DEVELOPMENTAL PSYCHOLOGY:
CHILDREN AND ADOLESCENTS
(FEM 3101)

Bachelor of Science (Human Development)

Siti Nor Yaacob
Mohd Ibrani Shahrimin Adam Assim
Department of Human Development and Family Studies
Faculty of Human Ecology
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Hak Cipta Terpelihara. Tidak dibenarkan mengeluarkan ulang mana-mana bahagian artikel, ilustrasi dan isi kandungan buku ini dalam apa jua bentuk sama ada secara elektronik, fotokopi, mekanik, rekaman atau cara lain sebelum mendapat izin tertulis daripada Pengarah, Pusat Pendidikan Luar (PPL), Universiti Putra Malaysia, 43400 UPM, Serdang, Selangor Darul Ehsan. Perundang-undangan tertakluk kepada perkiraan royalti atau honorarium.

MODUL PEMBELAJARAN : FEM 3101 DEVELOPMENT PSYCHOLOGY : CHILDREN AND ADOLESCENTS disediakan dalam bentuk bahan pengajaran dan pembelajaran kenderi di bawah program Pendidikan Jarak Jauh, Universiti Putra Malaysia. Sebarang pertanyaan dan cadangan untuk memperbaiki gaya penyampaian dan isi kandungan modul ini boleh dibekalkan kepada penulis dengan menggunakan alamat Pusat Pendidikan Luar.

Penulis : SITI NOR YAacob
          MOH DIBRANI SHARIMIN ADAM ASSIM
          Fakulti Ekologi Manusia
          Universiti Putra Malaysia
          43400 UPM Serdang
          Selangor Darul Ehsan

Alamat : Unit Modul dan Bahan Kendiri
          Pusat Pendidikan Luar
          Universiti Putra Malaysia
          43400 UPM Serdang
          Selangor Darul Ehsan
          Tel : 03-89458300/03-89458904
          Fax : 03-89458902

Reka Bentuk Kulit dan Cetak oleh : UPM HOLDINGS SDN. BHD.
                                 Blok F2, Bangunan MTDC-UPM
                                 Universiti Putra Malaysia
                                 43400 UPM Serdang
INTRODUCTION

A. COURSE INFORMATION

Course: Developmental Psychology: Children and Adolescents  
(Psikologi Perkembangan: Kanak-kanak dan Remaja)

Code: FEM 3101

Credit: 3 (2+1)

Contact Hour: Lecture – 2 hours per week; Lab/practical – 3 hours per week

B. COURSE SYNOPSIS


(Processes of physical, cognitive, social and emotional growth and development from conception through adolescence. Emphasis on the major aspects at each stage of development. Processes and outcomes of interaction between the child-adolescent and the environment).

C. COURSE OBJECTIVES

By the end of the course students will be able to:

1. Identify ecological processes of physical, socio-emotional and cognitive development of children and adolescents.

2. Explain the effects of genetic, environment, and genetic-environment interactions influences on children-adolescent development.

3. Explain the effects of children-adolescent interactions with the environment on children-adolescent growth and development.
D. INSTRUCTOR

Name: Siti Nor Yaacob
Tel: 03-89467150/03-89467084
Faks: 03-89467093
email: sitinor@putra.upm.edu.my
Alamat: Jabatan Pembangunan Manusia dan Pengajian Keluarga
Fakulti Ekologi Manusia, Universiti Putra Malaysia
43400 UPM, Serdang, Selangor

Name: Mohd Ibrani Shahrimin Adam Assim
Tel: 03-89467086
Faks: 03-89467093
email: ibrani@putra.upm.edu.my
Alamat: Jabatan Pembangunan Manusia dan Pengajian Keluarga
Fakulti Ekologi Manusia, Universiti Putra Malaysia
43400 UPM, Serdang, Selangor

E. COURSE CONTENT

This course examines the qualitative and quantitative changes in individual growth and development from conception through the adolescent years. The contents of this course are organized according to 5 units (Table 1). Unit 1 introduces major concepts, principles and theories of child and adolescent development. Unit 1 also covers various alternative methods researchers use to explore questions or obtain information on child and adolescent development. Unit 2 is about the prenatal development of the unborn child. Unit 3 examines infancy. Unit 4 covers physical, intellectual, language and socio-emotional development of children (infancy – late childhood). Unit 5 covers significant aspects of adolescent development such as physical, cognitive, personality, moral and vocational planning. Specific developmental problems during adolescence are highlighted.
<table>
<thead>
<tr>
<th>UNIT</th>
<th>TOPIC</th>
<th>CREDIT/HOUR</th>
</tr>
</thead>
</table>
| 1    | **INTRODUCTION: CONCEPTS, THEORIES AND METHODS**  
|      | - Concepts and principles of child-adolescent development  
|      | - Theories of child-adolescent development  
|      | - Methods in child-adolescent development research | 2           |
| 2    | **PRENATAL DEVELOPMENT**  
|      | - Milestone of development  
|      | - Influences on prenatal development  
|      | - The birth process and prenatal development in context | 4           |
| 3    | **INFANT DEVELOPMENT**  
|      | - Newborn states, reflexes and motor skills  
|      | - Sensitivity, perceptual capacity and attachment | 4           |
| 4    | **ASPECTS OF CHILD DEVELOPMENT**  
|      | - Physical development  
|      | - Intellectual development  
|      | - Language development  
|      | - Socio-emotional development | 8           |
| 5    | **adolescent development**  
|      | - Introduction  
|      | - Physical, cognitive, personality and moral development; vocational and career planning  
|      | - Developmental problems | 10          |
F. LAB/PRAC TICAL

Table 2: Lab Topics

<table>
<thead>
<tr>
<th>NO.</th>
<th>TOPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Get to know a child—child’s background and character (observation)</td>
</tr>
<tr>
<td>2</td>
<td>Child’s physical growth, reflexes, motor skill and sensory development</td>
</tr>
<tr>
<td>3</td>
<td>Cognitive development and academic achievement</td>
</tr>
<tr>
<td>4</td>
<td>Language development</td>
</tr>
<tr>
<td>5</td>
<td>Socio-emotional development</td>
</tr>
<tr>
<td>6</td>
<td>Adolescent development project</td>
</tr>
</tbody>
</table>

LAB ASSIGNMENT GUIDELINES

A. Preschool age child (15%) & School age child (10%)

1. The lab assignment on child developmental psychology is an individual case study assignment.

2. The aim of the case study is:
   - To consolidate and extend the knowledge of child psychology
   - To develop skills in observing and documenting the development of individual children
   - To apply theoretical knowledge to daily experience

3. Students are required to compile a Case Study portfolio for 2 children (one child for Case Study 1: preschooler) and one primary school aged child (for Case Study 2).

4. The Case Study Report will be divided into the following sections:
   - Background information
   - Observations and documentations
   - A literature review reflecting upon & supporting hypothesis

5. Lab assignment guidelines:
   - Each individual assignment to be reported in Case Study Format
   - Format of Case Study Report 1 & 2 is as follows:
Overview

Students are required to compile a Case Study folio for one child (for Case Study 1: preschooler) and one primary aged child (for Case Study 2). The Case Study Report will be divided into the following sections:

1. Background information
2. Observations and documentations
3. A literature review reflecting upon & supporting hypothesis

Background information

- Full Name
- Date of Birth
- Age (Years & Months)
- Gender
- Family
  - Gender and age of all siblings
  - Birth order of child within family
  - Adults living with the family
  - Work situation of parents (full time, part-time, unemployed, etc)
  - Language/s spoken in the home
  - Religion
  - Culture
  - Interests

Observations and documentation

Collect a range of observations and documentations from your chosen Case Study Child across a variety of theoretical methods/approaches discussed and practiced in lectures/discussions. Please refer to Appendix A for a list of psychological measurement instruments for Observation on Preschoolers and School-aged Children.
Theoretical reflection and analysis

Using texts and current journal articles support the position taken in your analysis of the child that would underpin your own developmental psychology perspective/s.

References

Students should note that the references in the Course Outline and handouts are a starting point. It is expected that students will source alternative references (books, journals, interviews, etc).

Final Report

Work should be typed where possible and placed in a folder. Observations, checklists, documentations, samples of work, etc should be included as appendices at the back of the report.

Inclusions

- Title Page
- Table of contents
- Assessment task as described above
- List of references
- Appendices

Assessment marks:

<table>
<thead>
<tr>
<th>Case Study Report 1</th>
<th>Case Study Report 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 %</td>
</tr>
<tr>
<td></td>
<td>10 %</td>
</tr>
</tbody>
</table>

Appendix A:

List of psychological measurement instruments* for Observation on Preschoolers and School-aged Children.

1. Preschool age child

a. Tasks:

For the physical development in early childhood: Preschoolers
- Observation on physical development
- Gross & fine motor skills (test & compare)
- Relate to theoretical foundations in final report

**Measurement instruments involved:**
Please use Form 2.3 Physical Development of 2½ - 8 year old children, from page 64-65

b. Tasks:

For the intellectual development in early childhood: Preschoolers
- Observation on intellectual development state
- Ability to conserve (test & compare)
- Relate to Piaget's theoretical perspectives in final report

**Measurement instruments involved:**
Please use Form 4.1 Piaget's Intelligence Test, from page 120-121
or
Form 4.2 Gardner's Multiple Intelligence Checklist, from page 124-125
or
Form 4.3 Torrence's Creativity Test, and Torrence's Creativity Evaluation Form, from page 127-132
or
Form 4.4 McCarthy Intelligence Test, from page 139-141

c. Tasks:

For the language development in early childhood: Preschoolers
- Observation on language development
- Detect phonological, semantic, grammar & pragmatic development
  (vocabulary testing & semantic knowledge)
- Compare conclusions on observation with recent theories

**Measurement instruments involved:**
Please use Form 5.2.1 Observation on Children's Use of Language, from page 159-160
or
Form 5.2.2 Children's Language Test, from page 161
2. **School age child**

   a. **Tasks:**
      
      For the intellectual development of a school-aged child:
      
      - Observation on intellectual development state
      - Ability to conserve (test & compare)
      - Relate to Piaget's theoretical perspectives in final report

   **Measurement instruments involved:**
   
   Please use Form 4.1 Piaget’s Intelligence Test, from page 120-121
   
   or
   
   Form 4.2 Gardner’s Multiple Intelligence Checklist, from page 124-125
   
   or
   
   Form 4.3 Torrence’s Creativity Test, and Torrence’s Creativity Evaluation Form, from page 127-132
   
   or
   
   Form 4.4 McCarthy Intelligence Test, from page 139-141

   b. **Tasks:**
   
   For the language development of a school-aged child:
   
   - Observation on language development
   - Detect phonological, semantic, grammar & pragmatic development
     (vocabulary testing & semantic knowledge)
   - Compare conclusions on observation with recent theories

   **Measurement instruments involved:**
   
   Please use Form 5.2.3 McCarthy Language Test, from page 164-169
B. Adolescent (15%)  

2. The lab assignment on adolescent developmental psychology is an individual assignment.  
3. Lab assignment guidelines:  
   - You are free to choose/select any topics on adolescent development.  
   - Based on the topic selected, you need to design a website for adolescents or professionals working with adolescents.  
   - In relation to that you need to prepare information concerning the selected topic/issues to be included in the proposed website.  
   - This information can be prepared and submitted as “paper site” (soft/hard copy)  
   - Give rationals for your choice of website design, information uploaded and link with other websites.  
   - Please put the following information at the bottom of your website: “This website is developed to fulfill requirements for FEM 3101 (Developmental Psychology: Children & Adolescents) lab assignment, First Semester 2005-2006. This website is only an example and does not give real services. The information in this site may not be accurate”.  
4. Evaluation:  
   - Accuracy of the information - 60%  
   - Creativity - 40%  
5. This lab assignment carries 15% of the total course evaluation.  
6. The lab assignment on adolescence must be submitted not later than 2 weeks before the final exam date.  

G. COURSE EVALUATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test (Mid Semester): Unit 1 – Unit 3</td>
<td>20%</td>
</tr>
<tr>
<td>Lab Report 1 (Child – 6 years &amp; below)</td>
<td>15%</td>
</tr>
<tr>
<td>Lab Report 2 (Primary School Child)</td>
<td>10%</td>
</tr>
<tr>
<td>Lab Report 3 (Adolescent Project)</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam: Unit 4 &amp; Unit 5</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
REFERENCES


UNIT 1
INTRODUCTION: CONCEPTS, THEORIES AND METHODS

A developmentalists examines the ways people change and grow during their lives. This course on basic child psychology focuses on the study of growth, change and stability that occur from conception to childhood through adolescence. In general it includes three major topical areas or processes:

- Physical development
- Cognitive development
- Social and personality development

Physical development examines the ways in which body’s make-up (such as the brain, nervous system, muscles and senses) helps determine behavior. Cognitive development covers learning, memory, problem solving and intelligence. Social development focuses on the way in which individuals interact with others and how their relationships grow, change and remain stable over the course of life. Personality development examines the stability and change in the characteristics that differentiate one person from another.

Objective

At the end of the course, students will be able to:

1. Explain major concepts, principles and theories of child and adolescent development
2. Explain alternative methods researchers use to explore questions or obtain information on child and adolescent development

Reading:

Content

1.1 Definition of Concepts
1.2 Principles of Development
1.3 Theories of Child/Adolescent Development
1.4 Research Methods in Child-Adolescent Development

1.1 Definition of Concepts

What is development? Child psychologists view development as a continuing process throughout childhood and adolescence. Development is defined as change. When speaking about human development, it refers to a particular type of change or the pattern of change that begins at conception and continues through the life span. Development occurs in the context of the significant social environment of life process (family, school, peer group, community) and it is cumulative over time.

Three general conditions/criteria must be met to classify a given behavioral change as a developmental change:

- The change is orderly or sequential.
- The change results in a permanent alteration of behavior.
- The change results in a new behavior or mode of functioning that is more advanced, adaptive or useful than prior behaviors.

New modes of behavior are built on the foundation of existing behaviors, skills and resources. The study of children and adolescents is concerned with two primary types of change over time.

- **Quantitative change**: refers to the easily measurable and sometimes obvious aspects of development (e.g.: physical growth – height & weight)
- **Qualitative change**: refers to variations and modifications in functioning. Examples are change in locomotor and intellectual skills.
Development is also commonly described in terms of periods. Approximate age ranges are given for the periods to provide a general idea of when they begin and end (Table 1).

<table>
<thead>
<tr>
<th>Life Stage</th>
<th>Appropriate Age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prenatal period:</strong> A time of tremendous growth, from single cell to an organism complete with a brain and behavioral capabilities.</td>
<td>Conception to birth</td>
</tr>
<tr>
<td><strong>Infancy:</strong> Infancy is a time of extreme dependency on adults. It is a beginning time for language, symbolic thought, sensorimotor coordination, social learning and parent-child relationships.</td>
<td>0 to 18-24 months</td>
</tr>
<tr>
<td><strong>Early childhood/Preschool:</strong> Children learn to become more self-sufficient and to care for themselves.</td>
<td>End of infancy to 5-6 years</td>
</tr>
<tr>
<td><strong>Middle-late childhood:</strong> Children are exposed to the larger world and its culture. During this stage, children master the fundamental skills of reading, writing and arithmetic.</td>
<td>6 -10 or 11 years of age</td>
</tr>
<tr>
<td><strong>Adolescence:</strong> Early adolescence and late adolescence</td>
<td>10 – 13 to 18-22 years of age</td>
</tr>
</tbody>
</table>
1.2 Principles of Development

Growth and development operate in accordance with several principles:

- Growth gradients – directions of physiological changes: cephalocaudal, proximodistal & differentiation. Cephalocaudal is the direction of physical growth that occurs from top (head) of the body downward. For example, the brain will develop first and then followed by developmental changes in the lower body. Proximodistal explains the direction of growth from near to far, that is, growth begins in the centre of the body, and then proceeds outward to the periphery/extremities. Progression of infant development from ability to control its body, then its arms, hands and finally finger movements is one example of cephalocaudal growth. Differentiation means that growth occurs from gross to specific or from simple to complex such as, beginning with ability to move their arms, infants soon able to index finger in grasping.

- Orderly and sequential development. Human development and growth are predictable events and occur in orderly processes.

- Individual variations. While there is common sequential change in growth and development, there are individual’s variations in the rate of growth of development. These variations are influenced by factors such as genetic endowment and environmental factors.

- Sensitive/critical periods. This principle of development propose that there are specific time periods when the potential for growth and development is maximal.
Theme and Issues in Child Development

- Are there stages of development? A stage represents a particular grouping of abilities or behaviors with certain characteristics: qualitatively different/more mature from preceding stage, each stage is universal, each stage is part of a fixed sequence of stages. Alternative conception to stage is continuous change.

- Can later development be predicted from child development? Long term predictability of development depend on a number of factors such as specific characteristics being considered, the age and the sex of the individual. The height of a child prior to the adolescent growth spurt is a good indicator of height following the growth spurt. However, infant’s intellectual performance is quite a poor indicator of adult intellectual performance.

- Is development the result of heredity or environment? (Nature vs Nurture)

1.5 Theories of Child/Adolescent Development

What is a theory?

- A theory is a set of systematically organized assumptions about why something happens or works the way it does. It is an “educated guess” or hypothesis.

- Growth and Developmental Theories:
  - Biological/Maturation
  - Psychosexual
  - Psychosocial
  - Learning
  - Cognitive/Information Processing Perspective
  - Contextual Perspective
Biological/Maturation Theories

- Process of biological change programmed genetically and thought to cause new behaviors to emerge

- "...within a broad range of normal conditions, the appearance of a particular behavior depends on genetically determined timetables, not on experience or environment" (Schickedanz et al., 1998:5)

- G.Stanley Hall (1844-1924):
  - Influenced by Charles Darwin
  - Baby biographies – direct child observation
  - A biological view of human behavior with an emphasis on STAGES of development “unfolding” in a predetermined way
  - Learning could only occur only after the individual was “biologically ready”

- G.Stanley Hall & Arnold Gesell
  - Introduced the “Normative Approach” which produced a large body of descriptive facts about children
  - Studied the orderly emergence of behavior patterns in infants and children

- Common statement based on a maturational view of child development:
  - Children are born that way

Psychosexual Theory

- Focus on internal forces.

- Behavior is motivated by inner forces, memories and conflicts of which a person has little awareness or control.

- Inner forces that stems from childhood continually influence behavior throughout the life span.

- Closely associated with Sigmund Freud (1856-1939):
  - Unconscious forces act to determine personality and behavior
  - *Unconscious* is a part of the personality about which a person is unaware.
  - It contains wishes, needs, desires and demand that are hidden from conscious awareness.
  - Introduced the “Normative Approach” which produced a large body of descriptive facts about children.
  - Studied the orderly emergence of behavior patterns in infants and children.
Personality has 3 aspects:

- **Id**
  - It is the unconscious source of instinct.
  - Present at birth – raw, unorganized, inborn part of personality.
  - Represents primitive drives related to hunger, sex, aggression and irriational impulses (the source of basic physiological needs and desires).
  - Operates under the pleasure principle:
    - Demands immediate gratification of its instinct
    - Goal – to satisfy needs (maximize satisfaction & reduce tension).
    - Young child – the tendency to gratify instincts (i.e. act of crying because of hunger).

