determining the social development by framing social policies for removing deprivation and misery of the citizens.

5. Language: Language and social functioning are closely related to each other. A child's language assists him in proper social interaction and facilitate social development.

6. Education: As a social institution or agency school shapes social behaviour, and promote his tendency to grow. It offers diversity of social settings that assists children to learn some important lessons to live and perform by being in interaction and under the supervision of the teachers.

7. Peer group: Outside his family, peer group is the influencing factor. Though such groups centred around play and for making friends but simultaneously they satisfy socio-psychological needs of the children such as belongingness, acceptance, expression of ideas, achievement, affection, approval and recognition.

8. Physical environment and Class Status: Due to urbanisation, population, congestion and the other factors influences social behaviour. Diverse social behaviour patterns are displayed by children belong to different class and strata. Like backward classes and people belong to lower classes still encounter untouchability. Such kinds of social prejudices that are highly prevalent influences socialisation of children.

EMOTIONAL DEVELOPMENT

During this phase of their development, the feelings of hatred, fear, love etc are experienced by children and that have long term effects on them. They form sentiments, feelings and complexes along with developing autonomy, coping strategies, and shame. In simple terms, acceptance can be observed, if they achieve success in their own eyes or else cultivate a sense of inferiority, if they get unsuccessful.

Success and failure impact the child and they are required to cope with them in this stage. They are being exposed to competent adults or older siblings performs tasks and achieved success. This made them aspire to follow the same pattern for their future.

While entering schools and exposed to comparisons with their peers often makes them anxious to a great extent. During this phase they have to experience success, failure and frustration. Contest and comparison in many structures are subsequently the main inner difficulties that the child needs to wrestle and master in these formative years. School accomplishment and achievement accordingly become significant elements in the existence of a youngster in this progressive phase and will likewise enormously affect the future accomplishment as a juvenile and later as a grown-up. So, motivation, good self-concept, competence and self-concept about personal abilities, readiness to take on challenges, resilience, frustration tolerance and positive attitudes towards school, peer etc are the significant psychological characteristics that the kid needs to develop in late childhood. According to Pedersen et al (2007), research studies suggest a correlation between hardships with peers and externalizing and assimilating of behaviour problems, and their influence on

developmental aspects. For instance, scholastic accomplishment and accomplishment in different activities, as well as mental development like fostering a positive self-image.

As far as Sigmund Freud's psychoanalytic theory is concerned, he described some psychosexual stages of development. This stage of late childhood falls into latency stage of psychoanalytic theory which concerns with less conflicts because the traumas of the phallic stage (Oedipus complex and Electra complex) cause sexual conflicts to be repressed and sexual urges to be rechannelled into schoolwork and vigorous play. The ego and superego continue to develop as the child gains more problem-solving abilities at school and internalizes societal values. The child has little or no sexual motivation, it becomes less important in this stage, as it is marked by the beginning of puberty.

8.4. Summary

- Late childhood is a difficult phase of life. Brand-new learnings and social circumstances bring various new experiences to a child's life as he/she develop new coping strategies for the world.
- The children at this stage are prone to infections and allergies due to social interactions in schools and also to accidents and injuries due to increasing mobility and the confidence with respect too various factors such as hereditary, culture, gender and social class.
- According to Erik Erikson's theory of psychosocial development, the period of late childhood lies in elementary school age (grade schoolers) in which children becomes more competitive.
- Companionships enables a child to judge one's own worth, capability, and attractiveness, as well as providing the chance to mastering interpersonal skills.
- During this phase of their development, the feelings of hatred, fear, love etc are experienced by children and that have long term effects on them.
- School accomplishment and achievement accordingly become significant elements in the existence of a youngster in this progressive phase and will likewise enormously affect the future accomplishment as a juvenile and later as a grown-up

8.5. Keywords

Late childhood: Late childhood is the period between ages of around 7 to 13 years, i.e., the period of just before adolescence.

Reversibility: Learning that few things that have been changed and can be changed back to their earlier state.

Inductive Reasoning: Logical process wherein different premises accepted to be valid are consolidated to get a particular conclusion.

Seriation: Arranging things along a quantitative aspect, like length or weight, in a calculated way is currently exhibited by a child in this stage.

8.6. Self-Assessment Questions

1. _____ is the period between ages of around 7 to 13 years.
 - a. Early Childhood
 - b. Late Childhood
 - c. Adolescence
 - d. Babyhood
2. According to psychologists, Late childhood is also called _____.
 - a. gang-age
 - b. age of creativity
 - c. age of conformity

- d. All of the above
- 3. Educators called this stage _____
 - a. Elementary school age
 - b. Secondary school age
 - c. Pre-school age
 - d. Both b and c
- 4. What are different factors that influences a child's social development in this stage?
 - a. Education
 - b. Peer Group
 - c. Class status
 - d. All of the above
- 5. During this phase of emotional development, children experience the feelings of _____
 - a. hatred, fear, love etc
 - b. jealousy and anxiety
 - c. depression
 - d. over excitement
- 6. Children form _____
 - a. Sentiments, feelings, complexes
 - b. Autonomy, coping strategies, and shame
 - c. None of the above
 - d. Both a & b
- 7. Companionships, during this phase, enables a child to judge one's own worth, capability, and attractiveness.
 - a. Very true
 - b. False
 - c. Somewhat true
 - d. Somewhat false
- 8. In Erikson's stages, during this period of life, the child has to go through the crisis of _____
 - a. Identity vs. Role Confusion
 - b. Intimacy vs. Isolation
 - c. Industry vs. Inferiority
 - d. Initiative vs. Guilt
- 9. Once a child resolves the particular crisis during this stage, according to Erikson's theory, he/she develops the virtue of _____
 - a. Hope
 - b. Love
 - c. Care
 - d. Competency

10. According to Piaget’s Concrete Operational stage, children discover that few things that have been changed can be changed back to their earlier state. This is known as ____
- Reversibility
 - Conservation
 - Identity
 - Decentration

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| B | D | A | D | A |
| 6 | 7 | 8 | 9 | 10 |
| D | A | C | D | A |

Review Questions

- Discuss the cognitive developments during the period of late childhood.
- Why late childhood is an important phase of life?
- How late childhood is different from early childhood and adolescent years?
- Explain socio-emotional growth among children in their late childhood years.
- Discuss various influencing factors in social development of children during late childhood years.



Further Readings

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Unit 9-Puberty

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Objectives

This unit will enable you to:

- Know about different facets of development during puberty;
- Understand the various physical changes happening in puberty;
- Get familiar with various psychological changes happening in puberty;
- Acquire knowledge the hazards of puberty.

Introduction

Puberty is derived from the Latin term PUBERTAS, which meaning "maturity age." Puberty is when child experiences a series of important, natural and healthy changes. These physical, psychological, and emotional changes are signs that your child is transitioning from childhood to adulthood. Puberty begins when a change in the child's brain releases sex hormones from the gonads, ovaries, and testicles. This usually occurs in about 10-11 for girls and about 11-12 for boys. However, puberty usually begins between 8-13 for girls and 9-14 for boys. Puberty is a transitional period. It includes the last years of childhood as well as the first years of puberty. Pubescents, often known as pubescent children, are youngsters who have not yet reached sexual maturity. Early puberty is characterised by fast physical maturation with hormonal and physiological changes. It's an inconvenient period of development when the sexual apparatus matures and the reproductive capacity is reached. Puberty is a two- to four-year phase defined by quick matures – children who complete puberty in two years or less – and slow matures – children who complete puberty in three to four years to complete the metamorphosis into adults. At this time, it is known that roughly five years before children reach sexual maturity, both boys and girls excrete a modest amount of sex hormones. As time passes, the number of hormones produced rises, resulting in the maturation of the structure and function of the sex organs. It has been shown that the pituitary gland, located near the base of the brain, and the gonads have a close association. The four stages of puberty constitute the puberty criteria. Menarche refers to a girl's first period. Adrenarche refers to the hormonal changes that occur during puberty. Spemarche refers to a boy's initial ejaculation of sperm. During puberty, gonadarche is the process of sexual maturation and the development of reproductive maturity.

9.1. Physical Development

Puberty is a crucial stage for physical development. Major changes happen in terms of physical growth during this time. The changes differ according to the sex of an individual as well.

Physical development in girls

About 10-11 years ,

- Breasts began to develop. This is the first visible sign that puberty has begun. It is normal for the left and right breasts to grow at different rates. Also, the breast often becomes a little softer during development.
- A growth spurt is occurring. Some body parts, such as the head, face, and hands, may grow faster than the limbs and torso. This can cause your child to look imbalanced for some time. On average, girls grow 520 cm. They usually stop growing in about 16-17 years.
- Body shape changes. For example, a girl has a wide waist.
- The external genitalia (vulva) and pubic hair begin to grow. Pubic hair darkens and thickens over time.

About 12-14 (about two years after the onset of breast development),

- Hairs begin to grow under the arm.
- Clear or white vaginal discharge that begins months before the onset of menstruation.
- Menstruation usually begins within 2 years of the onset of breast growth, but can take up to 4 years to begin as well.

Physical development in boys

Approximately 11-12 years

- The external genitalia (penis, testicles,scrotum) begin to grow. It is normal for one testicle to grow faster than the other. You can reassure your child that the male testicles are not usually the same size.
- Pubic hair begins to grow. It gets darker and thicker over time.

About 12-14 years old

- Child is growing fast. Child is growing and their breasts and shoulders are expanding. Some parts of a child's body, such as the head, face, and hands, may grow faster than the limbs and torso. This can cause your child to look imbalanced for some time. On average, boys grow 10 to 30 cm. They usually stop growing at around 18 to 20 years.
- It's common for boys to have minor breast development. It is normal and usually goes away by itself.

About 13-15 years old

- Hair begins to grow on other parts of the child's body: under the arms, on the face, and on other bodies. The hair on the legs and arms becomes thicker. Some young men gain hair by their early twenties.
- The hormone testosterone is produced, stimulating the testicles to produce sperm. Child may erect and ejaculate (release sperm). During this time, erections often occur for no reason. Ejaculating during sleep is often referred to as "nocturnal emission."

About 14-15 years old

- The larynx (Adam's apple or larynx) becomes clearer. Child's larynx expands and their voice "breaks" and eventually deepens. Some boys' voices move from high to low and come back in one sentence. This will stop soon.

Other important physical changes

- Weight - Both sexes exhibit a noticeable increase by the 11 year averaging between 10 and 14 pounds during peak year of development. Gain in weight is proportionately greater than the child's gain in height.
- Skeletal structure - Increases in length, weight, proportion, and composition. Girls exhibit more rapid skeletal development than boys, their bone structure reaching mature size by the 17th year. Skeletalweight for both males and females increases throughout puberty but appears to be marked in males.

- Digestive and circulation system undergo rapid phases of growth. The organ of digestive system almost reaches their mature size and shape. During these years stomach becomes larger and less, tubular and hence its capacity increases. The intestine also grows in length as well as in circumference. The smooth muscles in both the stomach and intestine walls become thicker and stronger, thus resulting in stronger peristaltic movements.
- Heart - Nearly doubles in size by the age of 1 & to 18. It is 12 times as it was at birth, the brain is also fully developed.
- Lungs - Increase in vital capacity (quantity of air the lungs can hold) in fairly constant throughout the childhood; but to increase rapidly during puberty.

9.2. Psychological Development

A host of psychological and emotional tasks, including, the processes of individuation, the formation of ego identity, and ego maturation are accomplished during puberty. Bloch discussed individuation as a process involved with the development of relative independence from family relationships, the weakening of infantile object ties, and an increased capacity to assume a functional role as a member of adult society. Bloch defined and described this task as similar to the more primitive struggle for individuation in the attainment of object constancy that occurs toward the end of the third year of life. Thus, the early pubescent has marked ambivalence concerning issues of independence versus dependence, particularly in terms of their relationships to their parents. This ambivalence is likely to be seen in rapid and marked attitudinal and behavioral changes by the child (e.g., one moment protesting any parental involvement or supervision and the next moment regressing to marked dependency on mother or father).

Erikson described ego identity formation during puberty as the assembly of converging identity elements that occur at the end of childhood, achieved through a process of normative crises. Ego identity was viewed by Erikson as including the conscious sense of individual identity as well as an unconscious striving for a continuity of personal character. In this process of ego formation, the ego integrates previous childhood identifications into a new totality, which lays the foundation of the adult personality. Positive resolution to this issue leads to a sense of ego identity, or continuity in one's self-definition. Negative resolution of this challenge could result in ego diffusion, or uncertainty about who one is and what one will become in the future. This failure to achieve ego identity is related to the diagnostic category of identity problem. Marcia further defined Erikson's concept of ego identity in terms of two variables: commitment (whether or not the individual has accepted a set of values) and crisis (whether or not the individual has experienced an inner struggle in arriving at personal acceptance of a set of values). These two variables combine to yield four identity statuses in Marcia's model: diffusion (no commitment, no crisis); foreclosure (commitment without crisis); moratorium (crisis without commitment); and achievement (commitment after crisis). Marcia argued that these categories, in the order given, represent developmental levels of increasingly advanced maturation.