- **Ego**
  - The conscious reality-oriented part of the personality.
  - Rational and reasonable.
  - Emerges in early infancy.
  - Redirect the id’s impulses so that they are expressed in appropriate ways – on appropriate objects, at acceptable times and places.
  - Operates to transform and delay id’s instincts.

- **Superego**
  - Conscience develops from interactions with parents;
    - who venetually insists that children conform to the values of society.
  - Emerges at the age 3 – 6 years
  - Reconcile the demands of the id, the external world and the conscience.
  - Provide anxiety and guilt for misdeeds.
  - Part of the moral component of personality.
  - The relations established between the id, ego and superego during the preschool years determine the individual’s basic personality.
Freud’s Psychosexual Development

- Believed that over the course of childhood, sexual impulses shift their focus from the oral --- the anal --- the genital regions of the body.
- Highlighted the importance of family relationships for children’s development.
- First theory to stress the role of early experience.

Criticisms on Freud’s Perspective

- Overemphasized the influence of sexual feelings in development.
- He did not study children directly.

Psychosocial Theory

- Closely associated with Erik Erikson (1902-1994)
- Emphasizes social interaction with other people.
- Society and culture both challenge and shape individual.
- Psychosocial development encompasses changes in our interactions with and understandings of one another, as well as in our knowledge and understanding of ourselves as members of society.
- Erikson suggests that developmental changes occur throughout lives.
- Proposed 8 distinct stages of man or 8 stages of psychosocial development:
  - Trust vs. mistrust
  - Autonomy vs. shame and doubt
  - Initiative vs. guilt
  - Industry vs. inferiority
  - Identity vs. role diffusion
  - Intimacy vs. isolation
  - Generativity vs. stagnation
  - Ego integrity vs. despair

- Each stage presents a crisis or conflict that the individual must resolve.
- Individual must address the crisis of each stage sufficiently to deal with demands made during the next stage of development.

Freud vs. Erikson

- Freud – development is relatively complete by adolescence.
- Erikson – change and growth continue throughout the life span.
Learning Theory

- Maintain that development results from learning – a long lasting change in behavior (based on experience, or adaptation to the environment)
- Emphasize continuous development and quantitative change
- 2 important learning theories:
  - Behaviorism
  - Social learning theory

Behaviorism

- Describes observed behavior as a predictable response to experience.
- Biology sets limit on what people do; but environment is much more influential.
- Learning the same way other organisms do:
  - Reacting to conditions or aspects of their environment they find pleasing, painful or threatening.
- Look for repeated behavior & research focuses on associative learning.
- 2 kinds of associative learning: classical conditioning & operant conditioning.

Classical conditioning

- Ivan Pavlov (1849-1936) - dogs learn to salivate at the sound of a bell that rang at feeding time (response-stimulus)
- John B. Watson (1878-1958) applied stimulus-response theory to children; claimed he could mold any infant in any way he chose.

Operant conditioning

- Learning principle formulated by B.F. Skinner (1904-1990); worked primarily with rats and pigeons, and believed that the same principles applies to human.
- Learning from the consequences of “operating” on the environment
- Involves voluntary behavior; repeat response that has been reinforced & suppress a response that has been punished.

Reinforcement

- Is a consequence of behavior that increases the likelihood that the behavior will be repeated.
- Can be positive or negative.
- Positive reinforcement consisting of giving a reward
- Negative reinforcement consisting of taking away something the individual does not like
Punishment

- Is a consequence of behavior that decreases the likelihood that the behavior will be repeated.

Negative reinforcement is not the same as punishment.

Social Learning

- Believe that impetus for development comes from the person.
- Albert Bandura (1925)
- People learn appropriate social behavior by observing and imitating model — modeling/observational learning.
- Newest version of social learning theory — social cognitive theory (Bandura, 1989).

Cognitive

- Focus on thought processes and the behavior that reflects those processes.
- Cognitive perspectives include:
  - Jean Piaget (1896-1980)
  - The Information-Processing Approach

Piaget

- Cognitive development begins with an inborn ability to adapt to the environment.
- Cognitive development occurs in a series of 4 qualitatively different stages, which represents universal pattern of development.
- At each stage, a child's mind develops a new way of operating.
- Cognitive growth occurs through 3 interrelated principles:
  - Organization
  - Adaptation
  - Equilibration

Information-Processing

- Explain cognitive development by observing and analyzing mental processes involved in perceiving and handling information.
- Compare the brain to a computer
Contextual Perspective

- Development can be understood only in its social context.
- Individual as an inseparable entity interacting with the environment.
- **Bioecological theory (Urie Bronfenbrenner):**
  - Every biological organisms develop in an ecological systems that support or stifle its growth.
  - Highlighted 5 interlocking contextual systems, from the most intimate to the broadest:
    - Microsystem – It is the first level of environment that refers to the interaction pattern between the developing person in an immediate setting or context. Example: the child relationship with teachers/the child relationship with peers.
    - Mesosystem - Mesosystem is the second level environment in the Bronfenbrenner’s model. This system involves the connections between the Microsystems that foster child development. Example: the mesosystem for primary school child is the connection between the home/family and the school.
    - Exosystem - It is the system that do not contain the child but affect the child’s experiences in immediate setting. It can be formal or informal institutions such as community organizations, transportation system and political systems.
    - Macrosystem – The macrosystems consists of the most general values, beliefs, or ideologies that influence the ways in which special organizations are organized and the way in which human development occurs. Society’s values will influence how children and families are treated.
    - Chronosystem involves the way in which the passage of time including historical events.

- **Lev Semenovich Vygotsky (1896-1934) – Sociocultural Theory**
  - Sees contextual systems as centered around the individual person.
  - Central focus – social, cultural, historical complex of which a child is a apart.
  - Cognitive growth is a collaborative process. It proceeds as a result of social interactions between members of a culture. According to Vygotsky, children’s understanding of the world is acquired through their problem-solving interactions with adults and other children.
1.3 Research Methods in Child-Adolescent Development

Types of research in child and adolescent study includes:

- Case study
- Descriptive study
- Correlational study
- Survey
- Experimental

- **Case study**
  - Collect various information about a subject to be studied
  - Make a conclusion about a subject understudied

- **Descriptive**
  - Give overall/basic pictures of certain phenomena understudies.

- **Correlational**
  - To examine the relationship between two variables (independent and dependent variables).

- **Survey**
  - A study on respondents’ views concerning certain issues
    - Questionnaires
    - Structured interview schedules

- **Experimental**
  - Examine the cause and effect of a phenomena

- **Longitudinal**
  - Study the same group of respondents within a certain time frame usually several years

- **Cross-sectional**
  - Involves studying people all at one time
1.5 Summary

- Nature of development
  - What is development/human development
  - Developmental change – must meet 3 general conditions
  - Type of change
  - Principles of growth and development
  - Periods of child development

- Themes & issues in child development

- Methods in studying children:
  - Types of research:
    - Case study
    - Descriptive study
    - Correlational study
    - Survey
    - Experimental
  - Research design:
    - Longitudinal
    - Cross-sectional
UNIT 2
PRENATAL DEVELOPMENT

The complex transactions between heredity and environment begin to shape the course of development during prenatal period. Prenatal development is divided into three phases: the period of the zygote, the period of the embryo, and the period of the fetus.

Objective

At the end of the course, students will be able to:

1. Explain stages of prenatal growth and development.
2. Discuss factors that affect the normal growth and development of fetus.
3. Discuss the birth process from fetus to neonate.

Reading:

Contents

2.1 Conception and Stages of Prenatal Growth
2.2 Influences on Prenatal Development
2.3 Birth Process and Newborn Development in Context
2.1 Conception and Stages of Prenatal Growth

Conception

The development of a single human being begins with conception when a single sperm cell from the male unites with an egg from a female and forms a single cell called a zygote. Once conception has occurred, the ovum continues down the fallopian tube. Then, it implants itself in the wall of its uterus. This is the first phase of development and it is known as the period of the zygote.

The period of the zygote (Fertilization to 2 weeks)

This period lasts about 2 weeks. The term zygote is used to refer to the organism throughout this period, although there are additional terms used for various subperiods. In the early stages, the mass of cells is undifferentiated. However, about four days after conception some differentiation begins, at which point the organism is called blastocyst. A blastocyst is a hollow ball of cells that has developed from the fertilized egg. During this time, cells begin to differentiate. By the end of the period of the zygote, the developing organisms has found food and shelter in the uterus and developed into the embryonic stage.

The embryonic stage (2 to 8 weeks)

The second major phase of prenatal development (the embryo) begins with completion of implantation, and continues for another six weeks until the various support structures are fully formed and all the major organ systems have been laid down in at least rudimentary form. The embryo is especially vulnerable to interference with healthy development. This stage begins at week 3 and ends in the second month (week 8) of conception.
The embryo’s circulatory is connected to the placenta through the *umbilical cord*. The placenta is connected to both the mother’s and the embryo’s (fetus’s) blood system, but the two systems are not directly connected. Small molecules pass back and forth through this large filtering system, but large ones cannot. So nutrients such as oxygen, proteins, sugars, and vitamins from the maternal blood pass through to the embryo or fetus, while digestive wastes and carbon dioxide from the infant’s blood pass back through to the mother, whose own body can eliminate them. The period from the ninth week of conception until the end of pregnancy is called the fetal stage or the period of the fetus. The embryo is called fetus when the first bone cell appears.

**The period of the fetus (8 weeks to birth)**

This is the longest prenatal period. The seven months of the fetal stage involve primarily a process of refining all the primitive organ systems already in place. At the end of the embryonic period, the main parts exist in some basic form; the next seven month are for the finishing process. During this phase, the organisms begins to increase rapidly in size, about 20 times its previous length; organs and body systems become more complex. This period is divided into second trimester and third trimester. Table 2.1 displays milestones of prenatal development. Figure 2.1 shows the growth of the brain during the prenatal period.
<table>
<thead>
<tr>
<th>Trimester</th>
<th>Period</th>
<th>Weeks</th>
<th>Length &amp; Weight</th>
<th>Major Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Zygote</td>
<td>1-2</td>
<td></td>
<td>• One-celled zygote multiplies and forms a blastocyst.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Structures that feed and protect the developing organism begin to form.</td>
</tr>
<tr>
<td>Embryo</td>
<td></td>
<td>3-4</td>
<td>⅛ inch</td>
<td>• A primitive brain and spinal cord appear.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Heart, muscles, backbone, ribs and digestive tract begin to develop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-8</td>
<td>1 inch; 1/7 ounce</td>
<td>• Many external body forms and internal organs form.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• The sense of touch begins to develop, and the embryo can move.</td>
</tr>
<tr>
<td>Fetus</td>
<td></td>
<td>9-12</td>
<td>3 inches; less than 1 ounce</td>
<td>• Rapid increase in size begins.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Nervous systems, organs and muscles become organized and connected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• New behavioral capacity such as kicking, thumb sucking, mouth opening and rehearsal of breathing appear.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• External genitals are well formed &amp; the fetus’s sex is evident.</td>
</tr>
<tr>
<td>2</td>
<td>Fetus</td>
<td>13-24</td>
<td>12 inches; 1.8 pounds</td>
<td>• First fetal movement is usually felt by the mother at about 16th weeks; bones begin to develop; fairly complete ear is formed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Weeks 20 - Hair growth begins; child is very human-looking at this age and “thumsucking” may be seen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Weeks 24 - Eyes are completely formed (but closed); fingernails, sweat glands, and taste buds are all formed; some fat deposit beneath skin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The infant is capable of breathing if born prematurely at this stage but survival rate is still low for infants born this early.</td>
</tr>
<tr>
<td>3</td>
<td>Fetus</td>
<td>25-38</td>
<td>20 inches; 7.5 pounds</td>
<td>• Nervous system, blood, and breathing systems are all well enough developed to support life; prematures born at this stage have poor sleep/wake cycles and irregular breathing, however.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Interconnections between individual nerve cell (neurons) develop rapidly; weight is added; general “finishing” of body systems take place.</td>
</tr>
</tbody>
</table>
The Nomal Sequence of Development

One of the most important points about the child prenatal development is how remarkably regular and predictable it is. If the embryo has survived the early, risky period, development usually proceeds smoothly, with the various changes occurring in the fixed order, at fixed time intervals. In 90 percent of recognized pregnancies, the entire process occurs in a predictable, fixed pattern.

The fetus doesn't learn to grow fingernails and it doesn't have to be stimulated from the outside to grow them. The fingernails, along with all the other part of the complex system, are controlled by the developmental codes contained in the genes. This sequence of development is not immune to modification or outside influence. Indeed, as psychologists and biologists have looked more carefully at various kinds of teratogens, it has become clear that the sequence has become more vulnerable that had earlier appeared.

2.2 Influences on Prenatal Development

The pervasive influences of the prenatal environment underlines the important of providing an unborn child with the best possible start life. Only recently have scientists become aware of some of the myriad environmental influences that can negatively affect the developing organism. Although the mother's role has been recognized far longer, researchers are still discovering environmental hazard that can affect her fetus. Some of these findings have led to ethical debate over a woman's responsibility for avoiding activities that may harm her unborn child. Since the prenatal environment is the mother's baby, virtually everything that impinges on her well-being, from her diet to her moods, may alter her unborn child's environment and affect its growth. Not all environmental hazard are equally risky for all fetuses. Some factor that are teratogenic (birth defect-producing) in some cases have little or no effect in others. The timing of exposure to a teratogen, its intensity, and its interaction
with other factors may be important. Vulnerability may depend on a gene in the fetus or in the mother.

Normal prenatal development requires an adequate environment, but “adequate” seems to be fairly broad range. Most fetuses are quite normal. The list of things that can go wrong is long (and getting longer as our knowledge expands). But many of this possibilities are quite rare. More important, a very great number of them are partially or wholly preventable, and many of the remaining problems need not have permanent consequences for the child.

Teratogens

Teratogen is an agent that increases the likelihood of deviations or produces malformations in a developing fetus. Teratogens can include factors such as maternal diet, drugs or blood disorders. Factors like maternal age, size, parity and stress can also influence the developing fetus. Teratogens influence prenatal development according to the general principles such as the followings:

1. Variation of teratogen effect in relation the developmental stage of the unborn child. Teratogens have their stringest impact on newly differentiating and unformed organ systems. The critical period of sensitivity to teratogens begins the second week after conception and continues the eight weeks and beyond. Organ systems start and stop their development at differing times. Therefore, their sensitivity to teratogens also varies in time. Figure 2.2 shows the teratogens and the critical periods in development.

2. Individual teratogens produce specific developmental deviations.

3. The genetics characteristics of both mother and the unborn child influence the impact of teratogens.

4. The physiological status of the pregnant mother.
Figure 2.2: Teratogens and critical period in development
Nutrition
Women need to eat more than usual when pregnant: typically 300 to 500 more calories a day, including extra protein. Pregnant women who gain 26 pounds or more are less likely to bear babies whose weight at birth is dangerously low. However, desirable weight gain depends on individual factors, such as height and weight before pregnancy.

Malnutrition during fetal growth may have long-range effect. Findings of the study on Dutch military recruits whose mother had been exposed to wartime famine during pregnancy suggest that severe prenatal nutritional deficiencies in the first or second trimesters affect the developing brain, increasing the risk of antisocial personality disorder (Neugeauer, Hoek & Suser, 1999).

Physical Activity
Moderate exercise does not seem to endanger the fetuses of healthy women. Regular exercise prevents constipation and improves respiration, circulation, muscle tone, and skin elasticity, all of which contribute to a more comfortable pregnancy and an easier, safer delivery and may result in a bigger baby. Pregnant women should avoid activities that could cause abdominal trauma.

Strenuous working conditions, occupational fatigue, and long working hours may be associated with greater risk premature birth (Luke at el., 1995). The American College of Obstetrics and Gynecology (1994) recommends that women in low risk pregnancies be guided by their own abilities and stamina. The safest course seems to be for pregnant women to exercise moderately, not pushing themselves and not raising their heart rate above 150, and, as with any exercise, no taper off at the end of each session rather than stop abruptly.
Drug Intake
Practically everything an expectant mother takes in makes its way to the uterus. Vulnerability is greatest in the first few months of gestation, when development is most rapid. What are the effects of the use of specific drugs during pregnancy? The effects of taking a drug during pregnancy do not always show up immediately.

Nicotine - Tobacco use during pregnancy may contribute to miscarriage, low birth weights, babies who need intensive care, sudden infant death and long term cognitive and behavioral problems. Past studies also show that:

- Newborn whose mothers had smoked during pregnancy were shorter and lighter and had poorer respiratory functioning than babies of nonsmoking mothers.
- Mother’s smoking during pregnancy may increase her child’s risk of cancer.
- Smoking during pregnancy seems to have some of the same effects on children when they reach school age as drinking during pregnancy:
  - Poor attention span
  - Hyperactivity
  - Anxiety
  - Learning and behavior problems
  - Perceptual-motor and linguistics problems
  - Poor IQ scores
  - Low grade placement
  - Neurological problems.
- 6-23 year old offspring of women who reported having smoked heavily during pregnancy found a four fold increase in risk of conduct disorder in boys, beginning before puberty, and a five fold increased risk of drug dependence in girls, beginning in adolescence, in comparison to those whose mothers do not smoked.
Caffeine – Caffeine is not a teratogen for human babies. However, four or more cups of coffee a day during pregnancy may increase the risk of sudden death in infancy.

Marijuana, opiate and cocaine – Some evidence suggest that heavy use of marijuana, opiate and cocaine can lead to birth defects. A study on blood samples from the umbilical cords of 34 newborns found a greater prevalence of cancer-causing mutations in the infants of mothers who smoked marijuana. Other studies show that:

- Women addicted to morphine are likely to bear premature, addicted babies who will be addicted to the same drugs and will suffer the effects until at least age 6 years old.
- Prenatally exposed newborns are restless and irritable and often have tremors, convulsions, fever, vomiting and breathing difficulties.
- At 1 year infants tend to show somewhat slower psychomotor development.
- These children tend not to do well in school, unusually anxious in social situations and tend to have trouble making friends.

Sexually Transmitted Diseases
Infants born to HIV-infected mothers tend to have small heads and slowed neurological development. Syphilis can cause problems in fetal development, while gonorrhea and genital herpes can have harmful effects on the baby at the time of delivery.

Maternal Age
Delayed childbirth may increase risks to mothers and babies due to diabetes, high blood pressure or severe bleeding. After the age of 35, there is more chance of miscarriage or stillbirth, more likelihood of premature delivery, retarded fetal growth, other birth-related complications and or birth defects such as down syndrome. Women age 40 and above are at risk of needing cesarean. Risks of all birth complications are increased. Adolescent mothers also tend to have premature or underweight babies.
Outside Environmental Hazards

Hazards of modern life, chemicals, radiations as well as extreme heat and humidity can affect prenatal development. Some of the findings of past studies are:

- Women who work with chemicals have about twice the rate of miscarriage as other female workers.
- Women exposed to DDT tend to have more preterm births.
- Infants who were exposed to high levels of lead during prenatal period, score lower cognitive abilities and higher rates of childhood illness.
- Radiation can cause genetic mutations.

2.3 Birth Process and Newborn Development in Context

Stages of childbirth

Birth process normally involves 4 stages. The first stage is the regular and more frequent uterine contractions that causes the dilation or widening of cervix. This is the longest stage. For a woman having a first child, it usually lasts about 12 hours or more and the duration is shorter in later birth. The second stage begins when the baby’s head start to move through the cervix into the vagina canal and ends when the emerge completely from the mother’s body. The duration of this stage is about 1 ½ hours or less. At the end of this stage, the newborn baby is still attached to the placenta in the mother’s body by the umbilical cord that must be cut and clamped. The stage involves the removal of the placenta and the remainder of the umbilical cord from the mother. This process takes about 5 to 30 minutes. The fourth stage is a few hours after delivery when the mother is monitored for recovery.

Prenatal development

The newborn baby is called neonate and the first 4 weeks of life is known as neonatal period. In the first few days, the neonate lose as much as 10 percent of their body weight due to loss of fluids. New babies have distinctive features such as a large head (about ¼ of the body length) and a receding chin. The fontanels, the soft spot on the
head (where the bones have not yet grown together) are covered by a tough membrane.

**Assessment of the baby**

After birth, it is important to determine whether the baby is healthy, having problems or needs special care. Immediately after birth (one minute and 5 minutes), babies are usually assessed using the **Apgar scale**, which was developed by Dr Virginia Apgar (1953). This scale assess newborn babies on 5 aspects:

- Appearance (color) – in nonwhite children, color is assessed by examining the inside of the mouth, the whites of the eyes, the lips, the palms, hands and soles of the feet.
- Pulse (heart rate)
- Grimace (reflex irritability)
- Activity (muscle tone)
- Respiration (breathing)

On each aspect, the baby is rated from 0 to 2 and a maximum score that can be obtained is 10 (see table 2.2). A score of 7-10 indicates that the baby is in good to excellent condition. A score below 7 means a baby needs help to establish breathing and a score below means the baby needs immediate lifesaving treatment. Scores of 0 to 3 at 10, 15 and 20 minutes after birth are increasingly associated with cerebral palsy or other neurological problems. Apgar scores is a reliable predictor of a baby’s survival during the first month of life.
Table 2.2: Apgar Scale

<table>
<thead>
<tr>
<th>Sign</th>
<th>score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Appearance (color)</td>
<td>Blue, pale</td>
</tr>
<tr>
<td>Pulse (heart rate)</td>
<td>Absent</td>
</tr>
<tr>
<td>Grimace (reflex irritability)</td>
<td>No response</td>
</tr>
<tr>
<td>Activity (muscle tone)</td>
<td>Limp</td>
</tr>
<tr>
<td>Respiration (breathing)</td>
<td>Absent</td>
</tr>
</tbody>
</table>

The Brazelton Scale

The Brazelton Neonatal Behavioral Assessment Scale (NBAS) assesses motor organization as shown by such behaviors as activity level and the ability to bring a hand to the mouth; reflexes; state changes such as irritability, excitability, and ability to quiet down after being upset; attention and interactive capacities, as shown by general alertness and response to visual and auditory stimuli; and indications of of central nervous system instability such as tremors and changes in skin color.
UNIT 3
BIRTH AND THE NEWBORN CHILD

Developed methods and equipment permitting researchers to test the young baby’s capacities have shown that infants, from the outset are skilled, capable beings who display many complex human abilities.

Objective

At the end of the course, students will be able to:

1. Discuss the newborn reflexes and motor skill; perceptual capacity, learning and attachment of newborn.

Reading:

Content

3.1 Newborn reflexes and motor skills
3.2 State of arousal and activity levels
3.3 Perceptual capacity and learning
3.4 Social skill
3.1 Newborn Reflexes and Motor Skills

Reflexes

- Infants are born with a large collection of reflexes, which are automatic physical responses triggered involuntarily by a specific stimulus. Many of these reflexes are still present in adults and such as knee jerk, automatic eyeblink when a puff of air hits the eye, or the involuntary narrowing of pupil when we are in bright light.
- The newborn has a set of “primitive” reflexes, so called because there are controlled by the more primitive parts of the brain, the medulla and the midbrain, both of which are almost fully developed at birth.
- By about 6 month, when the portion of the brain governing such complex activities as perception, body movement, thinking and languages developed more fully, these primitive reflexes begin to disappear, as if superceded by the higher level brain function.
- Some primitive reflexes are essential for survival, such as breathing reflex and the various reflexes involved in eating. If an infant is touched on the cheek, she will automatically turn toward the touch and search for something to suck on (the rooting reflex). Then when she gets her mouth around something suckable, she automatically begins to suck (the sucking reflex), and then swallows.
- Other primitive reflexes have less obvious usefulness. If you touch an infant on the bottom of her foot, she will show what is called the Babinsky reflex by first splaying out her toes and then curling them in. And if you touch an infant on her palm, she will curl her finger around your hand, or around any graspable object and hold tightly, a pattern called the grasp reflex.
- See table 3.1 for further information on reflexes.
<table>
<thead>
<tr>
<th>Reflex</th>
<th>Stimulation</th>
<th>Response</th>
<th>Age of Disappearance</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye blink</td>
<td>Shine bright light at eye or clap hand near head</td>
<td>Infant quickly blinks eyes</td>
<td>Permanent</td>
<td>Protects infant from strong stimulation</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Place sole of foot with pin on face of infant</td>
<td>Feet withdraw, with fingers of lesser and hip</td>
<td>newborn - after 10 days</td>
<td>Helps infant from unpleasant tactile stimulation</td>
</tr>
<tr>
<td>Rooting</td>
<td>Stroke check near corner of mouth</td>
<td>Head turns toward source of stimulation</td>
<td>Permanent</td>
<td>Helps infant find the nipple</td>
</tr>
<tr>
<td>Sucking</td>
<td>Place tongue in infant’s mouth</td>
<td>Infant suckles finger rhythmically</td>
<td></td>
<td>Resists feeding</td>
</tr>
<tr>
<td>Swimming</td>
<td>Place infant face down in pool of water</td>
<td>Baby paddles and kicks in swimming motion</td>
<td>4-6 months</td>
<td>Helps infant remain in position</td>
</tr>
<tr>
<td>Moro</td>
<td>Hold infant horizontally on back and let head drop slightly, or produce a sudden head movement against surface supporting infant</td>
<td>Infant makes an &quot;extension&quot; motion by arching back, extending legs; throwing arms outward, and then bringing arms in toward the body</td>
<td>6 months</td>
<td>Helps infant remain in position</td>
</tr>
<tr>
<td>Palmar grasp</td>
<td>Place fingers in infant's hand and press against palm</td>
<td>Spontaneous grasp of fingers</td>
<td>3-4 months</td>
<td>Prepares infant for voluntary grasping</td>
</tr>
<tr>
<td>Tonic neck</td>
<td>Turn baby's head to one side while lying on back</td>
<td>Infant lies on a &quot;lying position.&quot; One arm is extended in front of eye on side to which head is turned; other arm is flexed.</td>
<td>6 months</td>
<td>Prepares infant for voluntary reaching</td>
</tr>
<tr>
<td>Stepping</td>
<td>Hold infant’s armpits and place bare feet to touch a flat surface</td>
<td>Infant first one foot after another in stepping experience</td>
<td>2 months</td>
<td>Prepares infant for voluntary walking</td>
</tr>
<tr>
<td>Balancing</td>
<td>Stroke sole of foot first time toward head</td>
<td>Toe first out and out at foot inside</td>
<td>8-12 months</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Motor Skill: Moving Around

- Motor skills of newborn are not very impressive. They cannot hold up their heads, coordinate their looking and their reaching yet, and they cannot roll over or sit up.
- By one month, infants can hold up their chins from the floor or mattress.
- By two months, they are beginning to swipe at nearby objects with their hands.
- Young infants also show a lot of what Esther Thelen (1981) has called "rhythmic stereotypes"—those patterns of kicking, rocking, waving, bouncing, banging, rubbing, scratching and swaying which the infant repeats over and over and in which he seems to take such delight. Thelen (1981) has observed that these repeated, rhythmic patterns peak at about 6 or 7 months of age, although such behavior can be seen even in the first week, particularly in finger movements and leg kicking. While this type of movement does not seem to be totally voluntary or coordinated, it also does not appear to be random.
- By contrast with perceptual abilities, the baby’s initial motor abilities are quite limited. Motor skills development in the first two years of life is illustrated in the Table 3.2.
### Table 3.2: Motor Skill Development

<table>
<thead>
<tr>
<th>Motor Skill</th>
<th>Average Age Achieved</th>
<th>Age Range in Which 90 Percent of Infants Achieve the Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>When held upright, holds head erect and steady</td>
<td>6 weeks</td>
<td>3-weeks - 4 months</td>
</tr>
<tr>
<td>When prone, lifts self by arms</td>
<td>2 months</td>
<td>3-weeks - 4 months</td>
</tr>
<tr>
<td>Rolls from side to back</td>
<td>2 months</td>
<td>3-weeks - 5 months</td>
</tr>
<tr>
<td>Grasps cube</td>
<td>3 months, 3 weeks</td>
<td>2-7 months</td>
</tr>
<tr>
<td>Rolls from back to side</td>
<td>4-8 months</td>
<td>2-7 months</td>
</tr>
<tr>
<td>Sits alone</td>
<td>7 months</td>
<td>5-9 months</td>
</tr>
<tr>
<td>Crawls</td>
<td>7 months</td>
<td>5-11 months</td>
</tr>
<tr>
<td>Pulls to stand</td>
<td>8 months</td>
<td>5-12 months</td>
</tr>
<tr>
<td>Plays patty-cake</td>
<td>9 months, 3 weeks</td>
<td>7-15 months</td>
</tr>
<tr>
<td>Stands alone</td>
<td>11 months</td>
<td>9-16 months</td>
</tr>
<tr>
<td>Walks alone</td>
<td>11 months, 3 weeks</td>
<td>9-17 months</td>
</tr>
<tr>
<td>Balds tower of two cubes</td>
<td>13 months, 3 weeks</td>
<td>10-19 months</td>
</tr>
<tr>
<td>Stands vigorously</td>
<td>14 months</td>
<td>10-21 months</td>
</tr>
<tr>
<td>Walks up stairs with help</td>
<td>16 months</td>
<td>12-23 months</td>
</tr>
<tr>
<td>Jumps in place</td>
<td>23 months, 2 weeks</td>
<td>17-30 months</td>
</tr>
<tr>
<td>Walks on toes</td>
<td>25 months</td>
<td>16-30 months</td>
</tr>
</tbody>
</table>

Note: These milestones represent overall age trends. Individual differences exist in the precise age at which each milestone is attained. Source: Bayley, 1989, 1993.
3.2. States of Arousal and Activity Levels

- State of arousal: An infant's physiological and behavioral status at a given moment in the periodic daily cycle of wakefulness, sleep, and activity.
- Newborns show their individuality and neurological maturation through their patterns of sleeping and waking and of activity when awake.
- Parents show their love for the baby through their sensitivity and responsiveness to these patterns.
- Babies' daily cycles of eating, sleeping, and elimination and moods are regulated by an "internal clock".
- These periodic cycles of wakefulness, sleep, and activity, govern an infant's state of arousal (degree of alertness) and they are inborn and highly individual (see diagram 3.1).
- Newborn babies average about 16 hours of sleep a day, but one may sleep only 11 hours while another sleeps 21 hours.

![Diagram 3.1: States of Arousal in Infancy](source)
3.3 Perceptual Skill and Learning

Perceptual Skill

Vision

- Focus eyes on the same spot, with 8 inches being roughly the best focal distance. Within a few week the baby can at least roughly follow a moving object with his eyes, and by one or two months he can discriminate Mom’s face from other faces.
- Newborn babies see objects at a distance of 20 feet about as clearly as adults do at 600 feet.
- Infant’s visual acuity (fineness of discrimination) is limited.

Hearing

- In the first few days, infant can already tell the difference between a few sound patterns, such as a series of tones arranged in ascending and descending order, utterances with two versus three syllables, and the stress patterns of words.
- Responsive to sound provides support for the young baby’s visual and tactile exploration of the environment.
- Infant can roughly locate objects by their sounds, and can discriminate some of individual voices, particularly the mother’s voice.
- The ability to identify the precise location of sound improves greatly over the first 6 months; and by this time, infants start to make judgements about how far away a sound is.
Taste and smell

- Facial expression reveals that newborns can distinguish several basic tastes. Infants:
  - relax their facial muscles in response to sweetness.
  - purse their lips when the taste is sour.
  - show a distinct archlike mouth opening when it is bitter.
- At birth, infants are either indifferent to or reject salt solutions in comparison to water. However, by 4 months, infants prefer salty taste, a change that may prepare them to accept solid foods.
- Certain odor preferences are innate. Example: babies give a pleasant and relaxed facial expression at the smell of banana and frown at the smell of rotten egg.
- Infant can discriminate the four basic taste (sweet, sour, bitter, and salty) and can identify familiar body odors.

Learning and Habituation

- Both the presence of perceptual abilities and the relative lack of motor skill at birth seem to be heavily influenced by the processes of maturation.
- Those body systems and those parts of the nervous system that are required for many perceptual skills are largely complete at birth, while those needed for motor control are not developed sufficiently.
- Classical Conditioning. The bulk of research suggests that the newborn can be classically conditioned, although it is difficult to do. By three or four weeks, classical conditioning is quite easy to demonstrate in an infant. This means that the conditioned emotional responses may begin to develop as early as the first weeks of life. Thus the mere presence of Mom or Dad, or another favored person may trigger the sense of “feeling good”, a pattern that may contribute to what we see as the child’s attachment to the parent. Similarly, a child might develop various classically conditioned negative emotional responses that may be part of what we see as temperament.
- **Operant Conditioning.** Newborns also clearly learn by operant conditioning. Both the sucking and head turning have been successfully increased by the use of such reinforcements as sweet liquids or the sound of the mother’s voice or heartbeat. At the least, the fact that conditioning of this kind can occur means that whatever neurological “wiring” is needed for learning is present at birth.

- **Habituation.** Habituation is the automatic reduction in the strength or vigor of a response to a repeated stimulus. Example: The sound of cars going by on a noisy street is repeated over and over during each day. But after a while, you not only don’t react to the sound, you quite literally do not perceive it as being as loud. This ability to dampen the intensity of a physical responses to some repeated stimulus in obviously vital in our everyday lives. If we reacted constantly to every sight, sound, and smell that come along, we’d spend all our time responding to these repeated events and would not have energy or attention for things that are new and deserve attention.

- **Dishabituation.** The recovery of responsiveness to return to a high level called dishabituation. Habituation-dishabituation research reveals that young babies discriminate and remember a wide variety of distinct sights, smells and sounds.

### 3.3. Social Skill

- For infants to survive, someone must provide consistent care over an extended period. So the infant’s capacity to entice others into the caregiving role is critical. It is here that the social skills of infants come into play.
- They smile but not often during the first weeks.
- Normal newborns have a collection of behaviors that are remarkably effective for attracting and keeping the attention (and attachment) for adults. The social interaction process is very much a two way street: Adult faces and voices are remarkably effective for attracting and keeping the baby’s attraction too.
- Babies repertoire of social behaviors are quite limited, but these few behaviors appear to be very effective in eliciting care. They cry when they need something,
which ordinarily brings someone to them to provide care. And infants then respond to that care by being soothed, which is reinforcing to the caregivers.

- Babies adjust their bodies to those who pick them up. After the first few weeks, they get quite good at meeting your eyes in a mutual gaze or smiling quite easily—both of which are very powerful “hook” for the adult’s continued attention.

- One other thing that baby does from the beginning, which seems to be very critical for any social interaction, is to take turns. As adult, we take turns in a range of situations, including conversations and eye contacts. In fact, it’s very difficult to have any kind of social encounter with someone who does not take turns. Kenneth Kaye (1982) argues that the beginning of this “turn-taking” can be seen in very young infants in their eating patterns. As early as the first days of life, the baby suck in a “burst-pause” pattern. He sucks for a while, pause, sucks for a while, pause, and so on. Mother’s enter this “conversation” too, often by jiggling the baby during the pauses. The eventual sequence look something like this: suck, pause, jiggle, pause, suck, pause, jiggle, pause. The rhythm in the interaction is very much like a conversation and seem to underlie many of the social encounters among people of all ages.
APPENDIX A