The process of individuation is most clearly noted during early phases of puberty, whereas the process of identity formation and consolidation is typically manifested during later stages of puberty. As a result of these processes, pubescents will typically modify the way in which they interact and relate to others. Specifically, pubescents begin to increase their involvement with peers, while decreasing their immediate identification with family members. Further, the early stages of individuation may result in an increase in conflict with parents, as the pubescent attempts preliminary definitions of the self based on identifying the ways in which their feelings, thoughts, and attitudes may differ from those of their parents.

Loevinger articulated a concept of ego development in reference to the frameworks of meaning that individuals impose on their life. Within Loevinger's model, the concept of ego development is a dimension of individual differences, as well as a developmental sequence of increasingly complex functioning in terms of impulse control, character development, interpersonal relationships, and cognitive complexity. At the three lowest levels of ego development, collectively grouped into the pre-conformist stage, the individual may be described as impulsive, motivated by personal gain in the avoidance of punishment, and oriented to the present rather than the past or future. Cognitive styles are stereotyped and concrete, and interpersonal relationships are opportunistic, exploitive, and demanding. During the second broad stage of development, referred to as the conformist stage, the individual begins to identify his or her welfare with that of the social group. The individual places emphasis on conformity to socially approved norms and standards and on issues of social acceptability in terms of attitudes and behaviors. As the individual enters the post-conformist stages

of development, self-awareness, cognitive complexity, and interpersonal style become increasingly complex and a balance is achieved between autonomy and interdependence. The maturational stages described by Loevinger do not refer to specific age groups, but she noted that higher stages of ego development would rarely be achieved by pubescent children.



Find out the individual differences in age at which your friends hit puberty.

9.3. Hazards in Puberty

- **Physical Hazards**

Physically, most pubescent children do not feel well, and illness is less common during this time. At this age, mortality is less likely than in the pre-pubescent or even post-pubescent years. Many deaths reported due to accidents are the result of suicide, which they attempt because of severe depression. The principal physical hazards of puberty are due to mild or substantial malfunctioning of the endocrine glands that control the puberty growth spurt and the sexual changes that occur. Many deaths recorded due to accidents are the result of suicide attempts, which they try because of acute depression.

- **Psychological Hazards**

Puberty's long-term psychological impacts are more important than its immediate ones.

- **Negative Self-Concept:** Few children survive adolescence without having negative self-perceptions. Those are the kids who, in the past, had enough self-esteem and enough self-confidence to take on a leadership role in their peer group. Unfavorable self-perceptions in puberty can be caused by both personal and environmental factors. The majority of pubescents have unrealistic expectations of their physical looks and talents. Pubescents are disillusioned as they watch their body transform and observe their awkward behaviour. Pubescents are known for their antisocial, if not antisocial, behaviour. Bad treatment from others has a significant impact on a person's self-concept, prompting them to develop a negative attitude. They withdraw from others, adding nothing to the group's activities or comments, or they become hostile or protective, retaliating because they believe they have been treated unfairly. Unless remedial actions are taken to remedy it, this provides the foundation for an inferiority mentality.
- **Underachievement:** Rapid physical growth causes energy to wane. This results in a lack of excitement and a bored attitude toward any task requiring effort. Underachievement in school usually begins in the fourth or fifth grade. Girls adopt the cultural preconception about themselves, realising that being a high achiever is not considered "feminine," especially if their achievements are higher than boys'. This pushes girls to work below their potential, which develops a habit over time. As a result, many pubescents become underachievers as adults. They lead to life-altering underachievement unless corrective actions are made to address them.
- **Lack of psychological preparation for puberty changes:** When pubescents are unprepared psychologically for both the physical and psychological changes that occur throughout puberty, going through these changes can be an unpleasant experience. As a result, people are more prone to have negative feelings about the changes. Children are ashamed to ask questions about puberty, which is why they never discuss these bodily changes with their parents, teachers, or peers. It is preferable if they have already been educated. Early and late maturers believe that something is wrong with them and that their growth is aberrant in comparison to their classmates. The more different they appear, the more inferior they will feel.
- **Acceptance of altered bodies:** Acceptance of transformed bodies is an important developmental challenge during puberty. The following are two of the most common reasons why adolescent boys and girls are unhappy with their bodies and find it difficult to accept them: To begin with, practically every youngster develops an ideal physical self-concept based on ideas from many sources of ideal humans. Second, traditional ideas about what constitutes a gender-appropriate appearance tend to impact adolescent children's views in ways that make it difficult for them to accept their own bodies as they change.

- **Acceptance of socially acceptable gender roles:** From childhood onwards boys are pressured to play the socially acceptable masculine gender, which is a conventional role that stresses superiority in most social groupings. Most boys are not just willing but eager to play the typical male gender role because of the benefits and prestige associated with it. This is why boys are content with their gender roles. Girls, on the other hand, find it difficult to embrace their gender roles due to a hazy concept, and they also have difficulties behaving in a way that fits the stereotype. Fewer girls face challenges as a result of their conventional gender roles being taught to them in the same way that boys are. The fact that males are not subject to periodic discomforts increases their resistance to established gender roles. Other girls, on the other hand, have a hard time adjusting since they prefer equal rights and opportunities. Acceptance is difficult and dangerous to one's mental health as a result.
- **Sexual maturation deviations:** Sexual maturation deviations are the most serious psychological risk in their age group, affecting mainly those children who are deviant from their peers. It is difficult for teenagers to be accepted regarding anything that makes them different and hence inferior in their eyes, just as it is in late childhood. Children that are sexually immature believe that something is wrong with them. They are worried about maintaining their normalcy in the present and in the future. Although early maturers have advantages, they nonetheless have personality issues. These issues arise because kids tend to appear older than their peers and are forced to act in accordance with their appearance. If they fail to do so, they are chastised, which leads to feelings of inadequacy and inferiority. Late maturers who appear younger than they are may be treated as such by their family and friends, leading them to doubt their ability to do what their peers do. Slow maturers have more time than rapid maturers to acclimatise to bodily changes. Concern that kids will never grow up offsets this positive effect. Boys may get "locker room syndrome" as a result of this. Some sexual developing deviants become chronic daydreamers, some have a hypercritical attitude toward others, and still others become restless, but they can stop these habits if their desire for social approval is strong enough. Early and late maturers are not all harmed. Some people do, in fact, benefit. Boys who are still young grow up to be socially engaged and popular, often taking on leadership roles in their peer group. Because of habituation, many actions continue into later life. Middle-aged males who were late maturers, on the other hand, were found to stick to "little boy" behaviour patterns. As a result, they are less socially involved, have lower business success, and are less likely to be chosen for leadership positions. The long-term impacts of deviant maturing on girls lead one to conclude that early matures have aggressive personalities and will continue to be aggressive later in life. Late-maturers, on the other hand, who have a well-adjusted personality and do well socially in adulthood, will continue to do so unless circumstances unrelated to sexual maturation disrupt this pattern.



Conduct a survey and find out major problems that individuals at this stage of their development are facing.

9.4. Summary

- Puberty is when child experiences a series of important, natural and healthy changes. The four stages of puberty constitute the puberty criteria.
- Girls exhibit more rapid skeletal development than boys, their bone structure reaching mature size by the 17th year. Skeletal weight for both males and females increases throughout puberty but appears to be marked in males.
- The process of individuation is most clearly noted during early phases of adolescence, whereas the process of identity formation and consolidation is typically manifested during later stages of adolescence.
- Physically, most adolescent children do not feel well, and illness is less common during this time. At this age, mortality is less likely than in the pre-pubescent or even post-pubescent years.

- Erikson described ego identity formation during adolescence as the assembly of converging identity elements that occur at the end of childhood, achieved through a process of normative crises.

9.5. Key Words

Pubescent: A child who is developing from a child into an adult.

Adrenarche: It refers to the hormonal changes that occur during adolescence

Gonadarche: The process of sexual maturation and the development of reproductive maturity.

Ego development: A dimension of individual differences, as well as a developmental sequence of increasingly complex functioning in terms of impulse control, character development, interpersonal relationships, and cognitive complexity.

9.6. Self-Assessment

1. Puberty begins when a change in the child's brain releases sex hormones from the gonads, ovaries, and testicles.
 - A. True
 - B. False
2. Slow matures – children complete puberty in _____ years to complete the metamorphosis into adults
 - A. 2 to 3 years
 - B. 4 to 5 years
 - C. 3 to 4 years
 - D. 5 to 7 years
3. Which of these is not a psychological risk factor of puberty?
 - A. Acceptance of changed body
 - B. Sexual maturation deviations
 - C. Underachievement
 - D. All of these
4. Ego identity formation is achieved through.
 - A. Collective Crisis
 - B. Normative Crisis
 - C. Physical Crisis
 - D. Physiological Crisis
5. Which of these is a normal growth for a 13 year old boy?
 - A. Growth of external genitalia
 - B. Minor breast development
 - C. Pubic Hair begins to grow
 - D. None of these
6. Girls exhibit more rapid skeletal development than boys
 - A. True
 - B. False
7. Marcia defined concept of ego identity in terms of _____
 - A. Commitment and Crisis

- B. Consistency and Crisis
 C. Consistency and Commitment
 D. None of these
8. Endocrine glands control the puberty growth spurt
- A. True
 B. False
9. Ego identity as conceptualized by Erikson includes _____
- A. conscious sense of individual identity
 B. unconscious striving for a continuity of personal character
 C. both of these
 D. none of these
10. Skeletal weight for both males and females increases throughout puberty but appears to be marked in males
- A. True
 B. False

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| A | C | A | B | B |
| 6 | 7 | 8 | 9 | 10 |
| A | A | A | C | A |

9.7. Review Questions

1. Discuss the various physical changes happening in girls during puberty.
2. Discuss the various physical changes happening in boys during puberty.
3. What are the various psychological hazards during puberty?
4. Write a note on psychological development during puberty?

Further Readings



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Unit 10 Adolescence

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Further Readings

Objectives

This unit will enable you to:

- Understand developmental course of adolescents
- Problems that adolescence face
- Various harmful behaviours and their hazards
- Form a better relationship with adolescents afterwards

Introduction

In common terms, adolescents, generally, are teenagers. A teenager is a person who is at this point neither a child nor an adult. Adolescent years also known as teenage years, youth, or puberty, and it covers the developmental age range of 10 to 20 years in a kid's turn of events. This can be considered as second decade of life. The word adolescence is derived from the Latin verb *adolescere*, which means "to grow into adulthood." This period of adolescence is transition from immaturity to maturity. As soon as the period of late childhood comes to an end, puberty marks the beginning of adolescence. The World Health Organization (WHO) definition of adolescent is a person between age range of 10 to 19, WHO considers people belong to this age as *young people*, as they fall between the age range of 10 to 24.

Several emotional issues arise during this phase, particularly emotional parental separation which enables them to establish their own values, and demand adjustments in different spheres. Moreover, adolescents experience an increase of sexual feelings resulting from the repressed sexual impulses of childhood years. During this period, adolescents learn to control and express sexual drives.

Scholars vary in their viewpoints on adolescence, as some stated that the process of maturation is quite peaceful and serene for adolescents, whereas other considers it as strong and highly challenging developmental phase typified by certain forms of behaviour.

10.1. Physical Changes

The term *growth spurt* means the rapid speed in height and weight that marks the commencement of adolescent years. The inception of adolescent years beckoned by two major transformations in physical development.

Firstly, youngsters grow markedly in size and shape as they arrive adolescence. Secondly, they also attain puberty. Technically, puberty refers to the phase during which a person becomes capable of reproduction. In other words, it refers to all those physical transformations that are occurring in the growing female and male children and this is their path to pass from childhood into adulthood. The physical development begun by biological changes that characterized as puberty.

Musculature develops in cephalocaudal and proximodistal directions, starting from the head and neck muscles followed by trunk and limbs. The maturation of muscle tissue occurs rapidly during the period of early adolescence. One result of this development is that both genders become stronger, but males muscle mass and strength grow more dramatically.

Physical development is not a smooth process, as growth patterns differs for different systems. Like, the brain and head develop a lot quicker and are speedier to arrive at grown-up extents than the remainder of the body, while the private parts and reproductive organs grow gradually over the course of growing up and foster quickly in early youth.

Additionally, with becoming taller and heavier, the body adopts an adultlike appearance during this period of growth. The most noticeable transformations are their physique including development of breasts and enlargement of the hips for girls, and a widening of the shoulders, growing penis and testicles, and change in voice for boys. Puberty is marked by the beginning of menarche. All these changes are generated by **hormones** (chemical substances in the body that act on specific organs and tissues) which include testosterone, a male sex hormone, and estrogen, a female sex hormone. These hormones are the basis of growth spurt in early young age that leads to all kinds of changes in height and weight.

Psychologists for several decades, believed that this phase of puberty was highly stressful for youngsters. But today, they are aware about the fact that these conflicts and difficult issues that are associated with adjustment during this stage can be reduced to higher extent if teenagers already know about what transformations to expect and may deal with them by having positive attitudes toward such transitions.

The development of the lymph tissues important part of immune system overshoots prior to dropping quickly during adolescence.

Development of the Brain During Adolescence

At the point when youngsters arrive at the adolescent years, they start to ask speculative, "what if" kind imaginative questions and to consider significant deliberations like truth and equity. Numerous scientists currently accept that these progressions in thinking attached to late advancements in the brain. For instance, myelination of the higher centers of brain, may expand teenagers' abilities to focus, yet additionally makes sense of why they process data a lot quicker than grade-younger students.

Additionally, brain volume develops till mid-adolescence which later declines during late adolescence. So, the changes in adolescent brain are less dramatic.

Young men and young ladies are almost equivalent in actual physical capacities until adolescence, when young men proceed to enhance performance on huge muscle exercises, while young ladies' abilities decline. These sex distinctions are, partially, because of biological reasons, as juvenile males have more muscle and less fat as compared to juvenile females and may be supposed to perform better at tests of physical strength.

According to Jacqueline Herkowitz (1978) the superficial physical decline of adolescent girls is an outcome of gender-role socialization because females are often raised to become less boyish and expected to engage in more conventionally womanlike activities. The evidence of this fact can be seen by viewing female athletes who have large-muscle performance without any decline over time.

10.2. Psychological Changes

Adolescence not only brings physical changes but also psychological, social, cognitive and emotional transitions too. Indeed, adolescence is full of significant emotional and psychological changes. These changes include searching for one's identity and need for freedom and independence. A lot of turmoil and confusions are encountered by adolescents in search for their need to have independence and simultaneously being dependent on parents. Moreover, friendships are an essential part as a lot of peer pressure has been viewed to play a significant role in behaviour change which can also lead to conflicts between parents and adolescents. Feeling carefree, exploring new things, novel experiences, exposure to different circumstances that sometimes harm them and their health like drinking alcohol, using substances, smoking, careless driving, uninhibited sexual behaviour etc. Due to puberty and menstrual cycle, mood swings also take place.

Identity Exploration

At this stage, formation of personal and social identity is an important milestone. Adolescents tend to explore, seek and become autonomous, and develop an identity, or sense of self. For developing an identity, they suffered from various conflicts and confusions which assist them in committing to a single identity. During this identity crisis, they tried different ideologies, roles, and behaviours. Along with that they continue to polish their sense of self as they connect with other people. According to the theory of psychosocial development, Erik Erikson called this stage characterized by *identity versus role confusion*.

With respect to that theory, an adolescent asks questions like "Who am I?", "Who do I want to be?" etc. During this period, some youngsters adopt and absorb parental roles and values as it is, whereas other youngsters tend to oppose already established roles and values along with developing their own identity which is in alignment with their peers as peers are the center of attention in this stage. They are more likely to be egocentric and sometimes feel a conscious need to be valued and socially accepted by their peers. Whatever decisions they take or choices they made may have an influence in their later life, due to which there is a need to have optimum self-awareness and self-control for healthy decisions especially in the times of transition to later stages. Identity development can be understood through these three approaches: self-concept, *sense of identity*, and self-esteem.

Self-Concept

During early adolescence, some cognitive changes and growth enhances self-awareness as well as also increase social awareness. They acquire the capability to think in abstract ways regarding the future possibilities as well as considering multiple things at a time. Moreover, they can hypothesize several probable selves that they could possibly become as well as consider the possible long-term events and outcomes of their preferences. If they are being asked to define themselves, they start describing their traits. By middle adolescence period, they also start differentiating between different contexts and related factors that impacted their own conduct and the observations of other people. They recognize the incongruencies, if present, in their self-concept as a major reason for distress especially in the course of adolescence but this distress may also serve a positive purpose of promoting further development as well as improvement of their self. This can be supported by the theory of Carl Roger, who considered incongruity between real and ideal self-concept as the main reason of distress and conflicts in a person's life. In order to grow and develop with healthy self, it is essential to resolve such conflicts, only then a person can achieve self-actualization and recognizes one's potentials.

Sense of Identity

As opposed to the concept of self which is conflicting, sense of identity denotes a congruent sense of self which is quite unwavering across situations and comprises of previous happenings and future ambitions. According to Erikson, "identity achievement" settles the adolescence identity crisis in which teenagers should seek new experiences and search for diverse potentials and incorporate several parts of themselves prior to commit to the identity

they chose. They tend to describe themselves first on the basis of their membership in a group and then on the basis of an individual identity.

Self-Esteem

It involves one's beliefs, feelings and thoughts regarding one's own identity and concept of self. In the several cultures, female youngsters are often imparted that their self is significantly connected to their interactions with others. Consequently, most of the female teenagers feel pleasure to have high self-esteem while engaging in supportive relationships with peers and friends. And the significant purpose of bond between friends is to offer social and moral assistance. Whereas on the other hand, male youngsters are often trained to appreciate and use autonomy and independence, this is the reason why male youngsters are highly concerned with creating, proclaiming and emphasizing their independence and outlining their links to authority. It has been viewed that high self-esteem is often resulted from their capability to effectively influence their peers and friends. Conventionally it was considered that teenagers have low self-esteem, that they are insecure and self-critical as compared to young children and adults. But there are contrasting results are also shown by many researches. Their self-esteem is relatively stable from age 13 approximately. But there is a lot of fluctuation in their feelings about oneself and self-perceptions, particularly in early adolescence period, which tend to enhance during middle and late adolescence. It is believed today that self-esteem is a multidimensional concept because adolescents assess themselves along various dimensions. Subsequently, a teenager tends to have high self-esteem with regard to his/her academic capabilities, low self-esteem with regard to athletics, and moderate self-esteem with regard to his/her physical appearance. Erik Erikson's concept of adolescents' self-conceptions is quite popular, he viewed that establishing a congruent sense of identity is the primary psychosocial task of adolescents. Furthermore, he believed that the modern times complications in the successful development of identity have generated the necessity for a psychosocial cessation – a time-out during adolescent years from the types of too much of obligations that might hamper a youngster's quest for self-discovery. During this halt, the teenager can test several roles and identities, that permits and fosters exploration. It includes experimentation with diverse personalities and behaviours. Due to some cognitive advances and their influence on identity formation of adolescents, the ability to abstract thinking and logical reasoning develops which facilitates them to seek and consider possible identities. A large improvement in their cognitive processes makes them mature which assists them in resolving identity crises more effortlessly as compared to the peers whose cognitive development is not up to the mark.

For most teenagers, having a sense of autonomy, is extremely important. At this stage, there is a movement away from the dependency of childhood toward the self-sufficiency of adulthood. This can be viewed in various ways. Firstly, older teenagers do not rush to their parents while they are upset, or need any help. Secondly, they don't look at their parents as omnipotent who knows all. Thirdly, they often have a lot of emotional energy in relation to their non familial relationships, means more attached to a boy/girlfriend as compared to their parents. And lastly, they can communicate with their parents as general people, apart from treating them as parents.

Several parents can confide in their teenage wards, which was not possible when they were kids, or their youngsters can show sympathy when they are tired. According to other scholars it's the sense of individuation in adolescents and which starts during **infancy** and continues till late adolescence, involving a steady, increasing refining of one's awareness of self as autonomous, competent, and detached from parents. Individuation has a lot to do with the sense of identity, which involves transformations in self-perceptions and feelings about ourselves. This process does not progress with stress and conflicts, but surrendered the dependencies of childhood to promote a mature, responsible, and independent relationship. Those who successfully develop a sense of individuation, they tend to accept responsibility for the choices and decisions they take, and their behaviours rather than expecting from their parents to take responsibility.

In this critical period of adolescence, teenagers are more likely to be susceptible to **peer pressure** as in certain situations, peers' views are more dominant, whereas in other circumstances, parental opinions are more important. But more particularly, they tend to conform to their friends' views if the matter is a short-term, related to daily life, and social in nature, like for instance, dressing style, preference regarding music and leisure activities, especially during junior and early years of high school. In other matters which are long-term

like education, occupation, values, religious beliefs, ethical issues, they are more likely to be inclined towards their parents. This is because of the phase of development they are going through. That is, during childhood, they are highly inclined towards parents as compared to peers because peer pressure is not that much influential in this phase. As they grow into a teenager, the inclination shifts from parents to peers and peer pressure influences increased. Even in the early years of adolescence, **conformity** towards their parents continuously decreases and increases for peers, simultaneously, with increasing peer pressure. When they enter into the period of middle adolescence, then, the actual autonomy in their behaviour begins, and conformity towards both reduces.

Parental Relationships

In their process of forming their identity, they rebel and revolt against their parents, whereas focus more on their friends and the peer group. Even though they have conflicts in relationships with parents and spend less time with them, but the type of relationship they have with their parents plays a key role in formation of identity. Healthy and supportive relation between children and parents have been associated with positive consequences in context of children, for example, improved grades and lesser behaviour problems at school. If youngsters have a healthy, positive and supportive relationship with their parents, they tend to feel free and independent in their exploration of identity possibilities. However, in case the relationship is not that close, positive or supportive or the teenager is anxious of getting rejected from the parents, they develop stress and unable to form a separate and personal identity due to lack of confidence.

10.3. Hazards

Hazards of adolescence can be divided into various categories of physical, psychological, educational and social hazards which are further divided into sub categories.

Physical Hazards: There are fewer physical hazards in this stage but are important because of their psychological impact.

- **Mortality:** due to illness is uncommon but more deaths due to vehicle accidents are common. And are leading cause in the ages 12-19 years and fatal damages drop from 16 to 19 years.
- **Gang violence:** Due to the preference for belongingness to a peer group over parental and family relationships whether elder or younger people, adolescents get involved in dangerous activities. Gang violence can be a consequence of suppressed anger, rage, conflict with other gangs, drug use, turf protection, and initiation rituals etc. Gang membership dramatically increases from the age range 9 to 14 years, and then, seen a sharp drop in the middle to late adolescent years.
- **Clumsiness and Awkwardness:** These hazards have grave implications with regard to social maladjustments and self-concept.
- **Suicide:** It is the second leading cause of death among youngsters as it dramatically increases during this period especially at the age range of 15-24 years. Many adolescents who attempt to commit or commit suicide were experiencing one or the other mental illness, socially isolated for a longer period, going through family disruptions as well as facing issues at school.
- **Alcohol and substance abuse:** Peer influences plays a great deal in leading an adolescent towards delinquent behaviours and abuse alcohol especially during the ages of 12 to 20 years. Some adolescents are involved in drug abuse like hallucinogens, sedatives, ecstasy, oxycontin, and cocaine, specifically marijuana- which is the most abused drug (70% frequent use of marijuana). Others are involved in tobacco and nicotine abuse which dramatically increases during the ages of 12-13 to ages 18-20 years. Smoking decreases an enzyme that regulates the amount of the neurotransmitter (dopamine) in the brain.
- **Physical Defects:** These defects thwart the teenagers when they found themselves incapable of doing what their peers can do.
- **Sex-Inappropriate Body Builds:** It is highly disturbing to an adolescent because of being judged by their sex-appropriate exterior and they already know that once their development completed, their body build will remain same for life.
- **Body Image:** Due to increase or decrease in weight, they become more vulnerable to being bullied by their peers.
- **Sexual Issues:** Adolescence is the onset of reproductive capacity as well as mature sexual feelings, due to which teenagers are more prone to develop sexually transmitted diseases like chlamydia, gonorrhoea, and HIV infections. Data suggests that 15-19 year old teenagers develop chlamydia and gonorrhoea and that is upto 30% and 25% respectively.

Psychological Hazards: Ignorance and lack of awareness about basic facts lead to psychological issues including behaviour disorders, emotional problems, stress, anxiety, depression, scholastic issues, substance usage and psychiatric disorders. Huge transformations have been taking place during adolescence in brain chemicals like dopamine, serotonin, and other neurotransmitters related to mood, aggression, anxiety, and play a significant role in the development of most mental illnesses. It has been shown that approximately 20% of youngsters (1 out of 5) ages 9-17 years' experience some kind of mental issues. Sleep disorders are also very prevalent during such a younger period of life as the sleep cycles of teenagers are quite different from older adults and children, that is sleeping late and waking up late. Due to this sleep pattern, adolescents tend to develop problems like insomnia, which increases during the age of 9 to 15 years, especially in females. These hazards emerge due to:

- Misunderstandings about child birth, reproduction
- Fallacies about coitus menstrual cycles
- Fearful about sex and related issues
- Inferiority Complex or superiority complex about one's skin colour, beauty, mental ability or Intelligence.
- Incomprehensible opinions about dress and fashion codes.
- Incorrect and unrealistic ideologies about friendship and courtship.
- Perceptual or interactional difficulties about teachers and parents.
- Unrealistic and irrational inquisitiveness about sex and related issues.
- Exceptional susceptibility to suicide.

Social Hazards:

- Predicted unemployment, uncertainty and insecurity due to being unemployed or its prevalence.
- Unnecessary and incomprehensible hatred towards brother, sisters, or friends.
- Unstable and unpredictable relationships with friends.
- Impractical social perceptions regarding violence, love, sex due to media influence.
- Strangely susceptible and unstable relation with relatives.
- Fearing or imagining about married life and life partner.