SAMPLES OF FORMS FOR CHILDREN'S ASSESSMENT
<table>
<thead>
<tr>
<th>No</th>
<th>Perkembangan Motor Kasar</th>
<th>Catatan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Membaling bola dengan bertujuan</td>
<td>(</td>
</tr>
<tr>
<td>2</td>
<td>Menyambut bola dengan menggunakan kedua-dua belah tangan</td>
<td>(</td>
</tr>
<tr>
<td>3</td>
<td>Membaling, menangkap dan melambung bola besar</td>
<td>(</td>
</tr>
<tr>
<td>4</td>
<td>Membaling, menangkap dan melambung bola kecil</td>
<td>(</td>
</tr>
<tr>
<td>5</td>
<td>Meloncat berterusan, dapat bermain teng-teng</td>
<td>(</td>
</tr>
<tr>
<td>6</td>
<td>Bermain loncat tali</td>
<td>(</td>
</tr>
<tr>
<td>7</td>
<td>Berlari tanpa jatuh (nyatakan sejauh berapa meter)</td>
<td>(</td>
</tr>
<tr>
<td>8</td>
<td>Menari alat memanat</td>
<td>(</td>
</tr>
<tr>
<td>9</td>
<td>Menunggang basikal rodanya 3</td>
<td>(</td>
</tr>
<tr>
<td>10</td>
<td>Menunggang basikal rodanya 3 dengan cukup mahir dan laju</td>
<td>(</td>
</tr>
<tr>
<td>11</td>
<td>Menunggang basikal rodanya 2 dengan cukup mahir dan laju</td>
<td>(</td>
</tr>
<tr>
<td>12</td>
<td>Terlibat dalam mainan luar seperti bermain basikal atau jongkang-jonkkit</td>
<td>(</td>
</tr>
<tr>
<td>13</td>
<td>Terlibat dalam sukan (nyatakan sukan dan tahap kemahiran kanak-kanak)</td>
<td>(</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>Perkembangan Motor Halus</th>
<th>Catatan</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Melukis/meniru lukisan bulat</td>
<td>(</td>
</tr>
<tr>
<td>15</td>
<td>Melukis lukisan empat segi</td>
<td>(</td>
</tr>
<tr>
<td>16</td>
<td>Melukis bentuk tiga segi</td>
<td>(</td>
</tr>
<tr>
<td>17</td>
<td>Menulis &quot;V&quot;</td>
<td>(</td>
</tr>
<tr>
<td>18</td>
<td>Membina blok supaya menjadi bentuk yang dapat dihargai oleh orang lain</td>
<td>(</td>
</tr>
<tr>
<td>19</td>
<td>Membina blok/mainan yang lebih rumit (nyatakan binaan)</td>
<td>(</td>
</tr>
<tr>
<td>20</td>
<td>Menggulung tanah liat</td>
<td>(</td>
</tr>
<tr>
<td>21</td>
<td>Membentuk tanah liat (bentuk mudah, nyatakan)</td>
<td>(</td>
</tr>
<tr>
<td>22</td>
<td>Membentuk tanah liat (bentuk rumit, nyatakan)</td>
<td>(</td>
</tr>
<tr>
<td>23</td>
<td>Menggunting kertas, tanpa bentuk</td>
<td>(</td>
</tr>
<tr>
<td>24</td>
<td>Menggunting gambar, bentuk secara kasar</td>
<td>(</td>
</tr>
<tr>
<td>Ujian</td>
<td>Catatan</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>23 Menggunting gambar/bentuk secara tepat</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>24 Menggunting bentuk yang kreatif dan menampal ke atas kertas lain</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>25 Memakai dan memukar baju idengan pente/longani</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>26 Memakai dan memukar baju (tansa pente/longani)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>27 Membuat baju sendiri (nyatakan butang besar atau kecil)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>28 Mengikat bung atau zip atau mengikat sesuatu yang tidak dapat dilihat (seperti di belakang/di bawah)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>29 Mengikat manik (nyatakan saiz manik)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>30 Memasukkan benang di dalam mata jarum (nyatakan saiz jarum)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>31 Menjahit</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>32 Memegang dan menggunakan pensel/krayon/berus lukis</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>33 Mencanting (nyatakan bentuk)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>34 Melukis (nyatakan hasil lukisan dan tahap)</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>35 Menyikat rambut sendiri</td>
<td>(</td>
<td></td>
</tr>
<tr>
<td>36 Dapat menggunakan tandas sendiri</td>
<td>(</td>
<td></td>
</tr>
</tbody>
</table>

**Nota:** gunakan hasil kerja kanak-kanak dan gambar untuk menyokong pemerhatian dan ujian anda.

**Rumusan:**

________________________________________________________________________

________________________________________________________________________
<table>
<thead>
<tr>
<th>Ujian</th>
<th>Kedudukan Asal</th>
<th>Transformasi</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nombor</strong></td>
<td>Tanyaakan : Adakah sama bilangan duit di setiap baris?</td>
<td>Tanyaakan : Sekarang adakah jumlah bilangan duit masih sama ataupun ada yang lebih banyak?</td>
</tr>
<tr>
<td><img src="image" alt="Nombor 1" /></td>
<td><img src="image" alt="Nombor 2" /></td>
<td><img src="image" alt="Nombor 3" /></td>
</tr>
<tr>
<td>Jawapan kanak-kanak: Sama ( ), Tidak ( )</td>
<td>Jawapan kanak-kanak: Sama ( ), Tidak ( )</td>
<td></td>
</tr>
<tr>
<td>Kenapa?</td>
<td>Kenapa?</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td><strong>Jarak</strong></td>
<td>Tanyaakan : Adakah panjang kedua-dua kayu ini sama?</td>
<td>Tanyaakan : Sekarang, adakah kedua-duanya sama panjang ataupun salah satunya lebih panjang?</td>
</tr>
<tr>
<td><img src="image" alt="Jarak 1" /></td>
<td><img src="image" alt="Jarak 2" /></td>
<td><img src="image" alt="Jarak 3" /></td>
</tr>
<tr>
<td>Jawapan kanak-kanak: Sama ( ), Tidak ( )</td>
<td>Jawapan kanak-kanak: Sama ( ), Tidak ( )</td>
<td></td>
</tr>
<tr>
<td>Kenapa?</td>
<td>Kenapa?</td>
<td></td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td>Ujian</td>
<td>Keadaan Asal</td>
<td>Tembok Masam</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Cecair</td>
<td>Tanyakan: Adakah jumlah air di dalam kedua-dua bekas sama?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jawapan: Sama ( )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kenapa?</td>
<td></td>
</tr>
<tr>
<td>Jisim</td>
<td>Tanyakan: Adakah sama jumlah plastisin dalam setiap bola ini sama?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jawapan: Sama ( )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kenapa?</td>
<td></td>
</tr>
<tr>
<td>Perkara</td>
<td>(✓) / (✗) Catalan</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td><strong>A. Kecerdasan Pintar Bahasa</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suka bercerita   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Suka bermian dengan perkataan seperti berjenaka atau permainan teka-teki   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Suka membaca   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Cepat mempelajari ejaan atau perkataan atau bahasa baru   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Menikmati permainan silang kata seperti “scrabbles”   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Cepat mempelajari seni kata lagu yang baru didengar   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Kecerdasan Pintar Logik Angka</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suka aktiviti permainan corak, angka atau kira-kira   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Suka mengetahui sebab-musbab dan logik sesuatu kejadian   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Suka menyimpan koleksi seperti kerang, batu, setem atau duit syiling   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gemar bermain ujian minda   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Suka permainan strategi seperti komputer atau catur   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Gemar membentuk eksperimen untuk menguji sesuatu   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. Kecerdasan Pintar Ruang</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suka melukis dan membayangkan sesuatu dalam bentuk gambar, cerita atau peta   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Menikmati aktiviti kesenian dan kraf   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Suka permainan cantuman gambar (jigsaw) atau mencari jalan seperti “mazze”   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Suka aktiviti lakonan seperti drama   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Suka mengemasi dan menyusun   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Cepat mengingat jalan setelah pergi ke sesuatu tempat   (✓)   (✗)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perkara</td>
<td>Catatan</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td><strong>D. Kecerdasan Pintar Musikal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Peka kepada seni muzik dan cepat mengesan corak melodi</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Suka menyanyi atau membuat persembahan muzik</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Bermain alat muzik</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Bergerak mengikut rentak muzik</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Cemar mengubah suai lagu yang dikenali</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Cepat mempelajari dan menghafal sesuatu yang didengar, berbanding bacaan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>E. Kecerdasan Pintar Kinestetik</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suka bermain olahraga</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Cemar menari</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Sering menggunakan gerak badan dan mimik muka semasa bercerita</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Berhubung melalui sentuhan secara semula jadi</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Suka pemainan lakanon peranan seperti sudut drama</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Cemar aktif pergerakan kasar seperti memanjat atau halus seperti menjahit, mengukir atau pertukangan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>F. Kecerdasan Pintar Pergaulan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Mudah berkawan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Menikmati permainan yang memerlukan kerjasama</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Suka menyertai masalah secara berkumpul</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Prilaku terhadap orang lain</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Sentiasa dipilih sebagai kumpulan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Senang memujuk orang lain untuk bekerjasama dengannya</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>G. Kecerdasan Pintar Diri</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Selesa apabila menjalankan aktiviti bersendirian</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Suka menyimpan catatan harian</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Dapat menyimpan tugas tanpa bantuan orang lain</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Suka membina rintangan sesuatu</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Mempunyai keyakinan diri</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Mempunyai pendapat atau perasaan yang kuat mengenai sesuatu</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>H. Kecerdasan Pintar Alam</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Suka berkebun</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Suka bermain dan menanam haiwan kesayangan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3. Cepat mengenali nama pokok atau bunga</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. Berpengetahuan mendalam tentang ciri-ciri haiwan atau tumbuhan</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Mengenali corak dan nama bintang di langit</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Suka aktif merentas hutan seperti &quot;hiking&quot; atau trekking</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Catatkan jawapan kanak-kanak. Kanak-kanak boleh memberi lebih daripada satu jawapan.
Ujian Kreatif Torrence
(sambungan)
Lijan Kreatif Torrence
(sambungan)
<table>
<thead>
<tr>
<th>Aspek yang dinilai</th>
<th>Skala</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bentuk ciptaan yang dihasilkan untuk setiap gambar/petak</td>
<td>Lemah</td>
</tr>
<tr>
<td>Pencantuman idea/gambar yang asal dengan yang baru</td>
<td>Tidak sesuai</td>
</tr>
<tr>
<td>Keberanian keluar dari sempadan</td>
<td>Terhad pada ruang saja</td>
</tr>
<tr>
<td>Jumlah garisan yang ditambah pada garisan yang awal</td>
<td>Sedikit</td>
</tr>
<tr>
<td>Kemampuan menghasilkan ciptaan berdasarkan petak/gambar dalam masa yang disediakan</td>
<td>1-20% daripada petak/gambar yang disediakan</td>
</tr>
<tr>
<td>Jumlah bagi setiap ruang skala</td>
<td></td>
</tr>
<tr>
<td>Jumlah markah keseluruhan</td>
<td></td>
</tr>
</tbody>
</table>

Tanda tika pada ruang (skala) yang berkaitan yang terdapat dalam petak-petak kosong di atas.
1 = paling rendah
5 = paling tinggi
Analisis skor:
21-25 = kreativiti yang istimewa
16-20 = kreativiti yang amat baik
11-15 = kreativiti yang baik
6-10 = kreativiti yang sederhana
1 - 5 = kreativiti yang lemah
1. Ujian Kuantitatif:
   i. Nombor

<table>
<thead>
<tr>
<th>Ujian</th>
<th>Jawapan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adik ada berapa ieling?</td>
<td></td>
</tr>
<tr>
<td>2. Adik ada berapa hidung?</td>
<td></td>
</tr>
<tr>
<td>3. Adik ada berapa kepala?</td>
<td></td>
</tr>
<tr>
<td>4. Sekiranya adik ada tiga anak patung dan abang/kakak berikan satu lagi, berapakah anak patung yang adik ada sekarang?</td>
<td></td>
</tr>
<tr>
<td>5. Adik ada empat biji belon, separuh daripadanya telah pecah, berapakah belon yang tinggal?</td>
<td></td>
</tr>
<tr>
<td>6. Jika abang/kakak mempunyai tiga biji guli di setiap tangan, berapakah jumlah guli yang ada di kedua-dua belah tangan abang/kakak?</td>
<td></td>
</tr>
<tr>
<td>7. Adik mempunyai sembilan keping duit syiling dan dua daripadanya telah hilang, berapakah yang tinggal?</td>
<td></td>
</tr>
<tr>
<td>8. Jika abang/kakak membeli 13 dobel epal, berapa biji epalakah yang abang/kakak dapat?</td>
<td></td>
</tr>
<tr>
<td>9. Jika sepotong perenang warna berharga 29 sen dan buku warna berharga 23 sen, berapakah beza harga dua barang ini?</td>
<td></td>
</tr>
<tr>
<td>10. Jika adik membeli bola yang berharga JO sen dengan membayar RM 1, berapakah baki duit yang adik dapat?</td>
<td></td>
</tr>
<tr>
<td>11. Ada satu angka, jika angka tersebut didarab 2 akan menjadi lapan. Apakah angka tersebut?</td>
<td></td>
</tr>
</tbody>
</table>

Jumlah skor


### ii. Memori Angka (Numerical Memory)

<table>
<thead>
<tr>
<th>Ujian I*</th>
<th>Skor***</th>
<th>Ujian II**</th>
<th>Skor***</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 – 8</td>
<td></td>
<td>4 – 9</td>
<td></td>
</tr>
<tr>
<td>6 – 9 – 2</td>
<td></td>
<td>5 – 8 – 3</td>
<td></td>
</tr>
<tr>
<td>3 – 8 – 1 – 4</td>
<td></td>
<td>6 – 1 – 8 – 5</td>
<td></td>
</tr>
<tr>
<td>4 – 1 – 6 – 9 – 2</td>
<td></td>
<td>9 – 4 – 1 – 8 – 3</td>
<td></td>
</tr>
<tr>
<td>5 – 2 – 9 – 6 – 1 – 4</td>
<td></td>
<td>8 – 5 – 2 – 9 – 4 – 6</td>
<td></td>
</tr>
<tr>
<td>8 – 6 – 3 – 5 – 2 – 9 – 1</td>
<td></td>
<td>5 – 3 – 8 – 2 – 1 – 9 – 6</td>
<td></td>
</tr>
<tr>
<td>Jumlah skor</td>
<td></td>
<td>Jumlah skor</td>
<td></td>
</tr>
</tbody>
</table>

* kanak-kanak dikehendaki mengulang angka yang disebut oleh pengujii
** kanak-kanak dikehendaki mengulang secara berlawanan angka yang disebut oleh pengujii, misalnya "5-8-3" patut diulang oleh kanak-kanak sebagai "3-8-5"
*** beri 1 markah untuk setiap angka yang berul

### iii. Pengiraan dan Pengelasan

<table>
<thead>
<tr>
<th>Soalan</th>
<th>Jawapan</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lapan kuub atas mejta. Katakan, &quot;ambil dua unit kuub dan asingkan dari yang lain&quot;.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>&quot;Ambil tuju kuub lagi dan letakkan berhampiran yang tadi&quot;.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&quot;Berapa unit semuanya yang telah adik ambi?&quot;</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>&quot;Cuba adik susun dan bahagikan sama banyak kuub ini di dalam kedua-dua kad&quot;.</td>
</tr>
<tr>
<td>5</td>
<td>&quot;Berapakah unit semuanya yang telah adik bahagikan?&quot;</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>&quot;Cuba adik susun dan bahagikan sama banyak kuub ini di dalam kedua-dua kad&quot;.</td>
</tr>
<tr>
<td>7</td>
<td>&quot;Berapakah semuanya yang telah adik bahagikan pada setiap kad?&quot;</td>
<td></td>
</tr>
<tr>
<td>Soalan</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Mula</td>
<td>□ □ □ □ □ □ □</td>
<td></td>
</tr>
<tr>
<td>Akhir</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Tunjukkan kakak/abang kisah yang kedua sebelum akhir.*
### 5.2.1
Pemerhatian Penggunaan Bahasa Kanak-kanak

<table>
<thead>
<tr>
<th>Slapa</th>
<th>Perbualan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aktiviti terancang semasa kelas: 20 minit.

Satakan aktiviti:
Aktiviti terencan angkasakan kelas (20 minit).
Nyatakan aktiviti:

<table>
<thead>
<tr>
<th>Slapa</th>
<th>Perbualan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rumusan:
<table>
<thead>
<tr>
<th>Soalan</th>
<th>(✓) / (✗)</th>
<th>Catatan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Dapat menyebut nama penuh</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>2) Dapat memberitahu umur</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>3) Dapat memberitahu tarikh lahir dengan betul</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>4) Dapat memberitahu alamat rumah</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>5) Dapat mengenali dan membezakan bahagian anggota badan ( kepala, badan, kaki, tangan, rambut, jari, telinga )</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>6) Mengingati seni kata lagu</td>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>7) Menggunakan perikatan untuk menghasilkan idea dan perasaan.</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>8) Bercakap dengan rakan lain semasa aktiviti harian. Nyatakan perbualannya.</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>9) Mengambil bahagian dalam perbincangan kelas. Cikgu nyanya bertanya: nama Perdana Menteri Malaysia?</td>
<td>( )</td>
<td></td>
</tr>
<tr>
<td>10) Menunjukkan kecerdasan pada buku dan cerita.</td>
<td>( )</td>
<td></td>
</tr>
</tbody>
</table>

Rumusan:
Bahagian 1: Ujian Kosa Kata Bergambar

Arahan:
2. Katakan kepada kanak-kanak: "Tunjukkan kakak/abang epal .....

<table>
<thead>
<tr>
<th>Gambar</th>
<th>√/X</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epal</td>
<td>√</td>
<td>1</td>
</tr>
<tr>
<td>Pokok</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Rumah</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Perempuan</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Lembu</td>
<td>X</td>
<td>0</td>
</tr>
<tr>
<td>Jumlah skor</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

5. Katakan kepada kanak-kanak: "Apa itu .........?"
6. Sekiranya kanak-kanak hanya menuju kepada sebahagian daripada gambar, tanunkan: "Untuk keseluruhan gambar-mi, adik panggil apa?"
<table>
<thead>
<tr>
<th>Sealan</th>
<th>( )</th>
<th>/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kad 2 : Gambar JAM</td>
<td>Jawapan : Dinding, jam tangan, jam cloche atau nama spesifik jam</td>
<td>( )</td>
</tr>
<tr>
<td>Kad 3 : Gambar KAPAL</td>
<td>Jawapan : Bot, bot layar, kapal, kanu atau nama spesifik bot.</td>
<td>( )</td>
</tr>
<tr>
<td>Kad 4 : Gambar BUNGA</td>
<td>Jawapan : Bunga, cabang bunga atau nama spesifik bunga.</td>
<td>( )</td>
</tr>
<tr>
<td>Kad 5 : Gambar BEG TANGAN</td>
<td>Jawapan : Dompet, beg tangan, beg kecil atau nama spesifik beg</td>
<td>( )</td>
</tr>
</tbody>
</table>

Jumlah skor:

Bahagian II : Ujian Kosa Kata Lisan

Arahan:
1. Penguis akan menamakan sesuatu objek atau perkataan dengan jelas dan perlahan. Kanak-kanak diminta memberikan maksud kentaaanya yang berkaitan dengan objek atau perkataan yang telah diberikan.
2. Katakan kepada kanak-kanak:
   "Sekarang kakak/bahang ingin tanya kepada adik tentang sesuatu perkataan, ada yang menang dan ada yang susah tetapi kakak/bahang ingin tanya perkataan yang adik tahu sahaja.
   "Apa itu....?"
3. Sekiranya kanak-kanak kurang menunjukkan maklum balas, galiakan boleh diberi dalam bentuk "ada lagi tak yang ingin adik katakan" atau "cuba adik terangkan selanjutnya"

<table>
<thead>
<tr>
<th>Perkataan yang diuji</th>
<th>Jawapan</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tuala</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Baju kot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Alat pertukangan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Benang</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Kilang</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Bulan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pakar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Mengecut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Pertunjukan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Setia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Jumlah Skor
Memori Verbal McCarthy

Bahagian I : Perkataan

Arahan:


2. Sekiranya kanak-kanak gagal tiga soalan berturut-turut, ujian ini akan diberhentikan. Kanak-kanak mendapat lapan markah atau lebih dalam bahagian I, boleh diuji bahagian II.