Educational Hazards:

- Worries about attending classes, appearing in exam and tests.
- Feeling of having low IQ.
- Fear of failure in exams.
- Fear about scoring less marks in exams.
- Fear and concern about a future goal and career.
- Fallacies regarding teachers.

Internet addiction and bullying behaviour are also important hazards of this critical phase of adolescence. We should remember that adolescent brain is constantly changing and is highly disposed to ecological influences—whether good or bad. We need to understand our role and responsibility to mediate between the environment and teenager's brain. The tendency of the teenage brain to crave reward and risk which are the main sources of hazards and these can't be changed because they are hardwired. Instead of changing, we can direct them into positive directions through brain-friendly practices in schools, like for instance, through organizing different sensation seeking activities that includes rewards and risks like school-wide poetry slam. In case that is not being provided at a proper place, then teenagers will look for such rewards and risks in the other damaging areas. Another example for protecting an adolescence from psychological issues is to assist in coping with poor decision-making ability by providing them frequent opportunities to take decisions and make choices in the class.

10.4. Summary

- Physical development is not a smooth process, as growth patterns differs for different systems.
- The maturation of muscle tissue occurs rapidly during the period of early adolescence. One result of this development is that both genders become stronger, but males muscle mass and strength grow more dramatically.

- Young men and young ladies are almost equivalent in actual physical capacities until adolescence, when young men proceed to enhance performance on huge muscle exercises, while young ladies' abilities decline.
- Self-esteem is relatively stable from age 13 approximately. But there is a lot of fluctuation in their feelings about oneself and self-perceptions, particularly in early adolescence period, which tend to enhance during middle and late adolescence.
- In their process of forming their identity, adolescents rebel and revolt against their parents, whereas focus more on their friends and the peer group.
- It has been shown that approximately 20% of youngsters (1 out of 5) ages 9-17 years' experience some kind of mental issues.
- Internet addiction and bullying behaviour are among others important hazards of this critical phase of adolescence.

10.5. Key Words

Self-Esteem: It involves one's beliefs, feelings and thoughts regarding one's own identity and concept of self.

Conformity: the process in which individuals modify their beliefs, attitudes, actions, or perceptions to further match those held by groups to which they belong

Peer Pressure: The need to be valued and accepted by the friends.

Psychological Hazards: Issues that adversely impact mental health

10.8. Self-Assessment

1. If an individual is facing the psychosocial crisis of identity versus role confusion, according to Erik Erikson's model, that individual is most likely
 - a. Pre-adolescent
 - b. Adolescent
 - c. Young Adult
 - d. Middle aged Adult
2. Of the following psychologist who described identity and identity crisis as a major problem faced by adolescent.
 - a. Freud
 - b. Adler
 - c. Horney
 - d. Erickson
3. The growth of body hair in a male is an example of _____
 - a. Latent stage trait
 - b. Puberty
 - c. Sex linked trait
 - d. Sexual deviation
4. According to Erickson's theory, the struggle during adolescence is _____
 - a. Identity vs. Confusion
 - b. Generativity vs. Stagnation
 - c. Both of these
 - d. None of these
5. In the adolescent period teenagers are more likely to be susceptible to peer pressure
 - a. True

- b. False
- 6. Adolescents tend to describe themselves first on the basis of their membership in a group and then on the basis of an individual identity.
 - a. True
 - b. False
- 7. Which of these are part of psychological changes during adolescence
 - a. Parental Relationship
 - b. Self Esteem
 - c. Sense of Identity
 - d. All of these
- 8. Which of these are educational hazards one might face during adolescence
 - a. Identity Confusion
 - b. Growth Spurt
 - c. Self-Concept
 - d. None of these
- 9. Clumsiness and Awkwardness have implications for maladjustments related to
 - a. Social Aspect
 - b. Self-Concept
 - c. Both of these
 - d. None of these
- 10. Adolescence brings physical, psychological, social, cognitive and emotional transitions
 - a. True
 - b. False

| Answers | | | | |
|---------|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| a | d | b | a | a |
| 6 | 7 | 8 | 9 | 10 |
| a | d | d | c | a |

10.9. Review Questions

1. Adolescence is one of the critical phases of life. Discuss
2. Describe in brief physical changes during adolescence.
3. Discuss some major psychological transitions of adolescence.
4. Write in brief about the development of parent child relationship during adolescence.
5. Discuss various hazards of adolescence



Further Readings

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UNIT 11 - Early Adulthood

Content

Introduction

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Further readings

Objectives

This unit will enable you to:

Know about different facets of development during early adulthood;

Understand the various physical changes happening in early adulthood;

Get familiar with various psychological changes happening in early adulthood;

Acquire knowledge the hazards of early adulthood.

Introduction

Most of the time, the beginning of adulthood and the end of adolescence seem unnoticed and unrecognized because they occur on a continuum of development. Some individuals look like adults during adolescence, and some look like adolescents at the beginning of adulthood. Keeping apart the physical attributes it is a time that has rapid changes and society assigns lots of responsibilities to adults and expects them to behave in a civic manner. To understand adulthood, it is always better to look into the characteristics of adulthood.

1.1. Adulthood Characteristics

Early adulthood can be considered a period of change, because of the sudden changes in lifestyle, social expectations, and changed living patterns. The major characteristics of adulthood are:

1. **Early adulthood is the settling down age:** During early adulthood, an individual starts taking on the major responsibilities of life. Rather than trying out new roles and shifting from place to place or experimenting with different roles and opportunities like adolescence, adults try to settle down with their career, location, and partner. Most of those who are in their early adulthood by the age of 35 will have a clear idea about what

they want in life and try to become focused on pursuing those and settle down with the things they aimed to.

2. **Reproductive age:** Most adults start building the family of procreation and move away from the family of orientation during early adulthood. This is the phase where every adult tries to establish their own family with a life partner and children. By the end of early adulthood, the role of parent and parenthood will emerge to be the important task of an adult.
3. **Problem age:** Early adulthood is considered to be a problem age because this is the stage of managing the roles of parent, husband, employee, friend, sibling, and child, which is time-consuming and energy-consuming at the same time. So, managing these roles and maintaining the equilibrium makes one vulnerable to stress and mental dysfunctions. The struggles are more with women than men especially when they became parents in the first year of marriage. Women find it difficult to manage their roles difficult and some of them make the decisions to quit their job, which can make them susceptible of mental health issues.
4. **Early adulthood is a stage of emotional tension:** Adulthood is the phase of problems and stress due to the various responsibilities placed on the early adults, unlike adolescents. Finding a livelihood, settling down with a career, selecting a partner, and taking up the responsibilities of parents can lead to emotional tension during early adulthood.
5. **Early adulthood is the stage of social isolation:** Early adulthood is the phase where people move away from social circles to a limited circle based on proximity. During adolescence, a person may be a member of several cliques and groups based on their interest. But in early adulthood, they are so busy maintaining a balance between work life and family life, which makes them isolated from social groups and clique groups.
6. **Early adulthood is a time of dependency:** For maintaining the role of parents and partners a young couple is dependent on each other. This dependency is essential to maintain family life and professional life equilibrium. Sometimes, they will become dependent on their parents to pursue both partners' careers.
7. **It is considered a time of value change:** Many values will be changed or formed during early adulthood, which is more than adolescence. Value changes will occur especially if the spouse belongs to a different culture.
8. **Time of new lifestyles:** During early adulthood, the lifestyle goes through an abrupt change rather than that of adolescence. New routines, food styles, dressing styles, new ways of amusement, and new interests will arise during early adulthood, which poses many adjustments for adults.

11.2. Physical Development

Lots of physical changes occur during early adulthood and the early signs of aging start at this stage for many people. The major physical changes that occur during adulthood are:

1. **Weight and Height:** One of the most prominent changes that are visible during early adulthood is weight change. Weight changes are more prominent among adults between the age of 18-and 45 than in other age groups compared to the changes in height. By 25 years, most adults will achieve full development in terms of height.
2. **The eyes:**In early adulthood, the acuity and sharpness of the eyes are at their maximum compared to the other stages of life. But as age increases, the eyes' ability to accommodate distance and light decreases.
3. **Muscular strength:**The strength of the muscles is at its peak during early adulthood. After this time there will be a decline in muscular strength. And this decrease in muscle strength continues till old age.
4. **The teeth:**most people will retain almost all of their teeth during early adulthood. If there is no proper oral hygiene there are chances for tooth decay and gum problems. Tooth problems are more common among women than men.
5. **The heart:** As the individual grows older the ability of the heart to function properly reduces. Heavy cholesterol. Triglycerides and thickening of the heart walls are all ore common among adults. A sedentary lifestyle causes heart issues and heart attacks at an even younger age.
6. **The skin:** In early adulthood itself the skin shows the signs of aging. First wrinkles, pigmentation and the loss of the elasticity of the skin all start appearing during early adulthood if not cared for properly. The problems withthe skin are more common among males than females.

Factors affecting the physical development

Exercise can affect physical strength and endurance during adulthood. Any form of exercise like running, jogging, walking, aerobics, swimming, etc. is good for health. The youth who work out more will have fewer problems related to muscle decline in middle age and old age.

Alcohol abuse can affect the health and cardiac issues it poses the risk of liver cirrhosis, cancer, cardiac issues, and cancer. Smoking also poses risks for heart diseases, cancer, and lung problems. Smoking also can cause respiratory illnesses like bronchitis and emphysema.

Stress and daily hassles during early adulthood and if it persists throughout life make an individual vulnerable to mental dysfunctions, loss of mental abilities, and lower one's immunity. Persistent stress can cause anxiety, irritability, nervousness, anger, and tension.

11.3. Cognitive development

Like most physical changes, cognitive development is at its peak during early adulthood. The skills like response time, short-term memory, perception skills, creative skills, etc. will be at their peak during early adulthood. As the age increases there will be a decline in almost all of the cognitive domains.

- **Intellectual ability:** The skills related to verbal ability like the use of language to express ideas, language comprehension, and communication increase during early adulthood. Creative skills which are related to producing something new and the novel also increase during early adulthood.

- Achieving stage: According to Piaget during early adulthood, an individual is in the achieving stage with skills of high competence and memory. In this stage, the individuals will strive for independence using sharp cognitive abilities.
- Memory: Short-term memory and working memory are sharp during early adulthood. But these abilities will decline afterward and it declines towards middle age and old age.

Factors affecting cognitive development

Aging is a normal process and it can affect cognitive development like it does physical development. Factors like stress can have a huge negative impact on cognitive abilities like memory, thinking, and reasoning. Persistent stress can have a negative effect on memory both short-term and long-term.

Senile dementia or age-related dementia occurs at old age after 60 years or so. But those who are vulnerable to Alzheimer's and parkinsonism can show the early signs and symptoms at a young age.

11.4. Psycho-social development

During early adulthood, there are lots of changes that happen for an individual which is related to psycho-social development. It is a period of a drastic shift in social behaviors and personal interests unlike that of adolescence. Major Psycho-social development that occurs during early adulthood are:

- Intimacy v/s isolation: According to Erikson's point of view early adulthood is a stage of intimacy v/s isolation, where an individual strives to form close relationships with others with a strong intimacy motive. If an individual is not able to form healthy relationships and bonds during early adulthood, he will develop isolation which can result in psychological problems.
- Gaining independence: This is the stage where an individual strives to achieve independence in life in terms of psychological and financial. If an individual is not able to make his own decisions about life, he may not be able to achieve independence which can result in the loss of self-worth and self-esteem.
- Role changes: This is the stage of assigned responsibilities and roles which are novel and unique in nature, unlike adolescence. During early adulthood, a person pursues a career, gets married, and becomes a parent. So, adapting to these new roles and challenges is a part of psycho-social development during early adulthood.
- Changes in interests: During early adulthood an individual shifts his interest from group activities to individual activities like amusements of watching movies alone or with partner.

11.5. Hazards and Related Dynamics

Hazards during early adulthood can be divided into personal hazards, social hazards, sex-role hazards and vocational hazards.

Personal hazards during early adulthood

- Mastering developmental tasks: Most of the personal hazards during early adulthood occur due to the lack of mastering the developmental tasks that are appropriate for youth. There are lots of factors that affect the mastering of developmental tasks like physical handicaps, which hinders the mastering of the skills that are required for healthy development and maintaining balance in adulthood.
- Physical hazards: Poor health is a reason for hazardous development during early adulthood like that of childhood and adolescence. Unattractive body build and appearances can cause adjustment problems and poor self-esteem during early adulthood.

- Religious hazards: If a new faith is placed on adults by their parents or by partners it causes emotional tension among adults, and if they are not able to cope with that it poses a hazard to adults.

Social hazards during early adulthood

- Difficulties to adhere to a group: Due to jobs or responsibilities at home an adult may find it difficult to adhere to the group. For females, after marriage, it is difficult to maintain a balance between the tasks at home and being a member of social groups, which can pose a hazard to their social activities.
- Difficulty to handle roles in a group: During early adulthood, an individual has to handle different roles like that of a parent, an in-law, a partner, and an employee. So, in order to maintain a balance between these roles the young people tend to stop socializing as they do previously.
- Social mobility: During early adulthood to pursue a career, most young people stay away from their family this may act as a social hazard that can prevent them from being a part of social groups.

Sex-role hazards during early adulthood

- Traditional sex-role v/s egalitarian concepts: The traditional concepts about marriage and wife don't match with the modern or egalitarian concepts of marriage and sex roles inside the home. This can create a hazard if both the partners and in-laws don't accept that.
- Problems of females: Sex-role hazards are more found among females after marriage because they are supposed to take up lots of responsibilities, unlike their partners which can result in a minority group complex.

Vocational hazards during early adulthood

- Job dissatisfaction: The most common causes of job dissatisfaction are boredom, restrictions on free time, poor management, lack of leisure, etc. If an adult finds that there is no scope for adjustment in the vocational setting it can become hazardous for him.
- Unemployment: If an individual lost his job because of pandemics, company policies, or as part of discrimination it will be difficult for him to accept it. The covid-19 pandemic increased the unemployment rate in almost all developing countries.

Related dynamics

Levinson in 1978 published a book titled 'The Seasons of a Man's Life'. This book mainly explains what young adults look for in their life. Levinson explains that every young person will have a dream before entering adulthood and if he is able to achieve his dream or reach a position that is somewhere near to that dream, he will be able to feel a purpose in his life. But if there is an incongruity between the dream and his real life, he will experience adjustment issues.

Levinson also pointed out that during early adulthood an individual will spend time in planning, evaluating, and replanning the steps to achieve his goal. And if the process continues without attaining the goal, it can make him vulnerable to experience hazards either in his personal, social or vocational life.

11.6. Summary

- Early adulthood can be considered a period of change, because of the sudden changes in lifestyle, social expectations, and changed living patterns. The main characteristic of early adulthood is that it's a settling down age, where the youth will settle down with a career or family. It can be also considered a problem age with lots of emotional

responsibilities. During early adulthood, the dependency on a partner grows for parenting and other house chores responsibilities.

- Physical development in terms of muscular strength and weight and height gain reaches its maximum during early adulthood. Cognitive development, like the ability to verbal reasoning, memory, and intelligence. Language comprehension etc. is at its peak during young age. The psycho-social development of attaining intimacy, and taking up social responsibilities and challenges are also essential facets of early adulthood development.
- Early adulthood is marked by hazards like personal hazards of adapting to the sex roles, health issues, mastering the tasks, etc. poses youth vulnerable to stress and storm of early adulthood. Finding employment and acquiring satisfaction in employment and facing the issues of unemployment are main vocational hazard that occurs during the young age.

11.7. Keywords

Early adulthood:The life stage called early adulthood defines individuals between the ages of 20 and 35, who are typically vibrant, active, and healthy, and are focused on friendships, romance, childbearing, and careers.

Physical development: In early adulthood, almost all the physical development is complete, and an individual functions at its optimal level. An adult during the early phase will achieve his maximum height and gain weight

Cognitive development: Cognitive development during early adulthood is at its peak when it comes to verbal abilities, memory, reasoning, creativity, and IQ scores. It starts to decline only during middle age and old age.

Psycho-social development: The major development an adult makes during his early adulthood is forming interpersonal relationships, gaining independence, and moving away from family. These are the signs of psychosocial development during early adulthood.

Hazards:A hazard is any object, situation, or behavior that has the potential to cause injury, ill health, or damage to property or the environment.

11.8. Self-assessment

1. Early adulthood is marked by developmental tasks and hazards
 - a. True
 - b. False
2. Physical decline starts at early adulthood
 - a. True
 - b. False
3. The seasons of a man's life is written by Levinson
 - a. True
 - b. False
4. Sex-role hazards are common among men than women
 - a. True
 - b. False
5. Mental abilities are its peak during early adulthood
 - a. True

- b. False
6. Intimacy v/s isolation is a notion of Levinson
- a. True
- b. False
7. Erikson proposed psycho-social developmental stages
- a. True
- b. False
8. Hazard is place on an individual only by certain situation
- a. True
- b. False
9. social mobility for pursual of the career is a social hazard during early adulthood
- a. True
- b. False
10. Forming interpersonal relationships is a part of physical development
- a. True
- b. False

Answer Key

| | | | | |
|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| a | b | a | b | a |
| 6 | 7 | 8 | 9 | 10 |
| b | a | b | a | b |

11.9. Review Questions

1. Explain the characteristics of early adulthood
2. Explain in detail about the physical development during early adulthood.
3. What are the common personal hazards that happens during early adulthood?
4. Explain the notion of Erikson related to psycho-social development during early adulthood.
5. Explain the social and vocational hazard that happens during early adulthood.

Further Reading



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<https://www.psychologyinaction.org/psychology-in-action-1/early-adulthood>

Unit 12-Middle Age

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Further Readings

Objectives

After studying this unit, you will be able to learn:

- How is middle adulthood defined, and what are some of its characteristics
- Some key physical changes in middle adulthood
- Health and disease in middle adulthood
- Main causes of death in middle age

Introduction

Until the 1970s, psychologists tended to treat adulthood as a single developmental stage, with few or no distinctions made between the various periods that we pass through between adolescence and death. Present-day psychologists realize, however, that physical, cognitive, and emotional responses continue to develop throughout life, with corresponding changes in our social needs and desires. Thus, the three stages of *early adulthood*, *middle adulthood*, and *late adulthood* each have their own physical, cognitive, and social challenges.

In this section, we will consider the development of our cognitive and physical aspects that occur during **early adulthood** and **middle adulthood** – roughly *the ages between 25 and 45 and between 45 and 65, respectively*. These stages represent a long period of time – longer, in fact, than any of the other developmental stages – and the bulk of our lives

isspent in them. These are also the periods in which most of us make our most substantial contributions to society, by meeting two of Erik Erikson's life challenges: we learn to give and receive love in a close, long-term relationship, and we develop an interest in guiding the development of the next generation, often by becoming parents.

12.1.Physical Development

Although everyone experiences some physical change due to aging in the middle adulthood years, the rates of this aging vary considerably from one individual to another. Genetic makeup and lifestyle factors play important roles in whether chronic disease will appear and when.

Appearance

One of the most visible signs of physical changes in middle adulthood is physical appearance. The first outwardly noticeable signs of aging usually are apparent by the forties or fifties. The skin begins to wrinkle and sag because of a loss of fat and collagen in underlying tissues. Small, localized areas of pigmentation in the skin produce aging spots, especially in areas that are exposed to sunlight, such as the hands and face. Hair becomes thinner and grayer due to a lower replacement rate and a decline in melanin production. Fingernails and toenails develop ridges and become thicker and more brittle. Since a youthful appearance is stressed in many cultures, individuals whose hair is graying, whose skin is wrinkling, whose body is sagging, and whose teeth are yellowing strive to make themselves look younger. Undergoing cosmetic surgery, dyeing hair, purchasing wigs, enrolling in weight reduction programs, participating in exercise regimens, and taking heavy doses of vitamins are common in middle age.

Height and Weight

Individuals lose height in middle age, and many gain weight. On average, from 30 to 50 years of age, men lose about inch in height. The height loss for women can be as much as 2 inches from 25 to 75 years of age. Note that there are large variations in the extent to which individuals become shorter with aging. The decrease in height is due to bone loss in the vertebrae.

Strength, Joints, and Bones

Peak functioning of the body's joints also usually occurs in the twenties. The cushions for the movement of bones (such as tendons and ligaments) become less efficient in the middle-adult years, a time when many individuals experience joint stiffness and more difficulty in movement.

Vision and Hearing

Accommodation of the eye (the ability to focus and maintain an image on the retina)—experiences its sharpest decline between 40 and 59 years of age. In particular, middle-aged individuals begin to have difficulty

viewing close objects. Hearing also can start to decline by the age of 40. Auditory assessments indicate that hearing loss occurs in as many as 50 percent of individuals 50 years and older.

Cardiovascular System

The level of cholesterol in the blood increases through the adult years and in midlife begins to accumulate on the artery walls, increasing the risk of cardiovascular disease. Blood pressure (hypertension), too, usually rises in the forties and fifties. At menopause, a woman's blood pressure rises sharply and usually remains above that of a man through life's later years. An increasing problem in middle and late adulthood is metabolic syndrome, a condition characterized by hypertension, obesity, and insulin resistance. Metabolic syndrome often leads to the development of diabetes and cardiovascular disease.

Sexual Life

Sexuality remains an important part of life for most middle-aged people. Although the frequency of sexual intercourse declines with age, for many, middle adulthood brings a kind of sexual enjoyment and freedom that was missing during their earlier lives. With their children grown and away from home, middle-aged married couples have more time to engage in uninterrupted sexual activities. Women who have passed through menopause are liberated from the fear of pregnancy and no longer need to employ birth control techniques.

Female Climacteric and Menopause

Starting at around age 45, women enter a period known as the climacteric that lasts for some 15 to 20 years. The female climacteric marks the transition from being able to bear children to being unable to do so. The most notable sign of the female climacteric is menopause. Menopause is the cessation of menstruation. For most women, menstrual periods begin to occur irregularly and less frequently during a two-year period starting at around age 47 or 48, although this process may begin as early as age 40 or as late as age 60. After a year goes by without a menstrual period, menopause is said to have occurred.

Male Climacteric

Men also experience some changes during middle age that are collectively referred to as the male climacteric. The male climacteric is the period of physical and psychological change in the reproductive system that occurs during late middle age, typically in a man's 50s. Because the changes happen gradually, it is hard to pinpoint the exact period of the male climacteric.

Middle Age and Health

The most common health problems experienced during middle age are arthritis, asthma, bronchitis, coronary heart disease, diabetes,

genitourinary disorders, hypertension (high blood pressure), mental disorders, and strokes (cerebrovascular accidents). AIDS has also become an increasingly frequent health problem in this age group.

12.2. Cognitive Development

While we sometimes associate aging with cognitive decline (often due to the way it is portrayed in the media), aging does not necessarily mean a decrease in cognitive function. In fact, tacit knowledge, verbal memory, vocabulary, inductive reasoning, and other types of practical thought skills increase with age. The adult brain seems to be capable of rewiring itself well into middle age, incorporating decades of experiences and behaviors. Research suggests, for example, the middle-aged mind is calmer, less neurotic and better able to sort through social situations. Some middle-agers even have improved cognitive abilities.

Intelligence

Some abilities begin to decline in middle age while others increase. **Crystallized intelligence**, an individual's accumulated information and verbal skills, continues to increase in middle adulthood, whereas **fluid intelligence**, one's ability to reason abstractly, begins to decline in the middle adulthood years.

Memory

Memory declines in middle age are relatively minor, and most can be compensated for by various cognitive strategies. Both sensory memory and short-term memory show virtually no weakening during middle adulthood, but long-term memory declines with age for some people. It appears, however, that the reason for the decline is not a fading or a complete loss of memory, but rather that with age, people register and store information less efficiently. In addition, age makes people less efficient in retrieving information that is stored in memory. In other words, even if the information was adequately stored in long-term memory, it may become more difficult to locate or isolate it.

12.3. Psychosocial Development

Stress continues to have a significant impact on health during middle adulthood, as it did in young adulthood, although the nature of what is stressful may have changed. stress produces three main consequences. First, stress has direct **physiological outcomes**, ranging from increased blood pressure and hormonal activity to decreased immune system response. Second, stress also leads people to engage in **unhealthy behaviors**, such as cutting back on sleep, smoking, drinking, or taking other drugs. Finally, stress has **indirect effects on health related behavior**. People under a lot of stress may be less likely to seek out good medical care, exercise, or comply with medical advice. All of these can lead to or affect serious health conditions, including such major problems as heart disease.

Perhaps the major marker of adulthood is the ability to create an effective and independent life. Whereas children and adolescents are generally supported by parents, adults must make their own living and must start their own families. Furthermore, the needs of adults are different from those of younger persons.

Even though the timing of the major life events that occur in middle adulthood varies substantially among individuals, the events nevertheless tend to follow a general sequence, known as a social clock. The **social clock** refers to the culturally preferred “right time” for major life events, such as moving out of the childhood house, getting married, and having children. People who do not appear to be following the social clock (e.g., young adults who still live with their parents, individuals who never marry, and couples who choose not to have children) may be seen as unusual or deviant, and they may be stigmatized by others.

Although they are doing it later, on average, than they did even 20 or 30 years ago, most people do eventually marry. Marriage is beneficial to the partners, both in terms of mental health and physical health. People who are married report greater life satisfaction than those who are not married and also suffer fewer health problems.

Parenthood also involves a major and long-lasting commitment, and one that can cause substantial stress on the parents. The time and finances invested in children create stress, which frequently results in decreased marital satisfaction. This decline is especially true for women, who bear the larger part of the burden of raising the children and taking care of the house, despite the fact they increasingly also work and have careers.

Despite the challenges of middle adulthood, the majority of middle-aged adults are not unhappy. These years are often very satisfying, as families have been established, careers have been entered into, and some percentage of life goals has been realized.

12.4. Hazards and Related Dynamics

In middle adulthood, the frequency of accidents declines and individuals are less susceptible to colds and allergies than in childhood, adolescence, or early adulthood. Indeed, many individuals live through middle adulthood without having a disease or persistent health problem.