<table>
<thead>
<tr>
<th>Perkataan</th>
<th>(P) / (O)</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bola - Meja - Lampu</td>
<td>( )</td>
<td>/3</td>
</tr>
<tr>
<td>2. Patung - Celup - Jaket</td>
<td>( )</td>
<td>/3</td>
</tr>
<tr>
<td>3. Selepas - Warna - Lecu - Ini Ini</td>
<td>( )</td>
<td>/4</td>
</tr>
<tr>
<td>4. Keteling - Sebatu - Bawah - Tidak</td>
<td>( )</td>
<td>/4</td>
</tr>
</tbody>
</table>

5. Budak lelaki itu mengucapkan "Selamat jalan" kepada kucingnya setiap pagi sebelum ia pergi ke sekolah.

| Budak lelaki | ( ) |
| Selamat jalan | ( ) |
| Kucing | ( ) |
| Pagi | ( ) |
| Sebelum | ( ) |
| Pergi | ( ) |
| Sekolah | ( ) |


| Budak perempuan | ( ) |
| Mengikat reben | ( ) |
| Cantik | ( ) |
| Merah jambu | ( ) |
| Anak patung | ( ) |
| Sebelum | ( ) |
| Keluari | ( ) |
| Rumah | ( ) |

Jumlah skor /30

3. Katakan kepada kanak-kanak:

"Sekarang kakak/ahang ingin menyebut beberapa perkataan dan kakak/ahang mahu adik mengulanginya kembali. Tunggu selepas hailat ucapkan, kemudian hanu adik mengulanginya."
Bahagian II : Cerita

Arahan :
2. Katakan kepada kanak-kanak :
   "Sekarang kakak/abang ingin bercerita kepada adik dan adik hendaklah Dengar betul-betul. Selepas ini adik ceritakan semula kepada kakak/abang, ya?"
   Centanya:

<table>
<thead>
<tr>
<th>Perkataan</th>
<th>(P) / (C)</th>
<th>Skor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali : Ali/budak lelaki/budak kecil lelaki /nama</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>budak lelaki seperti Haris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wanita : wanita / wanita dewasa / mak cik / ibu</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Surat</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Ali berjalan ke kedai</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Ali melihat wanita</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Surat ditup angin</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Ali menjerit &quot;Biar saya ambilkan untuk mak cik.&quot;</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Ali seorang yang baik hati</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Ali memungut surat</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Wanita itu gembira</td>
<td>( )</td>
<td>/1</td>
</tr>
<tr>
<td>Wanita mengucapkan terima kasih kepada Ali</td>
<td>( )</td>
<td>/1</td>
</tr>
</tbody>
</table>

Jumlah skor /11

Kefasihan Verbal McCarthy

Arahan :
ii. Katakan kepada kanak-kanak :
   "Kakak/abang hendak lihat seberapa banyak benda atau perkataan yang berkaitan dengan kenyataan yang dapat adik fikirkan sebelum kakak/abang kata berhenti".
<table>
<thead>
<tr>
<th>Kewalaan</th>
<th>Jawapan</th>
<th>Skor*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Benda yang boleh dimakan</td>
<td></td>
<td>/9</td>
</tr>
<tr>
<td>2. Haiwan atau binatang</td>
<td></td>
<td>/9</td>
</tr>
<tr>
<td>3. Benda yang boleh dipakai</td>
<td></td>
<td>/9</td>
</tr>
<tr>
<td>4. Benda yang boleh dinaiki</td>
<td></td>
<td>/9</td>
</tr>
<tr>
<td><strong>Jumlah skor</strong></td>
<td></td>
<td>/36</td>
</tr>
</tbody>
</table>

* 1 markah untuk setiap perkataan yang tepat. Perkataan yang sama jenis seperti mi goreng dan mi rebus atau baju dan kemeja tidak hanya dikira sebagai satu perkataan dan diberi 1 markah.

**Analogi Berlawanan McCarthy**

**Arahan:**
1. Penguji akan mengutarakan satu perumpamaan dan kanak-kanak diminta untuk melengkapi perumpamaan yang dinyatakan. Nada pertuturan penguji hendaklah cukup jelas dan mudah difahami.
2. Katakan kepada kanak-kanak:
   "Sekarang kakaklabang ingin sebuah sebuk. Sekarang adaik lengkapkan perumpamaan kakaklabang itu. Dengar, (masalah panai, dan ari)
   ________...?"
3. Sekiranya kanak-kanak kurang menunjukkan maklum balas, katakan:
   "Jawapan yang sepatutnya adik berkata ialah 'masalah panai dan ari sejuk
   ______ kerana sejuk adalah berlawanan dengan panai'?"
<table>
<thead>
<tr>
<th>Perumpamaan</th>
<th>Jawapan</th>
<th>Skor*</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Matahari panas dan ais</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>ii. Bola dibaling ke atas dan jatuh</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>iii. Gajah besar dan tikus</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>iv. Kapas lembut dan batu</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>v. Berlari laju dan berjalan</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>vi. Limau masam dan gula-gula</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>vii. Bulu ayam riegan dan batu</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>viii. Sirap pekat dan ais</td>
<td></td>
<td>/1</td>
</tr>
<tr>
<td>ix. Kertas pasir kasar dan kaca</td>
<td></td>
<td>/1</td>
</tr>
</tbody>
</table>

Jumlah skor
UNIT 4
ASPECTS OF CHILD DEVELOPMENT

In developmental psychology, questions addressed include:

- How do we change over time?
- Are children different from adults in how they think?
- How do children become thinking, reasoning adults?
- Do we change or stay the same as we age?

However, in discussing the basic processes of development, there exist questions on Nature versus Nurture. Which is more important concerning our development? Current thinking is that both are important and that both influence our actions, thoughts, and feelings as we develop over time. The approach on the basic processes of development regarding to maturation considers maturation as a progressive unfolding by “schedule”. For example, you will begin to walk at a certain age range, begin to talk at another age range, etc.

Early Experience/Critical Periods

Imprinting (Konrad Lorenz): a form of early learning that occurs in some animals during a critical period in their development. Nevertheless, in the context of early social deprivation, it has long lasting detrimental effects on animal (Harry Harlow’s research). However, psychologists disagree on some of the effects of early social deprivation in humans. For example, The “Battered-Child Syndrome”, identified in the early 1960s, where child abuse can pass from one generation to the next. According to research, approximately 15% of child abusers do not change their ways even with social service and court intervention. Moreover, approximately 2,000 children killed annually as a result of child abuse.
Variations in Development

Different children develop at different rates. The same child will vary in rate of their own development at different times in their life. Understanding the variance and range of developmental rates is important to developmental psychologists.

Stage theories of development

In discussing topics on developmental psychology, questions addressed also include:

- Do we develop in stages or not?
- Are we like oak trees or butterflies in our development?
- Is our development continuous or discontinuous?
- There are a number of various “stage” theorists in study of developmental psychology

Objectives

Cognitive, Language and Physical in Infancy

This topic will focus on understanding the growth patterns during the early years of life. You will learn how children grow and change physically and cognitively during infancy and the toddler years.

After reading and studying this topic students should learn:

- how infants develop in size and weight, and the factors influencing their development
- how infants' motor capabilities develop and the dynamic system of factors that interact to produce these dramatic motor developments
- how infants' health and safety can be improved
- about infants' nutritional needs, the problems associated with inadequate nutrition, and the advantages of feeding infants human breast milk
- about the perceptual competencies of infants
about the stages in which infants pass as they learn to solve problems and how they develop an understanding of the permanence of objects

- how infants' cognitive development is enhanced through interactions with caregivers

- about how infants become competent users of language, the develop intellectual progression in early language acquisition, and the important role that caregivers play in helping children learn language

Social and Emotional Development in Infancy and Toddlerhood

This topic will focus on the changes that occur emotionally and socially during the early years of development. Concentration will be on attachment behaviors, the influence of day care on attachment, and child abuse and neglect.

After reading and studying this topic students should learn:

- how emotions develop during infancy and toddlerhood and how these come to be expressed

- the enduring characteristics of infants and toddlers that make up temperament and the meaning of these characteristics for understanding individual differences in very young children

- how attachments to significant others develop, how these attachments are measured and assessed, the factors that influence them, and the consequences for later development

- the physical and behavioral characteristics of the newborn

- the factors related to child maltreatment, including the characteristics of those who are abused, those who commit child abuse and neglect, the effects of these abusive and neglectful experiences, and how these might be prevented

- the effects of day care on infants and toddlers and the factors that contribute to these effects.

Cognitive, Language and Physical Development in Early Childhood
We are now moving into the world of early childhood. The focus of study will be on how young children change physically and cognitively. Emphasis will be on how children think and come to understand the world they live in.

After reading and studying this topic students should learn:

- how preschoolers' bodies change in size and appearance
- how young children learn to run, jump, throw, and catch, as well as how they develop fine-motor skills such as cutting and drawing
- that preschool children are generally healthy and that most health and safety concerns for young children are preventable
- how preschool children think differently than older children and adults, in particular, their tendencies to view the world through their own perspective and focus on appearances
- how caregivers expand the range of children's cognitive development by providing challenging environments and experiences for children
- the challenges that preschoolers face in learning language, such as solving the mystery of word meanings, and the role of caregivers in helping children master language

Social and Emotional Development in Early Childhood

This topic will focus on the subjects of developing a self, gender development, the way in which parenting affects development, the importance of play and friendship on development, and the influence of television.

After reading and studying this topic students should learn:

- how young children develop a sense of self and their positive and negative feelings associated with their developing sense of self
- how young children come to understand that they are a boy or a girl, their gender-related stereotypes, preferences, and behaviors, and the theories that explain gender development
- how young children deal with anger and aggression, and how they develop prosocial emotions and actions
how parents influence their children, especially through discipline, and the factors that determine parents' use of different types of discipline
how young children understand family transitions, such as divorce and remarriage, and how these transitions affect them
how young children relate to, and play with, other children, including brothers and sisters, and the factors that influence these relationships
and the role of television in young children's development and how it affects their positive and negative behaviors

Cognitive, Language and Physical Development in Late Childhood

The focus of late childhood is on school and learning. This topic will concentrate on understanding the intellectual changes that occur during this period.

After reading and studying this topic students should learn:
how children develop physically during late childhood and how these developmental changes relate to increased coordination in motor skills
how children's health and fitness are influenced by lifestyle choices, nutrition, and family relationships
how older children solve problems and understand concepts such as conservation and seriation
how culture, everyday experiences, and families influence children's cognitive development
how children's language develops during the school years
how children master the complex accomplishments of learning to read and write
how children's intelligence is defined and assessed and how to encourage creativity in children
how children develop a more complex understanding of people and social situations
and how the school experience influences children's intellectual development

Social and Emotional Development in Late Childhood

Children enter more complex social relationships as they grow and develop. This topic will focus on stress children experience at this time in their lives and the reactions to
that stress. Concentration will be on understanding peer relationships, the development of morality, and changing family relationships.

After reading and studying this topic students should learn:

- the developmental changes that occur in the situations that cause stress in children's lives and how they cope with this stress
- the emotional and psychological disturbances of late childhood including antisocial behavior, childhood depression, and fear and anxiety
- the qualities of family life that affect older children's development including changes in family interactions and time together, changes in sibling relationships, and the effects of being an only child
- how the school environment and teachers influence older children's social and emotional development
- the factors that influence older children's peer relationships
- how older children develop a sense of morality and acquire moral behaviors

Reading:


Content

1.1 Physical development
1.2 Intellectual development
1.3 Social and emotional development
1.4 Moral development
1.5 Practical advice for all adults working with children in middle childhood
1.6 General knowledge on cognition, language and intelligence
1.7 Summary

1.1 Physical development

Growth is slower than in preschool years, but steady. Eating may fluctuate with activity level. Some children have growth spurts in the later stages of middle childhood. In the later stages of middle childhood, body changes (hips widen, breasts bud, pubic hair appears, testes develop) indicate approaching puberty. Children recognize that there are differences between boys and girls. Children find difficulty balancing high energy activities and quiet activities. Intense activity may bring tiredness. Children need around 10 hours of sleep each night. Muscle coordination and control are uneven an incomplete in the early stages, but children become almost as coordinated as adults by the end of middle childhood. Small muscles develop rapidly, making playing musical instruments, hammering, or building things more enjoyable. Baby teeth will come in before the mouth has fully grown, causing dental crowding. Eyes reach maturity in both size and function. The added strain of school work (smaller print, computers, intense writing) often creates eye-tension and leads some children to request eye examinations.

1.2 Intellectual development

Children can begin to think about their own behaviour and see consequences for actions. In the early stages of concrete thinking, they can group things that belong together (for instance babies, fathers, mothers, aunts are all family members). As children near adolescence the master sequencing and ordering, which are needed for math skills. Children begin to read and write early in the middle childhood and should be skillful in reading and writing by the end of this stage.
Children can think through their actions and trace back events that happened to explain situations, such as why they are late to school. Children learn best if they are active while they are learning. For example, children will learn more effectively about traffic safety by moving cars, blocks, and toy figures rather than sitting and listening to an adult explain the rules. Six-to-eight-year-olds can rarely sit for longer than 15-20 minutes for an activity. Attention span gets longer with age.

Toward the beginning of middle childhood, children may begin projects but finish few. Allow them to new materials. Nearing adolescence, children will focus more on completion. Teachers set the conditions for social interactions to occur in schools.

Understand that children need to experience various friendships while building esteem. Children can talk through problems to solve them. This requires more adult time and more sustained attention by children. They can develop a plan to meet a goal. And, there is greater memory capability because many routines (brushing teeth, tying shoes, bathing, etc.) are automatic now. Child begins to build a self-image as a “worker”. If encouraged, this is positive in later development of career choices.

1.3. Social and emotional development

Common fears include the unknown, failure, death, family problems, and rejection. Children average five best friends and at least one “enemy”, who often changes from day to day. Children act nurturing and commanding with younger children but follow and depend on older children, and are beginning to see the point of view of others more clearly. They define themselves in terms of their appearance, possessions, and activities. There are fewer angry outbursts and more ability to endure frustration while accepting delays in getting things they “want”. Children often resolve conflict through peer judges who accept or reject their actions. Children are self-conscious, and feel as if everyone notices even small differences (new haircut, facial hair, ahug in public from a parent). Tattling is a common way to attract adult attention.
in the early years of middle childhood. Inner control is being formed and practiced each
time decisions are made. Around age 6-8, children may still be afraid of monsters and
the dark. These are replaced later by fears of school or disaster and confusion over
social relationships. To win, lead, or to be first is valued. Children try to be the boss and
are unhappy if they lose. Children often are attached to adults (teacher, club leader, care
giver) other than their parents and will quote their new “hero” or try to please him or
her to gain attention.

Early in the middle childhood, “good” and “bad” days are defined as what is approved
or disapproved by the family. Children’s feelings get hurt easily. There are mood
swings, and children often don’t know how to deal with failure.

1.3 Morality development

Moral development is more difficult to discuss in terms of developmental
milestones. Moral development occurs over time through experience. Research implies
that if a child knows what is right, he or she will do what is right. Even as adults, we
know that there are often gray areas when it comes to making tough decisions about
right and wrong. There are a lot of “it depends” responses depending on the particular
situation. More adults agree that they should act in a caring manner and show others
they care about them. People want to come into contact with others who will reinforce
them for who they are. It is no different for children. To teach responsible and caring
behaviours, adults must first model caring behaviours with young children as they do
with other adults. While modelling, focus on talking with children. This does not mean
talking at children but discussing with them in an open-ended way. Work to create an
air of learning and a common search for understanding, empathy, and appreciation.
Dialogue can be playful, serious, imaginative, or goal oriented. It can also provide the
opportunity to question why. This is the foundation for caring for others. Next, practice
caring for others. Adults need to find ways to increase the capacity to care. Adults
generally spend time telling children what to do or teaching facts. There is little time to
use the newly developed higher order thinking and to practice caring interactions and deeds.

The last step to complete the cycle of caring is confirmation. Confirmation is encouraging the best in others. A trusted adult who identifies something admirable and encourages the development of that trait can go a long way toward helping children find their places in this world. Love, caring, and positive relations play central roles in ethics and moral education.

### Practical advice for all adults working with children in middle childhood

**Physical development**

It is important to help children feel proud of who they are and what they can do. Avoid stereotyping girls into particular activities and boys into others. Let both genders choose from a range of activities.

Encourage children to balance their activities between high energy and quiet activity. Children release tension through play. Children may be extremely active when tired. Encourage quiet reading, painting, puzzles, or board games before bedtime.

Regular dental and physical check-ups are an important part of monitoring a child’s growth and development. This allows parents to screen for potential problems. If a child accidently loses a permanent tooth, finding the tooth and taking it and the child to the dentist may save the permanent tooth.

**Intellectual development**

Rapid intellectual growth creates many of the positive as well as negative interactions between children and adults during middle childhood. Some of the ways adults can help children continue to develop their thinking skills are:

Adults can ask “what if ...” or “how could we solve this” questions to help children develop problem-solving skills. Reading signs, making lists, and counting prices are all exercises to practice sequencing skills. Asking children if you can help them think about ways to talk with other children can provide limited guidance as they negotiate
social relationships. Picking focused times to talk-without distractions-allows adults and children to converse and listen.

Social and emotional development
Encourage non-competitive games, particularly toward the beginning of middle childhood, and help children set individual goals. Give children lots of positive attention and let them help define the rules. Talk about self-control and making good decisions. Talk about why it is important to be patient, share, and respect others’ rights. Adults must pick battles carefully so there is limited nagging and maximized respect while children build confidence in their ability to make decisions. Teach them to learn from criticism. Ask “how could you do that differently next time?” Always be alert to the feelings associated with what children tell you. Give children positive feedback for successes.

Reflections
Each stage in life is a time of growth. Middle childhood is a time to bridge dependence with approaching independence. The time of wonder and spontaneity is fading, replaced by feeling self-conscious and on guard. The new ways children act are ways they are exploring their future potential. Some behaviours will pass, but they must be experienced in order for the child to grow and be ready to face the stage of finding his or her identity during adolescence.

Television
A few cautions about TV: Too little physical activity can affect weight in children. Too many aggressive acts on TV can affect mood and actions, and children can begin to think that what they see on TV is the “norm”. Limiting the amount of television watched and monitoring what is watched can help parents assure that the TV that is seen relates to their family’s values.

Self-care
There is no magic age at which a child is ready to be left alone. Parents should consider carefully the child’s willingness to be left alone, the child’s day to day responsibility, the child’s ability to anticipate and avoid unsafe situations.
Chores

Children want to feel useful and have a sense that they are contributing to the family. To help children learn household responsibilities, parents might allow children to choose from a list of chores. Paid chores should be in addition to what is generally expected. For example, brushing teeth, taking a bath, and keeping a room clean may be expected. Drying dishes, putting away folded clothes, or emptying trash cans may be chores that earn allowance and contribute to the family.

Money becomes more important since children now understand how it is valued in our society. Earning an allowance is a two-way agreement; children do agreed upon work with little reminders in exchange for agreed upon money or goods. Charts with pictures to check-off chores help children remember what to do. The older children get, the more capable they are, but remember to choose age-appropriate duties.

E.6 General knowledge on cognition, language and intelligence

This topic also deals with cognition, language, and intelligence

- What is “intelligence?”
- What is reasoning?
- What are the tools of effective thinking and intelligence?
- Try to think about something without using any words. Can you do it?

Cognition is the intellectual processes through which information is obtained, transformed, stored, retrieved, and used. Moreover, cognition is an active process that is, for better or worse, affected by our cognitive abilities/skills. Cognition’s basic unit is the “concept”. The basic unit of thinking is the concept. Concepts are categories of things, events, or qualities that are linked by some common feature(s) in spite of their differences. There are two general types of concepts:

- Simple concepts
- Complex concepts
Simple concepts are based on a single common feature between various things, events, or qualities. For example, all animals are alive; anything living is composed of cells, etc. Complex concepts are based on many common features between things, events, or qualities. Examples of conjunctive concepts:

If “A” and “B” then X is something despite the fact that items may be very different; How are 2 dissimilar things the same?; How is a pencil and a telephone alike?; How is a bird and an orange alike? ;How is a computer and a human brain alike?; These are all examples of conjunctive concepts.

Examples of disjunctive concepts:

If “A” and NOT “B” then X is something; How are 2 highly similar things different?; How is your right hand different from your left hand?; How is your desk different from my desk?; How is this present slide you are viewing now different than it was a second ago?; Establishing new concepts is the basis of learning.

Concept formation is a special kind of thinking in which hypotheses about the defining characteristic(s) of the concept are tested by positive and negative example. In the next topic, we’ll look at positive and negative examples of a particular concept.

What is the concept here? Can you figure it out?
Positive examples: A, H, T, and G
Negative examples: S, Y, W, and M
Is the letter “B” in the concept or not?
Is the letter “J” in the concept or not?
Is the letter “X” in the concept or not? Why?

Typically natural concepts are easier for us to learn than are artificial concepts

- a “tree” is a natural concept
- algebraic manipulation is an artificial concept
Natural concepts have 2 characteristics

- natural concepts are basic
- natural concepts are good prototypes of the concept

Natural concepts are basic. They have a medium degree of inclusiveness and share many common attributes, share similar shapes, share similar motor movements, and are easily named. Examples: a “screwdriver” is a natural concept; a “tree” is a natural concept; a “hammer” is a natural concept.

Natural concepts are good prototypes of the concept. They are good examples of the concept, e.g., a “chair” is a natural concept. Other examples of good prototypical natural concepts could include a “car” or a “horse” or a “house”. They are really quite good for general categorization

Problem Solving: Using information to reach goals

There are a number of cognitive operations involved in effective problem solving. Cognitive operations in problem solving include:

- Formulating the problem
- Understanding and organizing the elements of the problem
- Generating and evaluating alternative solutions

Formulating the problem

To solve a problem, you must first clearly define precisely what the problem is recognizing a problem is the first step in the scientific method. It is impossible to effectively solve a problem if one does not know precisely the problem. Much of science is devoted to this very activity

Problem Solving

Understanding and organizing the elements of the problem by developing an inventory of the elements or parts of the problem, which is the next step in effective problem
solving. Break the problem down into manageable units, then organize these elements into a prioritized array so as to establish a direction in problem solving.

Also, by generating and evaluating alternative solutions to the problem, i.e. generate a list of possible solutions, e.g., brainstorming. Then, evaluate each possible solution by means of some criterion you’ve established. Then, choose the best solution based on the criterion you’ve selected; this is the scientific method!

There are three basic strategies that one can employ in order to solve problems

- The “Trial and Error” method
- The “Algorithmic Operations” method
- The “Heuristic Operations” method

Trying one possible solution after another until you are successful (if ever). The algorithmic operations method: employing a systematic pattern of reasoning that will guarantee a correct solution 100% of the time. Computer programmers must develop algorithms for their programs so as to guarantee that their program will always yeild a solution. Much of mathematics is based on algorithms

The heuristic operations method: employing strategies that maximize the probability of finding a correct solution. There is no guarantee of finding a correct solution, but it is highly probable that a solution will be found. By using statistics in hypothesis testing is a good use of heuristics, e.g., 95% probabilities, etc. Artificial intelligence involves programming computers so that their information processing is designed to appear to be human in their problem solving skills. Artificial intelligence is used by NASA in their deep-space probes so that the machine can handle unforeseen contingencies. Creative problem solving involves both convergent and divergent thinking. Convergent thinking is logical and conventional and focuses on a problem until a solution is found. Divergent thinking is loosely organized, only partially directed, and unconventional. Examples of convergent thinking: How are 2 dissimilar things alike? How do they converge? How is an apple like a chicken? Convergent thinking yeilds solutions by already finding existing solutions in other problem sets If you’ve solved one problem

62
and the next problem is like the first one, then you have a solution already. Creative Problem Solving - Examples of divergent thinking: How are 2 similar things different? How is a pencil different from a pen? How is a rectangle different from a square? Solutions from divergent thinking are often very creative. It is important in divergent thinking to be very specific in the problem’s definition.

Language: Symbolic Communication

Without language there could be no effective cognition; language is the “software” of the brain’s “hardware.” The best computer in the world is worthless without its software. We will now examine semantics, the generative properties of language, and its relationship to thought.

Semantics: The meaning of what is said; words/symbols mean something and that meaning is important, for example, the word “run” has many meanings in English, another example, the word “wagon” has several meanings in English. Semantics is the study of word meanings. Generative properties of language: elements and rules of language: language permits an infinite set of utterances; language uses a finite set of rules and elements; Phonemes: the smallest unit of sound in a language; Morphemes: the smallest unit of meaning in a language; Syntax: the grammatical rules of a language; this sentence makes sense because it follows the rules of appropriate English syntax; makes sense no follows not syntax English rules appropriate. Computer programmers are intimately familiar with the message “syntax error in line #” as the computer must have its instructions in a very precisely coded fashion

Language and thought: the Whorfian hypothesis

Language influences what and how you think. Structuring your language will structure your thinking. Controlling what you say will control what you think, e.g., politically correct speech. You are not “handicapped” but are “physically challenged.”

The Whorfian hypothesis

Altering the language you hear and use will alter what you think. Examples from history include the evolution of language in the United States in reference to African
PeM 3101 Developmental Psychology: Children and Adolescent

Americans; Nazi Germany's reference to Jews in the 1930s were highly negative. Propaganda is the psychological application of language to alter person's perceptions

Animal languages: Can we talk to the animals? Some chimpanzees have learned to effectively use American Sign Language; some dolphins have learned to sign language to divers and these dolphins appear to understand syntax; humans are not unique in use of language, e.g., bees use specialized dances to communicate

Intelligence: The sum total of cognition

Definition: Intelligence is the cognitive ability of an individual to learn from experience, to reason well, and to cope with the demands of daily living. Intelligence is effective problem solving, use of language in problem solving, and ability to adapt to environmentintellectual change. Psychologists are interested in intelligence.

Differing views of intelligence

There is no universally agreed upon definition of intelligence among psychologists. Some psychologists have argued intelligence is a single general factor and others opine that it is specific factors. Is intelligence general or is it specific?

Factor theorists: Spearman's 2 factor theory of intelligence; the "G" factor and the "S" factor; crystallized vs fluid intelligence; Thurstone's 7 factor theory; verbal comprehension, word fluency, number, space, rote memory, perceptual, and reasoning skills; Guilford's 120-150 factor theory;

"Process" theories of intelligence: What are the cognitive components of intelligence? Sternberg's theory proposes that there are a series of cognitive steps that people must use in reasoning and in problem solving and that "intelligence" is the process's outcome.

Sternberg's steps include: encoding all relevant information about a problem; inferring the nature of the relationships between the terms in a problem; mapping or identifying common characteristics in relevant pairs of elements in a problem; applying the relationship identified between elements; comparing alternative answers developed for
a problem; selecting correct alternatives from among the many possible for a given problem. Sternberg suggests 3 general components of intelligence in his “triarchic theory of intelligence”: knowledge-acquisition component: how to learn new information; performance component: how to solve specific problems; metacomponents: how to problem solve generally.

**Measures of intelligence: the IQ test**

The ability to measure IQ (intelligence quotient) makes it possible to use the concept of intelligence in both research and clinical practice. Construction of IQ tests must yield a ratio between a person’s intellectual age and their chronological age.

\[ IQ = MA / CA \times 100 \]

Characteristics of a good IQ test: the test is standardized; the test has a set of norms obtained for the general population; the test is objective and not subjective; reliable, valid, not culturally biased.

The IQ test: examples of IQ tests include the Stanford-Binet IQ test which has a mean IQ score of 100 and a standard deviation of 16; 68% of the population has an IQ between 84 and 116; the Wechsler Adult Intelligence Scale (WAIS) which has a mean IQ of 100 and a standard deviation of 15; 68% of the population has an IQ between 85 and 115.

Evaluating “everyday intelligence”: researchers have developed tests to measure everyday intelligence; tests are employed in sales, business management, medical diagnosis, and even in post office employment entry; Eysenck’s “Know your own IQ” is an example of the popularized IQ test.

Factors contributing to variations in intelligence: IQ is affected by heredity and environment; IQ tends to be strongly influenced by genes; IQ is affected by as much as
15 points by environintellectual differences; IQ is affected within an individual as a result of their physical health, mood, and stress.

Ethnic differences in intelligence scores isvery controversial as minority IQ scores tend to be generally lower than majority IQ scores. Herrnstein and Murphy’s The Bell Curve in 1994 provoked much controversy. Ethnic biases/prejudices may affect IQ test scores because the tests may be biased. The “Chittlin Test” shows cultural bias

Extremes in intelligence: intellectual retardation and giftedness: MR: an IQ below 85 is considered to be in the MR zone. MR caused by genetic disorder, birth trauma, maternal infections, maternal use of drugs or alcohol, sensory or maternal deprivation IQ above 130 is considered in “gifted” zone

The “Idiot Savant” and specialized intelligences: there are individuals who cannot make change but can play complete and perfect piano concertos; this data suggests that intelligence may not be a particular “thing” but there may be multiple intelligences; Gardner’s research on multiple intelligences

Application of Psychology
Improving everyday problem solving and intelligence
You can improve your intelligence IF you learn better problem-solving skills
You can improve your intelligence IF you learn better reasoning skills
Intelligence is something you can improve by as much as 15-20 IQ points if you know what to do and work at it.
Cognitive development in infancy: 2 weeks to 2 years
- at the end of the sensorimotor stage (about age 2), the child develops, according to Piaget, full "object permanence" which signals their move into the next stage of cognitive development
- at the beginning of infancy there is little if any object permanence but within 2 years full object permanence exists

Emotional and social development in infancy
- infant develops a "social smile" at about 2 months of age
- develops "separation anxiety" at about 6-9 months of age
- develops "stranger anxiety" at about 6-10 months of age
- these anxieties peak around 14 months and gradually decline by about age 2

Cognitive development
- Cognitive development: 2-7 years
- According to Piaget, the child is now in the "preoperational period" of cognitive development
- preoperational thinking is evident, e.g., egocentrism, animism, and transductive reasoning are apparent

Emotional and social development: 2-7 years
- child progresses from solitary play to parallel play and finally to cooperative play
- child incorporates others into his/her pretending and games become more rule-governed
Cognitive Development

- Cognitive development: 7-11 years
- the child enters into the "concrete operations" period of thinking
  (according to Piaget’s stages)
- the child develops reversibility and conservation
- Emotional and social development
- Emotional and social development: 7-11 years
- peers become increasingly more important during this time
- school becomes increasingly important
- child’s early dependence on parents begins to lessen; parents may have
  some difficulty accepting this change

Cognitive development

- Cognitive abilities improve, change, or decline during adulthood
- Crystallized intelligence improves over time while fluid intelligence
  slowly wanes
- Wisdom improves; wisdom is the appropriate use of knowledge

Emotional and social development

- Early adulthood: Intimacy vs Isolation; the challenge is to enter into
  committed, loving relationships that partially replace the bonds with
  parents
- Middle adulthood: Generativity vs stagnation; the challenge is to find
  meaning in our work and family lives and to continue to be productive
Emotional and social development

- Climacteric: period beginning about age 45 when a loss of the capacity to sexually reproduce in women and a decline in the reproductivity capacity in men occurs
- Later adulthood: Integrity vs despair; the challenge is to see a life with meaning and continued satisfaction
UNIT 5
ADOLESCENT DEVELOPMENT

This unit discusses adolescence as one the significant developmental phases in life characterized by various transformations. The focus of discussion is on the nature of adolescent development in the aspects of physical, cognitive, personality and moral development as well as vocational and career planning. Almost all adolescents transcend healthy development. However, a small proportion of them do face various behavioral and psychological problems. Thus, this unit also covers psychosocial problems that affect normal development of adolescents.

Objective

At the end of the course, students will be able to:
1. Explain major concepts and developmental tasks of adolescence
2. Discuss the nature of adolescent development in the aspects of physical, cognitive, personality and moral development; vocational and career planning
3. Discuss various developmental problems during adolescence

Reading:

Content

5.1 Introduction to Adolescence
5.2 Physical Development and Health
5.3 Cognitive Development
5.4 Personality and Identity Development
5.5 Moral Development
5.6 Vocational and Career Planning
5.7 Psychosocial Problems
5.1 Introduction to Adolescence

Who are adolescents? The word “adolescent” is often associated with various stereotypes and myths. Thus, adolescents are associated with hedonisms, irresponsible, laziness, rebelliousness, lack of self-control, self-centered and faddish. Yes, adolescents are different from adults in how they behave, what they wear and in activities they enjoy. However, this does not mean that adolescents are hostile toward parental and societal standards. Adolescents are actually trying on new identities and move toward accepting parental and societal values rather than rejecting them.

There are various definitions on adolescents and adolescence. However, most of the definitions are limited according to specific perspectives such as biological, psychological, social and historical. The word adolescent originates from the Latin word ‘adolescere’ which means ‘to grow and develop toward maturity’. The meaning of this word implies the physiological and physical development of an individual. However, most researchers and educators on adolescence agreed that the word adolescent does not refer to biological development only. The word adolescent also covers individual psychosocial development in contexts. Thus, Fuhrmann (1986:11) has suggested a comprehensive definition that include various perspectives to explain the word adolescent, that is, ‘adolescent is a period that begins with puberty (10 to 11 year old for girls, 12 or 13 for boys) and ends with the achievement of adult status in terms of physical, social, legal and economic aspects (as early as 18 years old and as late as mid 20’s, and usually around 21 years old).” Puberty is a process by which a person attains sexual maturity and the ability to reproduce.

The end of childhood and the beginning of adolescent is marked by increase in height and body weight, changes in body shape, and maturation of sexual and reproductive system. In brief, the beginnings of adolescent period are signaled by biological change. The end of adolescent period is determined by social and
psychological factors. Thus, it is easier to determine when the adolescent period begins than when it ends.

Steinberg (1999) stated that development during adolescence involves a series of transitions from immature state to maturity. A time when adolescent begins and ends is also known as adolescent boundary (see table 1). Some transitions take longer time and some shorter time. Some transitions occur smoothly while other faces some difficulty. Not all transitions occur at the same time. Various aspects of adolescence have different beginning and ending time. Therefore, adolescent may behave like children in certain aspects and like adults in other aspects.

<table>
<thead>
<tr>
<th>ADOLESCENT</th>
<th>WHEN BEGINS</th>
<th>WHEN ENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Puberty</td>
<td>Sexual reproduction ability</td>
</tr>
<tr>
<td>Emotion</td>
<td>Begin to detach from parents</td>
<td>Identity achievement</td>
</tr>
<tr>
<td>Cognitive</td>
<td>High reasoning ability</td>
<td>High reasoning ability that is more established</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Begin to transfer interest from parents to relationship with peers</td>
<td>Development intimacy ability with peers</td>
</tr>
<tr>
<td>Social</td>
<td>Begin training for work role, family roles and as members of society</td>
<td>Achieve status and advantages as adults</td>
</tr>
<tr>
<td>Education</td>
<td>Enter secondary school</td>
<td>Complete formal education</td>
</tr>
<tr>
<td>Legal</td>
<td>Achieve juvenile status</td>
<td>Achieve majority status</td>
</tr>
<tr>
<td>Chronology</td>
<td>Adolescent age (e.g., 13 years)</td>
<td>Achieve adult age</td>
</tr>
<tr>
<td>Culture</td>
<td>Enter training time for rites of passage</td>
<td>Complete rites of passage ceremony</td>
</tr>
</tbody>
</table>

Table 1: Adolescent Boundary


Adolescent period begins at the age of 10 – 13 until 18 to 22 years old. In general, adolescence is categorized as early and late adolescent. However, some researchers divided it into three categories, that is, early (11 to 14 years), middle (15 to 18 years) and late (18 to 21 years) adolescent. In summary adolescence lasts from about age 10 to 12 until the late teens or early twenties, and it entails major, interrelated changes in all realms of development.
Adolescent Developmental Tasks

Robert Havighurst developed a theory that focuses on the interrelationship of physical, social, emotional and intellectual aspects of development called the theory of developmental tasks. A developmental task is a task to be performed or achieved during a certain period in a person’s life. Many developmental tasks are related to the society in which an individual lives. Most people accomplish developmental tasks in certain order. They successfully accomplish one task before going on to a task at the next level. These tasks include developing physically, socially, emotionally and intellectually.

Adolescent also has some developmental tasks. Some of the developmental tasks associated with adolescence are as follows:

- Understanding, accepting, making the most of one’s physical self
- Getting along with one’s family
- Getting along with peers
- Being successful in school
- Developing communication skills
- Making educational and vocational plans
- Developing socially responsible behavior
- Becoming emotionally independent
- Becoming economically independent
- Establishing an identity as a person apart from family and friends
- Developing the ability to share in a close, special relationships
- Developing a philosophy of life

Understanding, accepting, making the most of one’s physical self

Body changes during adolescence are quite dramatic. These changes are caused by the production of hormones. Different parts of the body grow at different rates. Many young people feel awkward and clumsy. This is annoying but normal because of the different rates of growth in the parts of the body. This period of rapid growth at the beginning of adolescence causes many young people to feel more tired. Along with the increased height and weight, hormones also caused emotional changes. These changes take place more or less gradually over a period of 1 or 2 or perhaps three years. The feelings adolescents have about these changes can affect them for many years.
Many adolescents worry about one or more aspects of their appearance caused by body changes. They worry because they feel that they do not have an ideal (someone else’s idea about what is attractive) face or figure or body build. Accepting others’ ideas about attractiveness may be causing unhappiness among adolescents. Adolescents can change some parts of their physical appearance but they never are able to reach the ideal set up by someone else’s standards. Thus, adolescents who worry about their physical self should put their energy into developing an attitude that is accepting of yourself and your abilities rather than worrying so much. When adolescents feel positive about themselves and their abilities, others will tend to feel this way about them too.

Another reason adolescent may be unhappy about their physical self is because of comments others make. Adolescents should learn from the comments but keep in mind that you are special and nothing anyone says can change that. Understanding and accepting physical self relate closely to the other developmental tasks. How adolescents feel about their physical self is part of their self-concept. Self-concept will affect the how well adolescent will be able to accomplish other tasks.