Stress and Disease

Stress is increasingly being found to be a factor in disease. The cumulative effect of stress often takes a toll on the health of individuals by the time they reach middle age. Stress is linked to disease through both the immune system and cardiovascular disease.

Cardiovascular disease

Although heart and circulatory diseases are a major problem, they are not an equal threat for all people—some people have a much lower risk than

others. Both genetic and experiential characteristics are involved. Some people seem genetically predisposed to develop heart disease. If a person's parents suffered from it, the likelihood is greater that she or he will too. Similarly, sex and age are risk factors: Men are more likely to suffer from heart disease than women, and the risk rises as people age. However, environment and lifestyle choices are also important. Cigarette smoking, a diet high in fats and cholesterol, and a relative lack of physical exercise all increase the likelihood of heart disease.

Cancer

Few diseases are as frightening as cancer, and many middle-aged individuals view a cancer diagnosis as a death sentence. Although the reality is different—many forms of cancer respond quite well to medical treatment, and two-thirds of people diagnosed with the disease are still alive five years later—the disease raises many fears. Like heart disease, cancer is associated with a variety of risk factors, some genetic and others environmental. Some kinds of cancer have clear genetic components. For example, a family history of breast cancer—which is the most common cause of cancer death among women—raises the risk for a woman. Several environmental and behavioral factors are also related to the risk of cancer. For instance, poor nutrition, smoking, alcohol use, exposure to sunlight, exposure to radiation, and particular occupational hazards (such as exposure to certain chemicals or asbestos) are all known to increase the chances of developing cancer.

Mortality

In middle age, many deaths are caused by a single, readily identifiable condition, whereas in old age, death is more likely to result from the combined effects of several chronic conditions. For many years heart disease was the leading cause of death in middle adulthood, followed by cancer; however, in 2005 more individuals 45 to 64 years of age in the United States died of cancer, followed by cardiovascular disease (National Center for Health Statistics, 2008). The gap between cancer as the leading cause of death widens as individuals age from 45 to 54 and 55 to 64 years of age (National Center for Health Statistics, 2008). Men have higher mortality rates than women for all of the leading causes of death.

12.5. Summary

- It is in early and middle adulthood that muscle strength, reaction time, cardiac output, and sensory abilities begin to decline.
- One of the key signs of aging in women is the decline in fertility, culminating in menopause, which is marked by the cessation of the menstrual period.
- The different social stages in adulthood, such as marriage, parenthood, and work, are loosely determined by a social clock, a culturally recognized time for each phase.

- The adult brain seems to be capable of rewiring itself well into middle age, incorporating decades of experiences and behaviors.
- In middle adulthood, the frequency of accidents declines and individuals are less susceptible to colds and allergies than in childhood, adolescence, or early adulthood.
- Despite the challenges of middle adulthood, the majority of middle-aged adults are not unhappy.

12.6. Keywords

Social clock refers to the culturally preferred “right time” for major life events, such as moving out of the childhood house, getting married, and having children.

Early adulthood refers to *the ages between 25 and 45*

Middle adulthood refers to *ages between 45 and 65*

Unhealthy behaviors in middle age includes cutting back on sleep, smoking, drinking, or taking other drugs

12.7. Self-Assessment

1. Approximate age range for middle adulthood is
 - a) 45-65years
 - b) Above 75
 - c) 65-75
 - d) 50-70
2. Leading cause of death in middle adulthood are
 - a) Osteoporosis
 - b) Lung infection
 - c) Heart disease and cancer
 - d) Renal failure
3. Social clock is _____ preferred right time for major life events
 - a) Cultural
 - b) Psychological
 - c) Physical
 - d) Health
4. Which among the following is not a physical characteristic of middle adulthood-
 - a) Wrinkles in skin
 - b) Tags on skin
 - c) Greying of hairs
 - d) Brittle nails
5. Loss of height in middle adulthood is due to:
 - a) Bone loss in vertebra
 - b) Joint deformity
 - c) Density loss in feet
 - d) Lack of nutrition

6. Most notable sign of female climacteric is:
 - a) Loss of reproduction capability
 - b) Menopause
 - c) Andropause
 - d) Menarche
7. In terms of intelligence, during middle age
 - a) Crystallized intelligence increases
 - b) Crystallized intelligence decreases
 - c) Fluid intelligence increases
 - d) Intelligence is not affected
8. In middle adulthood cause of death is readily identifiable because:
 - a) Generally, there is single cause
 - b) Complex causes
 - c) Readily available diagnostics
 - d) Symptoms are more prominent
9. One of the growing causes of death in females:
 - a) Asthma
 - b) Menorrhagia
 - c) Breast and uterine cancer
 - d) UTI
10. Causes of cancer may not be:
 - a) Frequent health check-ups
 - b) Genetics
 - c) Poor nutrition
 - d) radiations

Answers:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | a | c | a | b | a | b | a | a | c | a |

12.8. Review Questions

1. Compare your behaviour, values, and attitudes regarding marriage and work to the attitudes of your parents and grandparents. In what way are your values similar? In what ways are they different?
2. Draw a timeline of your own planned or preferred social clock. What factors do you think will make it more or less likely that you will be able to follow the timeline?

Unit 13 Old Age

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Objectives

This unit will enable you to:

Learn the theories of aging

Describe how a person's brain and body change in old age.

Identify health problems in older adults and how they can be managed.

Introduction

Old age refers to ages nearing or surpassing the life expectancy of human beings, and is thus the end of the human life cycle. It is also true that an individual's fear of aging is often greater than need be. As more individuals live to a ripe and active old age, our image of aging is changing. While on average a 75-year-old's joints should be stiffening, people can practice not to be average. For example, a 75-year-old man might choose to train for and run a marathon; an 80-year-old woman whose capacity for work is undiminished might choose to make and sell children's toys.

Do you want to live to be 100, or 90? Late adulthood is the longest span of any period of human development—50 to 60 years. Some developmentalists distinguish between the young-old (65 to 74 years of age) and the old-old, or old age (75 years and older). Yet others distinguish the oldest-old (85 years and older) from younger older adults (65 to 84 years age). An increased interest in successful aging is producing a portrayal of the oldest-old that is more optimistic than past stereotypes. Interventions such as cataract surgery and a variety of rehabilitation strategies are improving the functioning of the oldest-old. And there is cause for optimism in the development of new regimens of prevention and intervention, such as engaging in regular exercise.

Many experts on aging prefer to talk about such categories as the young-old, old-old, and oldest-old in terms of function rather than age. In terms of functional age — the person's actual ability to function—an 85-year-old might well be more biologically and psychologically fit than a 65-year-old.

13.1. Physical Changes and Deteriorations

In late adulthood, the changes in physical appearance that began occurring during middle age become more pronounced.

Wrinkles and age spots are the most noticeable changes. We also get shorter when we get older. Both men and women become shorter in late adulthood because of bone loss in their vertebrae.

Our weight usually drops after we reach 60 years of age. This likely occurs because we lose muscle, which also gives our bodies a “sagging” look. Decline in percentage of muscle and bone from age 25 to age 75, and the corresponding increase in the percentage of fat.

Older adults move more slowly than young adults, and this slowing occurs for movements with a wide range of difficulty. Even when they perform everyday tasks such as reaching and grasping, moving from one place to another, and continuous movement, older adults tend to move more slowly than when they were young. Adequate mobility is an important aspect of maintaining an independent and active lifestyle in late adulthood. One recent study of the functional ability of non-institutionalized individuals 70 years of age and older revealed that over an eight-year period, the most deterioration occurred in their mobility (Holstein & others, 2007). Obesity is also linked to mobility limitation in older adults.

Regular walking decreases the onset of physical disability in older adults. Also, exercise and appropriate weight lifting can help to reduce the decrease in muscle mass and improve the older person’s body appearance. It’s not just physical exercise that is linked to preserving older adults’ motor functions; engaging in social activities protected against loss of motor abilities.

Vision

In young old age there is a loss of acuity even with corrective lenses. Less transmission of light occurs through the retina (half as much as in young adults). Greater susceptibility to glare occurs. Color discrimination ability decreases. In old-old age there is a significant loss of visual acuity and color discrimination, and a decrease in the size of the perceived visual field. In late old age, people are at significant risk for visual dysfunction from cataracts and glaucoma.

Hearing

In early years of old age there is a significant loss of hearing at high frequencies and some loss at middle frequencies. These losses can be helped by a hearing aid. There is greater susceptibility to masking of what is heard by noise. In later years there is a significant loss at high and middle frequencies. A hearing aid is more likely to be needed than in young-old age.

Smell and Taste

Most older adults lose some of their sense of smell or taste, or both. These losses often begin around 60 years of age. A majority of individuals 80-years-of-age and older experience a significant reduction in smell. Researchers have found that older adults show a greater decline in their sense of smell than in their taste. Smell and taste decline less in healthy older adults than in their less healthy counterparts.

Touch and Pain

With aging individuals could detect touch less in the lower extremities (ankles, knees, and so on) than in the upper extremities (wrists, shoulders, and so on). Older adults who are blind retain a high level of touch sensitivity, which likely is linked to their use of active touch in their daily lives. Older adults are less sensitive to pain and suffer from it less than younger adults. Although decreased sensitivity to pain can help older adults cope with disease and injury, it can also mask injury and illness that need to be treated.

13.2. Cognitive Changes and deterioration

On average, the brain loses 5 to 10 percent of its weight between the ages of 20 and 90. Brain volume also decreases. One study found that the volume of the brain was 15 percent less in older adults than younger adults. Scientists are not sure why these changes occur but think they might result from a decrease in dendrites, damage to the myelin sheath that covers axons, or simply the death of brain cells.

The prefrontal cortex is one area that shrinks with aging, and recent research has linked this shrinkage with a decrease in working memory and other cognitive activities in older adults. A general slowing of function in the brain and spinal cord begins in middle adulthood and accelerates in late adulthood. Both physical coordination and intellectual performance are affected. For example, after age 70 many adults no longer show a knee jerk, and by age 90 most reflexes are much slower. The slowing of the brain can impair the performance of older adults on intelligence tests and various cognitive tasks, especially those that are timed. Using neuroimaging techniques, researchers found that brain activity in the prefrontal cortex is lateralized less in older adults than in younger adults when they are engaging in cognitive tasks.

13.3. Psychosocial Changes

As people age, they experience changes in physical and cognitive capacities, such as gait speed and reaction time, and also changes in emotional experience and social interests. Common psychological issues affecting older patients may include, but are not limited to, anxiety, depression, delirium, dementia, personality disorders, and substance abuse. Common social and emotional issues may involve loss of autonomy, grief, fear, loneliness, financial constraints, and lack of social networks. These psychosocial issues can also have an impact on and contribute to physical health. Psychosocial factors such as stress, anxiety, depression, social isolation, and poor relationships have been associated with an increased risk of hypertension, stroke, and cardiovascular disease. Conversely, chronic or debilitating somatic or physical conditions such as cancer, diabetes, arthritis, cardiovascular and/or respiratory diseases, and hearing loss are associated with increased rates of loneliness and depression.

13.4. Hazards and Diseases

As we age, the probability increases that we will have some disease or illness. The majority of adults still alive at 80 years of age or older are likely to have some type of impairment. Chronic diseases (those with a slow onset and a long duration) are rare in early adulthood, increase in middle adulthood, and become more common in late adulthood.

Arthritis is the most common chronic disorder in late adulthood, followed by hypertension. Older women have a higher incidence of arthritis and hypertension and are more likely to have visual problems, but are less likely to have hearing problems, than older men are. Chronic conditions associated with the greatest limitation on work are heart conditions, diabetes, asthma, and arthritis.

Arthritis is an inflammation of the joints accompanied by pain, stiffness, and movement problems. Arthritis is especially common in older adults. This disorder can affect hips, knees, ankles, fingers, and vertebrae. Individuals with arthritis often experience pain and stiffness, as well as problems in moving about and performing routine daily activities.

Osteoporosis

Osteoporosis involves an extensive loss of bone tissue. Osteoporosis is the main reason many older adults walk with a marked stoop. Women are especially vulnerable to osteoporosis, the leading cause of broken bones in women. Osteoporosis is related to deficiencies in calcium, vitamin D, estrogen, and lack of exercise. To prevent osteoporosis, young and middle-aged women should eat foods rich in calcium (such as dairy products, broccoli, turnip greens, and kale), get more exercise, and avoid smoking.

Accidents

Accidents are the sixth leading cause of death among older adults (National Center for Health Statistics, 2010d). Injuries resulting from a fall at home or during a traffic accident in which an older adult is a driver or an older pedestrian is hit by a vehicle are common. Falls are the leading cause of injury deaths among adults who are 65 years and older.

Exercise and Aging

Can exercise slow the aging process? Can eating a nutritious but calorie-reduced diet increase longevity?

Exercise has following effects on aging process:

1. Exercise is linked to increased longevity
2. Exercise is related to prevention of common chronic diseases.

3. Exercise is associated with improvement in the treatment of many diseases.
4. Exercise improves older adults' cellular functioning.
5. Exercise improves immune system functioning in older adults.
6. Exercise can optimize body composition and reduce the decline in motor skills as aging occurs.
7. Exercise reduces the likelihood that older adults will develop mental health problems and can be effective in the treatment of mental health problems.
8. Exercise is linked to improved brain and cognitive functioning in older adults.