☞ Getting along with one’s family

Sometimes adolescents and adults (parents) feelings about adolescents’ independence do not agree. It takes patience and understanding on the part of adolescents and parents to manage the shifts from dependence to independence. Positive relationships with parents provide a strong basis for building new relationship outside the family.

☞ Getting along with peers

The ability to establish and maintain friendships contributes to success in the task of sharing in close, personal relationships. The development of the ability to work well with peers, whether they are friends or not, is helpful in relation to other developmental tasks. It helps adolescents to build communication skills, develop socially responsible behavior, and establish an identity apart from the family.
Being successful in school

This task refers to the adolescents’ ability to get along well with teachers and friends as well as to choose courses that will benefit them. Success in school relates closely to making educational plans as well as choosing and pursuing a vocation.

Developing communication skills

Communication skills that include writing, listening, and reading are important to being independent. It is also important to the development of other tasks.

Making educational and vocational plans

Adolescents must make realistic educational and vocational plans. Adolescents must also find out about the availability of jobs and type of education appropriate for the chosen vocation.

Developing socially responsible behavior

The adolescents must contribute to the society in which they live. They must respect the rights of others and reach out to those outside the family.

Becoming emotionally independent

Adolescents must learn to depend less on their parents for emotional needs — needs to provide love and happiness, eliminate fears and to stop pain. Adolescents must transfer some of this dependence to peers and then gradually give up complete dependence on peers. Adolescents must be their own source of happiness in order to have a positive self-concept and a strong sense of identity.

Becoming economically independent

The adolescents achieve this task usually after completing high school or higher education. Earning money to help with the cost of education and living expenses while in school is part of accomplishing this developmental task.
Establishing an identity as a person apart from family and friends

In the process to establish an identity, an adolescent often identifies very strongly with peers. Each member in the peer group may hold similar beliefs and behave in similar ways. Adolescents conform to group values and beliefs. This form of conformity will eventually give way to a more individualized identity later. A strong self-identity and self-concept make the accomplishments of other tasks and transition into adulthood easier.

Developing the ability to share in a close relationships

Majority of individuals will finally marry and establish a family. Thus, adolescents must learn to be tolerant and care others especially those of opposite sex in appropriate ways.

Developing a philosophy of life

Adolescents who accomplish all the developmental tasks of adolescence develop a fundamental philosophy of life. They are not afraid to express and work for their beliefs. They have values and goals; know whom they are and where they stand.

The optimal time for each developmental task is biologically determined. The tasks that have biological bases are relatively universal. The tasks that do not have biological bases differ according to cultural influences. The accomplishments of developmental tasks pose as challenges to adolescents and their family system. Adolescents who have accomplished all the tasks are mature and ready to handle challenges during early adulthood. Havighurst concluded that adolescent is a learning time to become adult.
5.2 Biological Development and Health

This section discusses the physical changes, psychological dimensions and health status during adolescence. Physical changes include boundaries of puberty, determinants of puberty, hormonal changes, changes in height, weight as well as sexual maturation. Poor health habits and early death in the adult years begin during adolescence. Thus, adolescence is a critical juncture in the adoption of positive health behavior.

Physical Changes and Puberty

Puberty is the most important marker of the beginning of adolescence. Puberty is a period of rapid physical maturation involving hormonal and bodily changes that occur primarily during early adolescence. Physical changes in both boys and girls during puberty include the adolescent growth spurt, the development of pubic hair, a deeper voice, and muscular growth. The maturation of reproductive organs brings the beginning of ovulation and menstruation in girls and the production of sperm in boys. These changes unfold in a sequence, though it varies somewhat for both girls and boys (Table 2).

Adolescent growth spurt is a sharp increase in height and weight that precedes sexual maturity. The growth spurt occurs approximately 2 years earlier for girls than for boys. Girls begin their growth spurt at around age 9; while for boys, it is around age 11. The peak rate for pubertal changes occurs at 11.5 years for girls and at 13.5 years for boys. During their growth spurt, girls increase in height about 3½ inches per year and boys about 4”. Adolescent’s weight gains follow approximately the same developmental timetable as the rate at which they gain height. Marked weight gains coincide with the onset of puberty. During early adolescence – girls tend to outweigh boys, but by about age 14, boys begin to surpass girls.

Adolescent developmentalists have found a secular trend (a trend that spans several generations) in the onset of puberty: a lowering of the age when puberty (menarche – a girl’s first menstruation; wet dream marks the arrival of puberty)
begins and when young people reach adult height and sexual maturity. Menarche began to occur earlier at about the time of industrial revolution. The most likely explanation seems to be a higher standard of living. Children, who are healthier, better nourished, and better cared for mature earlier and grow bigger. Thus, the average age of sexual maturity is later in less developed countries than in more industrialized ones.

Table 2: Sequence of Physiological Changes In Adolescence

<table>
<thead>
<tr>
<th>Female Characteristics</th>
<th>Age of First Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of breasts</td>
<td>6-13</td>
</tr>
<tr>
<td>Growth of pubic hair</td>
<td>6-14</td>
</tr>
<tr>
<td>Body growth</td>
<td>9.5-14.5</td>
</tr>
<tr>
<td>Menarche</td>
<td>10-16.5</td>
</tr>
<tr>
<td>Underarm hair</td>
<td>About 2 years after appearance of pubic hair</td>
</tr>
<tr>
<td>Increased output of oil- and sweat-producing glands (which may lead to acne)</td>
<td>About the same time as appearance of underarm hair</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male Characteristics</th>
<th>Age of First Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of testes, scrotal sac</td>
<td>10-13.5</td>
</tr>
<tr>
<td>Growth of pubic hair</td>
<td>12-16</td>
</tr>
<tr>
<td>Body growth</td>
<td>10.5-16</td>
</tr>
<tr>
<td>Growth of penis, prostate gland, seminal vesicles</td>
<td>11-14.5</td>
</tr>
<tr>
<td>Change in voice</td>
<td>About the same time as growth of penis</td>
</tr>
<tr>
<td>First ejaculation of semen</td>
<td>About 1 year after beginning of growth of penis</td>
</tr>
<tr>
<td>Facial and underarm hair</td>
<td>About 2 years after appearance of pubic hair</td>
</tr>
<tr>
<td>Increased output of oil- and sweat-producing glands (which may lead to acne)</td>
<td>About the same time as appearance of underarm hair</td>
</tr>
</tbody>
</table>
Sexual maturation is a key feature of pubertal change. Hormones stimulate the growth of secondary sex characteristics. Secondary sex characteristics include any of various anatomical characteristics that first emerge at puberty and differentiate between the sexes but do not have a direct reproductive function. Examples are body and facial hair, breast development and voice change. Primary sex characteristics also transformed during puberty. Primary sex characteristics are internal and external anatomical and physiological characteristics that bear directly on reproductive functioning.

Individual Variation in Puberty

The pubertal sequence may begin as early as 10 years of age or as late as 13 1/2 for most boys; it may end as early as 13 years or as late as 17 years for most boys. Given two boys of the same chronological age, one might complete the pubertal sequence before the other one has begun it. For girls, the age range of the first menstrual period is even wider. Menarche between the ages of 9 and 15 for girls is within a normal range.

Hormonal Changes

Puberty involves a number of hormonal changes in the endocrine system. However, it does not mean that hormone is produced for the first time at the onset of puberty. Hormonal production changes in intensity during puberty. Hormones are chemical substances secreted by the endocrine glands and carried through the body by the bloodstream. The endocrine system's role involves the interaction of the hypothalamus, the pituitary glands and the gonads (sex glands). Hypothalamus is a structure in the higher portion of the brain that monitors eating, drinking and sex. The pituitary gland is an important endocrine gland that controls growth and regulates other glands. The gonads are the sex glands (the testes in males, the ovaries in females).

How does the hormonal system works? The pituitary send a signal via gonadotropins (hormones that stimulate testes or ovaries) to the appropriate gland to manufacture hormone. Then the pituitary gland through the interaction with hypothalamus, detects when the optimal level of hormones is reached and responds by maintaining gonadotropin secretion (Diagram 1). Two important
classes of hormones in pubertal development are androgens and estrogens. **Androgens** are the main class of male sex hormones. **Estrogens** are the main class of female hormones. **Testosterone** is an androgen that plays an **important role in male pubertal development.** Increasing testosterone levels are associated with a number of physical changes in boys. For example: development of external genitals, increase in height and voice changes. Estradiol is an estrogen that plays an important role in female pubertal development. Increase in estradiol level leads to breast development, uterine development and skeletal changes in girls. Both testosterone and estradiol are present in the hormonal makeup of both boys and girls. However, testosterone dominates in male pubertal development and estradiol in female pubertal development. Testosterone levels increase 18 fold in boys and 2 fold in girls and estradiol levels increase 8 fold in girls and 2 fold in boys during puberty.

**Diagram 1: The Relationships between Hypothalamus, Pituitary, Gonad and Hormone Production**

FSH – Follicle Stimulating Hormone; LH – Luteinizing Hormone
Psychological Dimension of Puberty

Puberty affects adolescents' socio-emotional development. It influences adolescents' behavior and psychological functions in various ways. Physical maturation affects adolescents' self-esteem and mood. Puberty has a moderate effect on adolescent boys and girls' self-esteem. Focus on bodily changes that shape adolescent body image. Adolescent girls reported more negative body image compared to boys. Girls' dissatisfaction with body may be due to increase in body fat. Boys are more satisfied with their body changes and this may be due to increase in muscle mass.

Adolescents are preoccupied with their bodies and develop individual images of what their bodies are like. Preoccupation with one's body image is strong throughout adolescence, but it is especially acute during puberty. Younger adolescents are more preoccupied with body images than older adolescents are. Puberty is a time when adolescents are more dissatisfied with their bodies than in late adolescence.

Pubertal impact on adolescent psychological functioning can be explained in various ways (Diagram 2). The diagram shows the direct effect and the mediated effect of puberty on adolescent behavior. The onset of puberty and menarche are two main events during adolescence. Puberty and menarche produce different body that requires considerable changes in self-conception that result in identity crisis. Firstly, behavioral change occurs due to direct result of hormone production. Secondly, the impact of pubertal changes on behavior is mediated by intervening variables or moderated by external factors. In this perspective, adolescent behavior may result from perceptions and reactions of adolescents regarding pubertal change, as well as the expectation and responses of others around them. Behavioral changes are attributed more to the social psychological processes than to the direct result of hormones or biological drives. Factors such as gender, social class, ethnic groups as well as parent, peer and siblings reactions and responses may serve to modify or mediate the psychological and social meanings of puberty.
Diagram 2: The Impact of Puberty (Hormonal Changes) on Adolescent Behavior

Early Maturing Boys

- Perceive themselves more positively
- Had more successful peer relations
- In the late thirties, the late maturing boys developed a stronger sense of identity than the early maturing boys

Early Maturing Girls

- Mixed findings for girls
- More independent
- More popular with boys
- Had more problems in school
- Vulnerable to a number of problems – more likely to smoke, drink and be depressed, earlier dating, earlier sexual experience, request earlier independence
- Why easily lured into problem behaviors? – social & cognitive immaturity combined with early physical development
- Some adolescents mature early, some late, some on time
• Extremely early or late maturation may be risk factors in development
• However, overall effects are often not great
• Early maturation favor boys, at least during early adolescence
• Not all early maturing girls will have problems
• Not all late maturers will have difficulty in peer relations

Some adolescents mature early, some late, some on time. Extremely early or late maturation may be risk factors in development. However, overall effects are often not great. Early maturation favor boys, at least during early adolescence. Not all early maturing girls will have problems. Not all late maturers will have difficulty in peer relations. Societal norms concerning the acceptability of body types influence self-acceptance and self-esteem. Adolescents’ perceptions of reality rather reality itself determine their behavior and self-body-image. Their perceptions come not only from the mirror, but from past experiences, parental attitudes, peer views and the stereotyped image portrayed in the media.

Health

Poor health habits and early death in the adult years begin during adolescence. Thus, adolescence is a critical juncture in the adoption of positive health behavior. Adolescents health depends on adolescents behavior. Therefore, the goals of any health programs for adolescents must include:

  • Reducing adolescents’ health-compromising behaviors
  • Increasing adolescents’ health-enhancing behaviors

Factors related to adolescent health behavior are cognitive factors and social contexts. Cognitive factors include concepts of:

  • Health behavior
  • Beliefs about health
  • Health knowledge
Health behavior

- Concepts of health & illness develop in concert with Piaget’s cognitive development
- Young children perceive it in simplistic terms
- Young adolescents – relatively concrete thinking about illness predominates
- Late adolescence – more formal operational thinkers; view health in more hypothetical and abstract ways
- Late adolescents able to describe health in terms of psychological, emotional, and social components, and to consider impact of personal behavior on health

Beliefs about Health

- Include beliefs about vulnerability and behavior
- Usually underestimate vulnerability to harm
- E.g. understand potential health hazards of drug – but underestimate the potentially negative consequences of substance abuse

Health knowledge

- Adolescents are in general, poorly informed about health issues & have significant misperceptions about health knowledge
- Younger adolescents – have less factual knowledge about a variety of health topics such as STD

Social contexts influence health through their roles in setting cultural norms about health, social support, and encouragement of healthy and unhealthy behavior. It include concepts of:

- Cultural and ethnic variations
- Family and peers
- Schools
- Gender
Cultural and ethnic variations

- Differences in living conditions and lifestyles – due to differences in factors such as SES, social resources, social skills, availability of social support and occupational opportunities
- Poverty --- poor health (insufficient income to meet basic needs)
- Sense of powerlessness or hopelessness – not likely to lead to health promotion

Family and peers

- Parents are important models for adolescents’ health
- Peers and friends also have some influences
- Adolescents with limited capacity to resist challenges have higher tendency to engage in risk-taking behaviors at the urging of their peers

Family and peers

- Parents are important models for adolescents’ health
- Peers and friends also have some influences
- Adolescents with limited capacity to resist challenges have higher tendency to engage in risk-taking behaviors at the urging of their peers

Schools

- Contribute to adolescent health through --- physical education programs, teachers who serve as positive health role model, programs to reduce health-compromising behaviors and increase health-enhancing behaviors

Gender

- Male adolescents – less open about physical health problems
- Male adolescents are less willing to change their health attitudes and behavior than female adolescents
Physical Problems

- Among common physical problems facing many adolescents are: psychosomatic illness, acne, menstrual dysfunction and weight problems.
- More serious problems include illness such as physical disabilities, speech defects and hearing impairment.
- Family attitudes, the reaction of others, and adolescent development itself contribute to the individual's capacity to adjust to a physical or physiological problems.

5.3. Cognitive Development

This section covers perspectives on cognitive development and social cognition. The main perspectives that will be discussed are:

- The Cognitive Developmental View
  - Piaget's theory
  - Vygotsky's theory
- The Information Processing View
- The Psychometric/Intelligence View

Piaget's Theory

Piaget viewed adolescents as an active constructor of their own cognitive worlds:

- They organize their experiences and observations
- Adapt their thinking to include new information

In constructing their world, adolescents use schemas. Schema is a concept or framework that exists in an individual's mind to organize and interpret information. Two processes are responsible for how adolescents use and adapt their schemas. Those processes are assimilation and accommodation. Assimilation occurs when individuals incorporate new information into existing knowledge. Accommodation occurs when adolescents made adjustment to new information.
Stages of Cognitive Development

- Individuals develop through four main cognitive stages.
- Stage is age related. Each stage is characterized by distinct ways of thinking
- The four stages are:
  - Sensorimotor
  - Preoperational thought
  - Concrete operational thought
  - Formal operational thought (Adolescence)

Formal Operational Thought

Formal operational thought emerges at age 11 to 15 years. This a fourth stage or final stage of cognitive development. The characteristics of formal operational stage include:

- More abstract thought – adolescent’s thought is no longer limited to actual and concrete experiences. They can conjure up make-believe situations and try to reason logically about them.
- Tendency to think about thought itself. They begin thinking why they were thinking about something.
- Thought full of idealism and possibilities. Adolescents compare themselves and others in regard to such ideal standards. Their thoughts are often fantasy flights to future possibilities.
- Think more logically – similar to how a scientist thinks. They devise plans to solve problems and tests plans systematically. This ability is called hypothetical-deductive reasoning. According to Piaget, hypothetical-deductive reasoning refers to the adolescents’ ability to develop hypotheses and decide the best method to follow to solve problems.

Formal operational thought is not a homogenous stage of development – not all adolescents are full-fledged formal operational thinkers. Some experts believe that it consists of two substages: Early formal operational thought and late formal operational thought. In his early writings, Piaget concluded that formal operational thought completed at about 11 to 15 years. However, in revising his
view, Piaget remarked that formal operational thought is not completely achieved until later in adolescence (approx. 15 to 20 years of age).

Vygotsky Theory

- Basic view: Knowledge is situated and collaborated, that is knowledge is distributed among people and environments. Thus, it can best be advanced through interaction with others in cooperative activities.
- One important concept in Vygotsky’s theory is Zone of Proximal Development (ZPD).
- ZPD is range of tasks - level of problem solving reached on lower limit tasks by adolescent working alone and level of additional responsibility (upper limit) adolescent can accept with the guidance of adults or more-skilled peers.
- Formal schooling is important for growth. However, other forces such as family, peers, community & technological orientations of the culture also have significant influences (learning the skills of culture)
- Both Piaget and Vygotsky are constructivist. Piaget is a cognitive constructivist. Vygotsky is a social constructivist.
- Both Piaget and Vygotsky believe that teachers should be facilitators and not directors of adolescents’ learning.

The Information Processing View

- Transition from children through adolescence and adulthood – different aspects of information processing changes.
- Basic characteristics of the approach (Robert Siegler, 1998):
  - thinking - highly flexible; allow adaptation and adjustment to changes in circumstances, goals and requirements; have some constraint – can attend to limited amount of information at one point in time; amount of information attended to are constraint by how fast they can process information.
4 main change mechanisms:
- Encoding
- Automatization
- Strategy construction
- Generalizations

All these change mechanisms work together to create changes in adolescents thinking skills.

- Encoding – process by which information gets into memory.
- Automatization – ability to process information with little or no effort.
- Strategy construction – discovery of new procedure to process information.
- Generalizations – application of the strategies to other problems.

- Self-modification
  - Adolescents play an active role in their development
  - They build newer and more sophisticated responses from prior knowledge and strategies

Attention And Memory

- Attention
  - Focusing of mental effort on certain stimuli and excluding certain stimuli (selectivity)
  - Attention is also shiftable – shift the focus of mental effort from one stimulus to another

- Memory
  - Retention of information over time
  - Short term memory – limited capacity memory system
  - Long term memory – relatively permanent memory system
Decision Making

- Adolescence is a time of increased decision-making.
- Adolescent decision making competency:
  - Older adolescent are more competent
  - Decision making in practical situation – experience is important
  - Thus, adolescents need more opportunities to practice and discuss realistic decision making

Critical Thinking

- Adolescent think reflectively and productively and they evaluate the evidence.
- Cognitive changes that allow enhanced critical thinking in adolescence are:
  - Increased speed, automaticity and capacity for information processing
  - Increased ability to construct new combinations of knowledge
- Critical thinking skills are not likely to mature during adolescence, if basis of fundamental skills such as literacy and math skills is not developed during adolescence.