Nutrition and Aging

Some older adults engage in dietary restriction that is harmful to their health, especially when they do not get adequate vitamins and minerals. To meet your nutritional needs, eat foods that are rich in fiber, vitamins, minerals, and other nutrients. Limit foods that are high in processed sugars, saturated and trans fats, and salt. You may also have to adjust your diet to manage chronic health conditions. Fiber is essential for a healthy digestive system. To avoid constipation and other problems, include fiber-rich foods at every meal. Soluble fiber is especially important for maintaining healthy cholesterol levels. Good sources of fiber include:

- fruits and vegetables
- beans and lentils
- nuts and seeds
- oats and oat bran
- whole grains

If you find yourself relying on convenience foods, choose the healthiest options. For example, these foods can be easy to prepare and nutritious:

- frozen or low-sodium canned vegetables
- frozen unsweetened fruit or low-sugar canned fruit
- low-sodium canned soup or stews

13.5. Summary

- Eventually, the human life span ends with death.
- Compared to younger adults and children, most older adults are closer to death and more likely to know that they will die gradually over a period of time rather than suddenly.
- Physical impairments—such as cardiovascular disease and cancer—are the most likely reasons older adults will die. Having nutritious food and doing regular exercise are the key to healthy aging.
- Care must be provided to older people not just physically but also emotionally and socially.
- In late adulthood, the changes in physical appearance that began occurring during middle age become more pronounced. Wrinkles and age spots are the most noticeable changes.
- Common psychological issues affecting older patients may include, but are not limited to, anxiety, depression, delirium, dementia, personality disorders, and substance abuse
- Osteoporosis involves an extensive loss of bone tissue. Osteoporosis is the main reason many older adults walk with a marked stoop.

13.6. Key words

Young-old: An individual in the age range of 65 to 74 years of age

Osteoporosis: It refers to an extensive loss of bone tissue

13.7 Self-Assessment

1. Engaging in social activities gives protection against loss of motor abilities.
 - A. True
 - B. False
2. Osteoporosis is related to deficiencies in _____
 - A. Calcium
 - B. Vitamin D
 - C. Estrogen
 - D. All of these
3. _____ is the most common chronic disorder in late adulthood.
 - A. Hypertension
 - B. Thyroid
 - C. Arthritis
 - D. Diabetes
4. Loneliness and depression have no impact on debilitating physical health.
 - A. True
 - B. False
5. Which of these is a normal growth for a 13 year old boy? An old individual will be able to detect touch more readily in _____
 - A. Knees
 - B. Ankles
 - C. Feet
 - D. Wrists
6. Regular walking decreases the onset of physical disability in older people.
 - A. True
 - B. False
7. A 66 year old individual will be termed as _____
 - A. Old old
 - B. Oldest old
 - C. Young Old
 - D. None of these
8. Pre-Frontal Cortex shrinks with aging
 - A. True
 - B. False
9. Brain activity in the prefrontal cortex was studied through the use of _____
 - A. Psychological Questionnaires
 - B. X-Ray
 - C. Neuroimaging Techniques
 - D. None of these

10. Brain loses weight and volume with age?

- A. True
- B. False

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| A | D | C | B | D |
| 6 | 7 | 8 | 9 | 10 |
| A | C | A | C | A |

13.8. Review Questions

Q1. How person's brain changes in old age.

Q2. What are the health problems associated with aging?

Further Readings



Slater, A., Bremner, J.G. *An Introduction to Developmental Psychology*. Second Edition. BPS Blackwell. 2003

Unit 14 Death and Dying

Contents

Objectives

Introduction

14.1 Death System- Causes of death

14.2. The Death System and its Cultural Variations

14.3. Stages of Death and Dying

14.4. Grieving:- Coping with the Death of Someone Else

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Further Readings

Objectives

This unit will enable you to:

Understand the death system and its cultural contexts.

Learn causes of death and attitudes about it at different points in development.

Understand the psychological aspects involved in facing one's own death and the contexts in which people die.

Identify ways to cope with the death of another person.

Introduction

Death is a commanding human concern that has been intellectualized as a powerful inspiring force behind much creative expression and philosophic inquiry throughout the ages. What we know about death, dying, and grieving mainly is based on information about older adults. Leo Tolstoy, distinguished 19th-century Russian moral thinker and novelist, fittingly illustrated the human challenges in confronting the unavailability of death and the anxiety it incites as he vividly describes the last three days of Ivan Ilych's egocentric, seemingly meaningless existence in "The Death of Ivan Ilych."

Twenty-five years ago, determining if someone was dead was simpler than it is today. The end of certain biological functions, such as breathing and blood pressure, and the rigidity of the body (rigor mortis) were considered to be clear signs of death. In recent decades, defining death has become more complex. Brain death is a neurological definition of death, which states that a person is brain dead when all electrical activity of the brain has ceased for a specified period of time. A flat EEG (electroencephalogram) recording for a specified period of time is one criterion of brain death. The higher portions of the brain often die sooner than the lower portions. Because the brain's lower portions monitor heartbeat and respiration, individuals whose higher brain areas have died may continue breathing and have a heartbeat. The definition of brain death currently followed by most physicians includes the death of both the higher cortical functions and the lower brain stem functions. Some medical experts argue that the criteria for death should include only higher cortical functioning. If the cortical death definition were adopted, then physicians could declare a person is dead when there is no cortical functioning in that person, even though the lower brain stem is functioning. Supporters of the cortical death policy argue that the functions we associate with being

human, such as intelligence and personality, are located in the higher cortical part of the brain. They believe that when these functions are lost, the “human being” is no longer alive.

14.1. Death system: - Causes of Death

Death can occur at any point in the human life span. Death can occur during prenatal development through miscarriages or stillborn births. Death can also occur during the birth process or in the first few days after birth, which usually happens because of a birth defect or because infants have not developed adequately to sustain life outside the uterus. Sudden infant death syndrome (SIDS), is in which infants stop breathing, usually during the night, and die without apparent cause. In childhood, death occurs most often because of accidents or illness. Accidental death in childhood can be the consequence of such things as an automobile accident, drowning, poisoning, fire, or a fall from a high place. Major illnesses that cause death in children are heart disease, cancer, and birth defects. Compared with childhood, death in adolescence is more likely to occur because of motor vehicle accidents, suicide, and homicide. Many motor vehicle accidents that cause death in adolescence are alcohol-related. We will examine suicide in greater depth shortly. Older adults are more likely to die from chronic diseases, such as heart disease and cancer, whereas younger adults are more likely to die from accidents. Older adults’ diseases often incapacitate before they kill, which produces a course of dying that slowly leads to death. Of course, many young and middle-aged adults also die of heart disease, cancer, and other diseases.

Attitudes Toward Death at Different Points in the Life Span

The ages of children and adults influence the way they experience and think about death. A mature, adultlike conception of death includes an understanding that death is final and irreversible, that death represents the end of life, and that all living things die. Most researchers have found that as children grow, they develop a more mature approach to death.

Childhood: Even children 3 to 5 years of age have little or no idea of what death means. They may confuse death with sleep or ask in a puzzled way, “Why doesn’t it move?” Preschool-aged children rarely get upset by the sight of a dead animal or by being told that a person has died. They believe that the dead can be brought back to life spontaneously by magic or by giving them food or medical treatment. Young children often believe that only people who want to die, or who are bad or careless, actually die. They also may blame themselves for the death of someone they know well, illogically reasoning that the event may have happened because they disobeyed the person who died. Sometime in the middle and late childhood years, more realistic perceptions of death develop. In a review of research on children’s conception of death, it was concluded that children probably do not view death as universal and irreversible until about 9 years of age. Most children under 7 do not see death as likely. Those who do, perceive it as reversible.

Adolescence: In adolescence, the prospect of death, like the prospect of aging, is regarded as remote and death may be avoided, glossed over, or kidded about. This perspective is typical of the adolescent’s self-conscious thought; however, some adolescents do show a concern for death, both in trying to fathom its meaning and in confronting the prospect of their own demise. Deaths of friends, siblings, parents, or grandparents bring death to the forefront of adolescents’ lives. Deaths of peers who commit suicide “may be especially difficult for adolescents who feel guilty for having failed to prevent the suicide or feel that they should have died, or feel they are being rejected by their friends who hold them responsible for the death. Adolescents develop more abstract conceptions of death than children do. For example, adolescents describe death in terms of darkness, light, transition, or nothingness. They also develop religious and philosophical views about the nature of death and whether there is life after death.

Adulthood: An increase in consciousness about death accompanies individuals’ awareness that they are aging, which usually intensifies in middle adulthood. Researchers have found that middle-aged adults actually fear death more than do young adults or older adults.

Older adults, though, think about death more and talk about it more in conversation with others than do middle-aged and young adults. They also have more direct experience with death as their friends and relatives become ill and die. Older adults are forced to examine the meanings of life and death more frequently than are younger adults.

Younger adults who are dying often feel cheated more than do older adults who are dying. Younger adults are more likely to feel they have not had the opportunity to do what they want to with their lives. Younger adults perceive they are losing what they might achieve; older adults perceive they are losing what they have. In old age, one’s own death may take on an appropriateness it lacked in earlier years. Some of the increased thinking and conversing about death, and an increased sense of

integrity developed through a positive life review, may help older adults accept death. Older adults are less likely to have unfinished business than are younger adults. They usually do not have children who need to be guided to maturity, their spouses are more likely to be dead, and they are less likely to have work-related projects that require completion. Lacking such anticipations, death may be less emotionally painful to them. Even among older adults, however, attitudes toward death vary.

14.2. The Death System and its Cultural Variations

Robert Kastenbaum (2009) emphasizes that a number of components comprise the death system in any culture. The components include:

- **People-** Because death is inevitable, everyone is involved with death at some point, either their own death or the death of others. Some individuals have a more systematic role with death, such as those who work in the funeral industry and the clergy, as well as people who work in life-threatening contexts such as firemen and policemen.
- **Places or contexts-** These include hospitals, funeral homes, cemeteries, hospices, battle fields, and memorials.
- **Times-** Death involves times or occasions, such as Memorial Day in the United States, and the Day of the Dead in Mexico, which are times to honor those who have died. Also, anniversaries of disasters such as D-Day in World War II, 9/11/2001, and Hurricane Katrina in 2005, as well as the 2004 tsunami in Southeast Asia that took approximately 100,000 lives, are times when those who died are remembered in special ways such as ceremonies.
- **Objects-** Many objects in a culture are associated with death, including caskets, various black objects such as clothes, arm bands, and hearses.
- **Symbols-** Symbols such as skull and crossbones, as well as last rites in the Catholic religion and various religious ceremonies, are connected to death.

Most societies throughout history have had philosophical or religious beliefs about death, and most societies have a ritual that deals with death (Bruce, 2007). Death may be seen as a punishment for one's sins, an act of atonement, or a judgment of a just God. For some, death means loneliness; for others, death is a quest for happiness. For still others, death represents redemption, a relief from the trials and tribulations of the earthly world. Some embrace death and welcome it; others abhor and fear it. For those who welcome it, death may be seen as the fitting end to a fulfilled life. From this perspective, how we depart from Earth is influenced by how we have lived.

Cultural Attitudes toward Death

Every human being on the planet eats, sleeps, laughs, cries, bleeds. Death is another human experience that crosses all national, racial, religious, and ethnic boundaries. But within such social and cultural parameters lies a wide range of beliefs and behaviors, approaches and actions that different cultures bring to death rituals and to a family experiencing the loss of one of its members. The course concludes with information and examples for funeral professionals regarding education and outcomes when cultural differences are respected, accommodated, and embraced as a necessary part of the grief process.

In general, a society's response to death is a function of how death fits into its teleological view of life, that is, the design or purpose of death, especially as it pertains to nature. Across all societies there seem to be three general patterns of response to death: death acceptance, death defiance, and death denial.

Death Defiance

In death-defying societies, the belief is that in death nothing need be lost—you can take it with you. A historical example of such a society was discovered in the 1960s on an archaeological dig near Moscow. Skeletons of two boys who died approximately twenty-three thousand years ago were found. Their elaborate grave suggested they were laid to rest amid solemn ritual, perhaps with a view of the afterlife. Both had been dressed from head to toe in clothing decorated with ivory beads carved from mammoth tusks, and both wore bracelets and rings of the same material. Both were further equipped with an assortment of ivory lances, spears, and daggers. An example of a present-day death-defying culture is the Hmong, an ethnic minority found throughout southern China, Vietnam, Laos, Thailand, and Burma. One funeral ritual practice by the Hmong is reciting from the

"TusQuabke," or guide for the deceased to the spirit world. If the proper verses are not recited, the person will not know he or she has died. The ritual is believed to help start the deceased's soul on its first major trip to the spirit world, and explains to the deceased how to make the trip.

Death Denial

The most profound example of a death-denying culture is found in the United States. This philosophy suggests that death is unnatural. American society's denial is exemplified by the following:

1. Through language—using terms such as "passed on" or "expired"
2. By the detachment of families from the funeral process—leaving all details to the funeral professional
3. By relegating family members to nursing homes or hospitals to die, removing them from familiar and comfortable surroundings
4. By avoiding conversation about the deceased for fear of loved ones becoming upset.

14.3. Stages of Death and Dying

There are several ways of looking at the process of dying. One of the more well-known theories is that of Elisabeth Kübler-Ross, who conducted extensive interviews with dying persons and their caregivers. Elisabeth Kübler-Ross theorized that people go through five stages of reaction when faced with death.

1. **Denial and Isolation:** In this stage people refuse to believe that the diagnosis of death is real. This is Kübler-Ross' first stage of dying, in which the person denies that death is really going to take place. The person may say, "No, it can't be me. It's not possible." This is a common reaction to terminal illness. However, denial is usually only a temporary defense. It is eventually replaced with increased awareness when the person is confronted with such matters as financial considerations, unfinished business, and worry about surviving family members.
2. **Anger-** It is really anger at death itself and the feelings of helplessness to change things. This is Kübler-Ross' second stage of dying, in which the dying person recognizes that denial can no longer be maintained. Denial often gives way to anger, resentment, rage, and envy. The dying person's question is, "Why me?" At this point, the person becomes increasingly difficult to care for as anger may become displaced and projected onto physicians, nurses, family members, and even God. The realization of loss is great, and those who symbolize life, energy, and competent functioning are especially salient targets of the dying person's resentment and jealousy
3. **Bargaining-** In this stage dying person tries to make a deal with doctors or even with God. This is Kübler-Ross' third stage of dying, in which the person develops the hope that death can somehow be postponed or delayed. Some persons enter into a bargaining or negotiation—often with God—as they try to delay their death. Psychologically, the person is saying, "Yes, me, but . . ." In exchange for a few more days, weeks, or months of life, the person promises to lead a reformed life dedicated to God or to the service of others.
4. **Depression-** Is sadness from losses already experienced e.g., loss of a job or one's dignity and those yet to come (e.g., not being able to see a child grow up). This is Kübler-Ross' fourth stage of dying, in which the dying person comes to accept the certainty of death. At this point, a period of depression or preparatory grief may appear. The dying person may become silent, refuse visitors, and spend much of the time crying or grieving. This behavior is normal and is an effort to disconnect the self from love objects. Attempts to cheer up the dying person at this stage should be discouraged, says Kübler-Ross, because the dying person has a need to contemplate impending death.
5. **Acceptance-** When the person has accepted the inevitable and quietly awaits death. This is Kübler-Ross' fifth stage of dying, in which the person develops a sense of peace, an acceptance of one's fate, and in many cases, a desire to be left alone. In this stage, feelings and physical pain may be virtually absent. Kübler-Ross describes this fifth stage as the end of the dying struggle, the final resting stage before death.

14.4. Grieving: - Coping with the Death of Someone Else

Loss can come in many forms in our lives—divorce, a pet's death, loss of a job—but no loss is greater than that which comes through the death of someone we love and care for—a parent, sibling, spouse, relative, or friend. In the ratings of life's stresses that require the most adjustment, death of a spouse is given the highest number. How do we cope with the death of someone we love?

The impact of death on surviving individuals is strongly influenced by the circumstances under which the death occurs. Deaths that are sudden, untimely, violent, or traumatic are likely to have more intense and prolonged effects on surviving individuals and make the coping process more difficult for them. Such deaths often are accompanied by post-traumatic stress disorder (PTSD) symptoms, such as intrusive thoughts, flashbacks, nightmares, sleep disturbance, problems in concentrating, and others. Death of a child can be especially devastating and extremely difficult for parents to cope with.

Grieving

Grief is the emotional numbness, disbelief, separation anxiety, despair, sadness, and loneliness that accompany the loss of someone we love. Grief is not a simple emotional state but rather a complex, evolving process with multiple dimensions. In this view, pining for the lost person is one important dimension. Pining or yearning reflects an intermittent, recurrent wish or need to recover the lost person.

Another important dimension of grief is separation anxiety, which not only includes pining and pre-occupation with thoughts of the deceased person but also focuses on places and things associated with the deceased, as well as crying or sighing. Grief may also involve despair and sadness, which include a sense of hopelessness and defeat, depressive symptoms, apathy, loss of meaning for activities that used to involve the person who is gone, and growing desolation.

The grieving process is more like a roller-coaster ride than an orderly progression of stages with clear-cut time frames. The ups and downs of grief often involve rapidly changing emotions, meeting the challenges of learning new skills, detecting personal weaknesses and limitations, creating new patterns of behavior, and forming new friendships and relationships. For most individuals, grief becomes more manageable over time, with fewer abrupt highs and lows. But many grieving spouses report that even though time has brought some healing, they have never gotten over their loss. They have just learned to live with it. The more negative beliefs and self-blame the adults had, the more severe were their symptoms of traumatic grief, depression, and anxiety.

Prolonged grief: Grief that involves enduring despair and is still unresolved over an extended period of time. Prolonged grief usually has negative consequences on physical and mental health. A person who loses someone he or she was emotionally dependent on is often at greatest risk for developing prolonged grief.

Disenfranchised grief: An individual's grief over a deceased person that is a socially ambiguous loss that can't be openly mourned or supported. Examples of disenfranchised grief include a relationship that isn't socially recognized such as an ex-spouse, a hidden loss such as an abortion, and circumstances of the death that are stigmatized such as death because of AIDS. Disenfranchised grief may intensify an individual's grief because it cannot be publicly acknowledged. This type of grief may be hidden or repressed for many years, only to be reawakened by later deaths.

Dual-Process Model of Coping with Bereavement The dual-process model of coping with bereavement consists of two main dimensions: (1) loss-oriented stressors, and (2) restoration-oriented stressors.

Loss-oriented stressors focus on the deceased individual and can include grief work and both positive and negative reappraisals of the loss. A positive reappraisal of the loss might include acknowledging that death brought relief at the end of suffering, whereas a negative reappraisal might involve yearning for the loved one and rumination about the death. Restoration-oriented stressors involve the secondary stressors that emerge as indirect outcomes of bereavement. They can include a changing identity (such as from "wife" to "widow") and mastering skills (such as dealing with finances). Restoration rebuilds "shattered assumptions about the world and one's own

place in it.” In the dual-process model, effective coping with bereavement often involves an oscillation between coping with loss and coping with restoration.

Mourning

One decision facing the bereaved is what to do with the body. Cremation is more popular in the Pacific region of the United States, less popular in the South. Cremation also is more popular in Canada than in the United States and most popular of all in Japan and many other Asian countries. The funeral is an important aspect of mourning in many cultures. In one study, bereaved individuals who were personally religious derived more psychological benefits from a funeral, participated more actively in the rituals, and adjusted more positively to the loss. In some cultures, a ceremonial meal is held after death; in others, a black armband is worn for one year following a death. Cultures vary in how they practice mourning.

There are different traditions associated with several selected religions regarding beliefs about death and funeral.

Table 14.1 Diversity of Beliefs and Traditions Across Religions and Cultures

| Religion | Beliefs pertaining to death | Preparation of the Body | Funeral |
|----------|--|---|--|
| Catholic | Beliefs include that the deceased travels from this world into eternal afterlife where the soul can reside in heaven, hell, or purgatory. Sacraments are given to the dying. | Organ donation and autopsy are permitted. | Cremation historically forbidden until 1963. The Vigil occurs the evening before the funeral mass is held. Mass includes Eucharist. If a priest is not available, a deacon can lead funeral services. Rite of committal takes place with interment. |
| Jewish | Tradition cherishes life but death itself is not viewed as a tragedy. Views on an afterlife vary with the denomination (Reform, Conservative, or Orthodox). | Autopsy and embalming are forbidden under ordinary circumstances. Open caskets are not permitted. | Funeral held as soon as possible after death. Dark clothing is worn at and after the funeral/burial. It is forbidden to bury the decedent on the Sabbath or festivals. Three mourning periods are held after the burial, with Shiva being the first seven days after burial. |
| Buddhist | Both a religion and way of life with the goal of enlightenment. Beliefs include that life is a cycle of death and rebirth. | Goal is a peaceful death. Statue of Buddha may be placed at bedside as the person is dying. Organ donation is not permitted. Incense is lit in the room | Family washes and prepares the body. Cremation is preferred but if buried, deceased should be dressed in regular daily clothes instead of fancy clothing. Monks may |

| | | | |
|-----------------|---|--|---|
| | | following death. | be present at the funeral and lead the chanting. |
| Native American | Beliefs vary among tribes. Sickness is thought to mean that one is out of balance with nature. Thought that ancestors can guide the deceased. Believe that death is a journey to another world. Family may or may not be present for death. | Preparation of the body may be done by family. Organ donation generally not preferred. | Most burials are natural or green. Various practices differ with tribe. Among the Navajo, hearing an owl or coyote is a sign of impending death and the casket is left slightly open so the spirit can escape. Navajo and Apache tribes believe that spirits of deceased can haunt the living. The Comanche tribe buries the dead in the place of death or in a cave. |
| Hindu | Beliefs include reincarnation, where a deceased person returns in the form of another, and Karma. | Organ donation and autopsy are acceptable. Bathing the body daily is necessary. Death and dying must be peaceful. Customary for body to not be left alone until cremated. | Prefer cremation within 24 hours after death. Ashes should be scattered in sacred rivers. |
| Muslim | Muslims believe in an afterlife and that the body must be quickly buried so that the soul may be freed. | Embalming and cremation are not permitted. Autopsy is permitted for legal or medical reasons only. After death, the body should face Mecca or the East. Body is prepared by a person of the same gender. | Burial takes place as soon as possible. Women and men will sit separately at the funeral. Flowers and excessive mourning are discouraged. Body is usually buried in a shroud and is buried with the head pointing toward Mecca. |

14.5. Summary

- In spite of death’s universal claim on each of us, the discussion of death is frequently uncomfortable and even distressing to many.
- There are cultural differences about how people understand and cope with death.
- It is important for death care professionals to increase their own personal death awareness and to grasp the issues and concerns that underlie our society’s attitudes and behaviors around death and dying.

- The quality of care, reassurance, and comfort they are able to offer will be greatly influenced by their own beliefs and personal ease with death.
- Some of the increased thinking and conversing about death, and an increased sense of integrity developed through a positive life review, may help older adults accept death.
- The grieving process is more like a roller-coaster ride than an orderly progression of stages with clear-cut time frames.
- A positive reappraisal of the loss might include acknowledging that death brought relief at the end of suffering, whereas a negative reappraisal might involve yearning for the loved one and rumination about the death.

14.6. Key Words

Grief: It is the emotional numbness, disbelief, separation anxiety, despair, sadness, and loneliness that accompany the loss of someone we love.

Disenfranchised grief: An individual's grief over a deceased person that is a socially ambiguous loss that can't be openly mourned or supported.

Prolonged grief: Grief that involves enduring despair and is still unresolved over an extended period of time.

Loss-oriented stressors: It focus on the deceased individual and can include grief work and both positive and negative reappraisals of the loss.

Restoration-oriented stressors: involve the secondary stressors that emerge as indirect outcomes of bereavement.

14.7. Self-Assessment

1. Brain death is when there is cessation of ____ activity in brain
 - a. Physical
 - b. Electrical
 - c. Mechanical
 - d. Kinetics
2. The act of painlessly ending the lives of individuals who are suffering from an incurable disease or severe disability is called:
 - a. Euthanasia
 - b. Anaesthesia
 - c. Death by will
 - d. Griefing
3. Death in adolescents is more likely to occur because of
 - a. Heat disease
 - b. Cancer
 - c. Lung failure
 - d. Road accidents and suicide
4. Elisabeth Kübler-Ross has described _____ stages, a person undergoes while facing death.
 - a. Three
 - b. Four
 - c. Five
 - d. Six
5. Which of the following is not a stage of death according to Kübler-Ross
 - a. Denial
 - b. Anger
 - c. Bargaining

d. Mourning

6. Disenfranchised grief may intensify an individual’s grief because it cannot be publicly acknowledged.

- a. True
- b. False

7. The dual-process model of coping with bereavement consists of these dimensions.

- a. Loss-oriented
- b. Reversion oriented
- c. Both a & b
- d. None of these

8. _____ societies believe that in death nothing need be lost – you can take it with you.

- a. Death-denying
- b. Death fearing
- c. Death waiting
- d. Death defying

9. Cultures vary in how they mourn

- a. True
- b. False

10. Which of these are components comprising the death system _____

- a. Objects
- b. People
- c. Symbols
- d. All of these

| Answers | | | | |
|---------|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 |
| B | A | A | C | D |
| 6 | 7 | 8 | 9 | 10 |
| A | A | D | A | D |

14.8. Review Questions

Q1. Describe the death system and its cultural contexts.

Q2. Evaluate issues in determining death and decisions regarding death.

Q3. Explain the psychological aspects involved in facing one’s own death and the contexts in which people die.



Further Readings

Slater, A., Bremner, J.G. *An Introduction to Developmental Psychology. Second Edition.* BPS Blackwell. 2003

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