Psychometric/Intelligence View

Emphasize IQ tests / individual variations in intelligence and proposed that intelligence should be measured with intelligence tests. Current issue or debate related this perspective is what are the components of intelligence? Intelligence can be defined as verbal ability, problem-solving skills, and ability to adapt to and learn from life’s everyday experiences.

Intelligence Test

The Binet Tests

Alfred Binet devised an intelligence test called the 1905 Scale and developed the concept of mental age (MA). MA is an individual’s level of mental development relative to others. Alfred Binet emphasize IQ tests / individual variations in intelligence. In 1912, William Stern created the concept of Intelligent quotient
(IQ). IQ refers to a person’s mental age (MA) divided by chronological age (CA), multiplied by 100:

- IQ = MA/CA \times 100
- MA=CA, then IQ=100
- MA>CA, then IQ>100
- MA<CA, then IQ<100

Scores above hundred are considered above average. Scores below hundred are considered as below average.

The Binet tests have been revised. The revised version is called Stanford-Binet tests. The test can be administered individually to people from the age of two to through the adult years. Fourth edition of the test was published in 1985. This instrument assesses four functions: verbal reasoning, quantitative reasoning, abstract/visual reasoning and short-term memory.

**The Wechsler Scales**

Another widely used tests is *The Wechsler Scales* developed by David Wechsler. There are three versions of The Wechsler Scale that include:

- The Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI-R) (4 – 6 ½)
- The Wechsler Intelligence Scale for Children – Revised (WISC-R) (6 to 16 years of age)
- The Wechsler Adult Intelligence Scale-Revised (WAIS-R)

The Wechsler measures overall IQ, verbal IQ and performance IQ; while Binet and Stern focus on general intelligence. Wechsler measures general as well as specific verbal and performance intelligences.
Theories of Multiple Intelligences

**Triarchic Theory (Robert J. Sternberg)**

Sternberg developed Triarchic theory of intelligence. Sternberg believes that intelligence comes in three forms:

- Analytical
- Creative
- Practical

Analytical intelligence involves the ability to analyze, judge, evaluate, compare and contrast. Creative intelligence refers to the ability to create, design, invent, originate and imagine. The practical component relates to the ability to use, apply, implement and put into practice.

**Eight Frames Of Mind (Howard Gardner)**

Howard Gardner proposed eight types of intelligence: verbal skills, mathematical skills, spatial skills, bodily-kinesthetic skills, musical skills, interpersonal skills, intrapersonal skills and naturalist skills.

Each type of intelligence involves unique cognitive skills. **Verbal skills** is about the ability to use language to express meaning or to think in words. Individuals with this type of intelligence usually work as authors, journalists and speakers. **Mathematical skills** refers to the ability to carry out mathematical operations. Scientists, engineers and accountants have high intelligence in mathematical skills. **Spatial skills** explain one’s ability to think in three-dimensional ways. Architects, artists and sailors have high intelligence in spatial skills. **Bodily-kinesthetic skills** refer to the ability to manipulate objects and be physically skilled. They are surgeons, craftspersons, dancers and athletes. Individuals with **musical skills** are sensitive to pitch, melody, rhythm, and tone. They work as composers, musicians and sensitive listeners. **Intrapersonal skills intelligence** enables a person to understand oneself and effectively direct one’s life. Individuals with intrapersonal skills intelligence usually work as theologians and psychologists. Individuals with high ability to understand and effectively interact
with others have high **interpersonal skills** intelligence. These people are usually successful teachers and mental health professionals. **Naturalist skills** relate to the ability to observe patterns in nature and understand natural and human-made systems. Farmers, botanists, ecologists and landscapers are usually high in naturalist skills.

**Emotional Intelligence**

Social aspects of intelligence involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action. This aspect of intelligence drew interests with the publication of Daniel Goleman’s book – Emotional Intelligence in 1995. Emotional intelligence covers four main areas:

- Developing emotional self-awareness – able to separate feelings from emotion.
- Managing emotions – ability to control anger.
- Reading emotions – able to take the perspectives of others.
- Handling relationships – able to handle problems related to relationships.

**Social Cognition**

Social cognition concerns how individuals conceptualize and reason about their social world, that is, the people they watch and interact with, relationships with those people, the groups in which they participate, and how they reason about themselves and others. Simultaneous with cognitive development is the phenomenon known as egocentrism. **Egocentrism** refers to the universal characteristics of being centered on an individual point of view and being unable to see the views of others. It is not synonymous with selfishness or self-centeredness.

In general, growth involves a progression from egocentric to nonegocentric. As individuals mature, they become increasingly sociocentric and develop ever-increasing objectivity, reciprocity and relativity. Individuals move from total nondifferentiation of self from the world (infancy) to self-awareness (early
childhood, to differentiating ourselves from others (childhood) and finally to understanding the concept of reciprocity (childhood and adolescence).

Adolescent Egocentrism

Adolescent egocentrism is heightened self-consciousness of adolescents, which is reflected in their belief that others are as interested in them as they themselves are, and in their sense of personal uniqueness. Once the adolescents are in the stage of formal operations, adolescents can think about thinking-their own and other people's. However, they tend to assume that their thoughts are just like his/hers. Adolescent egocentrism can be divided into two social thinking (David Elkind):

- Personal fable
- Imaginary audience

In their preoccupation with their own mental state, adolescents often assume that everyone else is thinking about the same thing they are thinking about: themselves. David Elkind (1976) refers to this self-consciousness as the imaginary audience, a conceptualized "observer" who is as concerned with a young person's thoughts and behavior as he or she is. Young people feel as if they are stage and everybody else is observing them. This fantasy is especially strong in the early teens (more significant among girls than boys) but persists to a lesser degree into adult life.

Another form of egocentrism in adolescence is personal fable (Elkind 1976). Personal fable denotes a belief by adolescents that they are special, that their experience is unique, and that they are not subject to the rules that govern the rest of the world such as other people get hooked from taking drugs, but not me.” According to Elkind, this special form of egocentrism underlies much risky, self-destructive behavior.
5.4 Personality and Identity Development

The personality develops through the process of complex interactions between heredity and social learning. It involves knowing one self and evaluation of self in relation to society. The word “persona” originates from the Latin word which means mask that people put on during play or acting to portray specific character. In general, bases of personality evaluations are feelings, attitude, verbal acts, patterns of interaction and ways of solving problems.

Specific instruments or inventories measure personality. Adolescent has specific developmental task in personality development. Adolescent tasks in achieving healthy personality are having unique identity, ability to differentiate between self and the wider social perspectives, and uphold principles and beliefs. Personality comprises three processes or structure that is interrelated (Sigmund Freud). Those processes are id, ego and superego. Individual’s behavior is the result of the interaction between id, ego and superego. It develops through a set of universal psychosexual stages. At each stage, drives or impulse is fulfilled in specific manner. The success of each stage will determine the influence on the personality during adulthood.

Id is the part of personality that exists since birth. The instinct to fulfill the need and feel comfortable is expressed through sexual drives and aggression. Id never matures and emphasizes fun. This part of personality contributes to hedonism and self-centeredness among adolescents.

Ego is the personality process that is considerate and relates to management tasks. Ego does the appropriate things. Superego is the personality that acts as a judge, a disciplinarian and strives for perfections. Superego is responsible for moral behavior and guilt in adolescence. Ego and superego develop because of maturity and socialization. The id, ego and superego exist in conflict. The relative strength of each process determines personality.
Appropriate mix of the processes produces healthy personality. If the id structure is dominant, individual exhibits personality that is fun and focus on self. Ego dominance produces personality that is rational and not emotional. It is considerate and efficient. Superego dominance produces moralistic and authoritarian personality.

Identity

Identity is a self-structure or internal organization of values, ability, feelings and previous experiences. It is a dynamic and ever changing aspect of development. Identity is stable across the adolescent years. When the structure of self develops and organizes, individual is aware of his/her strengths and limitations. Confusion and lack of knowledge on self, causes less developed identity. Identity does not begin or stop during adolescence. However, it is a significant aspect of development during adolescence because it relates to intellectual awareness on important transition in life such as cognitive, moral, values, physical and autonomy.

Erik Erikson was not comfortable with Freud’s emphasis on pathology and not on environment in explaining personality development. Erikson changes the focus from pathology to ‘normalcy’ and positive adaptation. Erikson introduced eight stages of psychosocial development (Table 3). Each stage has its potential and risk for development. Erikson explains the balance between potential and risk using a term called ‘normative crises’. The successful resolution of conflict at each stage contributes to identity achievement and adolescents will able to resolve conflicts at higher stages easier.
Table 3: Erikson Psychosocial Stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Age</th>
<th>Psychosocial Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Birth – 1 year</td>
<td>Trust vs. Mistrust</td>
</tr>
<tr>
<td>2</td>
<td>1 – 3 years</td>
<td>Autonomy vs. Shame and Doubt</td>
</tr>
<tr>
<td>3</td>
<td>4 – 5 years</td>
<td>Initiative vs. Guilt</td>
</tr>
<tr>
<td>4</td>
<td>6 – 11 years</td>
<td>Industry vs. Inferiority</td>
</tr>
<tr>
<td>5</td>
<td>12 – 18 years</td>
<td>Identity vs. Role Confusion</td>
</tr>
<tr>
<td>6</td>
<td>Early Adulthood</td>
<td>Intimacy vs. Isolation</td>
</tr>
<tr>
<td>7</td>
<td>Middle Adulthood</td>
<td>Generativity vs. passivity</td>
</tr>
<tr>
<td>8</td>
<td>Late Adulthood</td>
<td>Integrity vs. Despair</td>
</tr>
</tbody>
</table>

At fifth developmental stage, individuals are searching for identity - who they are, what they are and where they are going in life. Identity crises is a process where individuals achieve the feelings that they are unique, has relation with others, have ideology and commitment to values and others. Adolescent’s positive identity relates to realistic self-concept encompassing physical and cognitive mastering of environment and social acceptance. Positive identity enhances tolerance to conflict. Failure to achieve positive identity will lead to role confusion.

Adolescents who are confused about their role will not make a commitment or do not have a commitment and do not define self. Confused adolescents usually make wrong commitment. For example, they involve themselves in delinquent acts or deviant groups and develop negative identity. Adolescents choose negative identity as a way to gain control or mastering something. By joining illegal gang or group, adolescents feel that the group accepts them or the group may look highly upon them.
Four Statuses of Identity (James Marcia)

James Marcia believed that theory of identity development proposed by Erikson contain four ways of resolving conflict or identity crises. They are identity diffusion, identity foreclosure, identity moratorium, and identity achievement (Table 4).

<table>
<thead>
<tr>
<th>Status</th>
<th>Crisis</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreclosure: Adolescent made a commitment but have not experienced a crisis.</td>
<td>0</td>
<td>X</td>
</tr>
<tr>
<td>Moratorium: Adolescents who are in the midst of crisis. They have no commitments or their commitments are vaguely defined.</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>Diffusion: Adolescents have not yet experienced a crisis or made any commitment.</td>
<td>X/0</td>
<td>0</td>
</tr>
<tr>
<td>Achievement: Adolescents have undergone a crisis and made a commitment.</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

The extent of crises and commitment of adolescents determine the identity status. Crisis is a period of identity development during which the adolescent is choosing among meaningful alternatives. Commitment is the part of identity development in which adolescents show a personal investment in what they are going to do.

◆ Autonomy Development

Adolescents develop autonomy through making independent decisions about minor aspects of life such as clothing and about major issues such as money, careers, values and lifestyle. Ausbel identified two kinds of autonomy: executive autonomy and volitional autonomy.
Executive autonomy is also known as behavioral autonomy, that is the ability to do for oneself ... age-appropriate tasks and the chores of daily living. Executive autonomy gradually develops throughout childhood and it increases markedly at adolescence (care for themselves and contribute to the care of the family). According to Atwater, adolescents often appear inconsistent in their executive autonomy (autonomous in things they wish to do & dependent in those they choose not to do).

Volitional autonomy involves relationships and the ability to make independent decisions. Adolescents gradually shift their emotional allegiance; learn to rely on their own judgment rather than that of their parents. At the beginning, the shift may be away from parents and toward peers. Eventually, this autonomy becomes independent of both parents and peers. While peer attachments are increasing, the parent-child relationship need not suffer – parents must understand that their adolescents need to widen their spheres of influence and judgment. This type of autonomy is more difficult to achieve. Many adults suffer from not having achieved the confidence necessary to be emotionally independent. They rely too heavily on the judgment of others and especially vulnerable to criticism and rejection.

5.5 Moral Development

Moral development involves thoughts, feelings and behaviors regarding standards of right and wrong. Moral development has two dimensions, that is, intrapersonal and interpersonal. Intrapersonal dimension refers to a person’s basic value and sense of self. It regulates a person’s activities. Interpersonal dimension focus on what people should do in their interactions with other people. It regulates people’s social interaction and judge or sort out conflict.

How do adolescents think or reason about rules for ethical conduct? Adolescent was presented with a story in which someone has a conflict. They were asked to decide what is appropriate action to take and why.
Moral Thought (Piaget’s Idea)

Ideas on moral issues was first stimulated by Piaget (1932). Piaget observed children from the ages of 4 to 12 playing marbles. He asks children about ethical issues such as theft, lies, punishment and justice. Piaget’s concluded that there are 2 distinct ways about morality – depending on children’s maturity:

» Heteronomous morality
» Autonomous morality

Heteronomous morality is the first stage of moral development (4 – 7 years old). Justice and rules are conceived as unchangeable properties of the world, removed from the control of people. Consideration of what is right or wrong is based on the consequences of the behavior, intention of the behavior, and believes in immanent justice (immediate punishment for breaking a rule). Violation of rule is connected to punishment. Autonomous morality is Piaget’s second stage of moral development (about 10 years old). The transition between the two stages occur at the age 7-10 years old. Children with autonomous morality are aware that rules and law are created by people. In judging action, they consider intention and consequences.

Based on Piaget’s idea, Hoffman developed cognitive disequilibrium theory. Adolescent is an important period in moral development. A movement from homogenous to heterogenous group/environment are faced with contradictions between the moral concepts they have accepted and experiences. Adolescent come to recognize that their set of beliefs is but one of many; and there is considerable debate about what is right and what is wrong. Many children begin to questions former beliefs and finally develop own moral system.
Moral Development (Lawrence Kohlberg)

Kohlberg believed that moral development is based primarily on moral reasoning and unfolds in a series of stages. This view was proposed after 20 years of research with individuals of different ages. Kohlberg presented respondents with stories in which characters face dilemma. The key concept in understanding moral development is internalization - developmental change from behavior that is externally controlled to behavior that is controlled by internal standards and principles.

Moral development consists of a sequence of qualitative changes in a way an individual thinks. Based on his findings, Kohlberg proposed 3 level of moral development, each characterized by 2 stages (Santrock 2004):

- **Level 1**: Pre-conventional reasoning - People act under external controls. They obey rules to avoid punishment or reap rewards, or act out of self-interest. This level, is typical of children ages 4 to 10. The 2 stages under level 1 are:
  i. Heteronomous morality
  ii. Individualism, instrumental purpose, and exchange.

- **Level 2**: Conventional reasoning - People have internalized the standards of authority figures. They are concerned about being "good," pleasing others, and maintaining the social order. This level is typically reached after age 10; many people never move beyond it, even in adulthood. The 2 stages under level 2 are:
  i. Mutual interpersonal expectations, relationships and interpersonal conformity
  ii. Social system morality
• **Level 3**: Post-conventional reasoning - People now recognizes conflicts between moral standards and makes their own judgments based on principles of right, fairness, and justice. People generally do not reach this level of moral reasoning until at least early adolescence, or more commonly in young adulthood, if ever. The 2 stages under level 3 are:
  i. Social contract and individual rights
  ii. Universal ethical principles

**In his theory** Kohlberg's asserts that it is the reasoning underlying a person's response to a moral dilemma, not the answer itself, that indicates the stage of moral development. Some adolescents, and even some adults, remain at Kohlberg's level I. Like young children, they seek to avoid punishment or satisfy their own needs. Most adolescents, and most adults, seem to be at level II. They conform to social conventions, support the status quo, and do the "right" thing to please others or to obey the law.

**Adolescent Values**

Values are beliefs and attitudes about the way things should be. They involve what is important to us. We attach value to many things such as friends, career, behavior, education, religion, money, family, time spent, and clothing. Why do we need values? It is important to consider carefully our values for several reasons: (1) they could guide our life minute by minute towards noble goals, rather than our life being controlled by self-serving motives, customs, accidental occurrences, bad habits, impulses, or emotions. We have to know where we are going before we can get there. (2) Values and morals can not only guide but inspire and motivate you, giving you energy and a zest for living and for doing something meaningful. (3) Sensitivity to a failure to live up to your basic values may lead to unproductive guilt or to constructive self-dissatisfaction, which motivates you to improve. (4) High values and some success meeting those goals are necessary for high self-esteem. (5) Professed but unused values are worthless or worse. We must be honest with ourselves, recognizing the difference between pretended (verbalized) values and operational (acted on) values.
Values that characterize many of today’s adolescents are self-fulfillment and self-expression. Adolescent also show interest in physical health and well-being. Self-fulfillment and self-expression, if accepted as the only goal, may lead to alienation and self-destruction. Adolescent should also develop strong commitment to others. Recent research indicates that adolescents also show stronger interest in the welfare of society.

5.6. Achievement and Career Planning

Achievement

Adolescent is a critical phase in academic achievement. There are new academic and social pressures during adolescence. Achievement is important in determining adolescent’s social mobility, future direction, life style/outcomes, and ability to solve problems. Adolescent’s effective adaptation to new pressures is determined by factors such as psychological, motivational and contextual. Achievement is not solely due to intellectual ability but also to adaptive motivational pattern of adolescents.

Motivation and Achievement

There are two types of motivation in achievement. They are extrinsic motivation and intrinsic motivation. Extrinsic motivation involves external incentives such as reward and punishment. Intrinsic motivation relates to internal factors such as self-determination, curiosity, challenge and effort.
Rewards can be useful as an incentive to engage in tasks and the goal is to control student’s behavior and as information about mastery to promote feelings of competent among students. However, use of reward can be misperceived that student’s behavior is caused by external rewards rather than by own motivations to be competent.

Achievement Orientation
There are three types of achievement orientation or response to challenging situation. They are mastery, helpless and performance. Adolescents with mastery orientation focus on tasks rather than ability. They have positive affect (enjoy the challenge). They generate solution or strategy to improve performance. For these adolescents, winning is not as important as developing skills.

Helpless Orientation
Adolescent with helpless and mastery orientation do not differ in their abilities. Adolescents with helpless orientation believe that their ability is fixed. They focus on personal inadequacies and have negative affect (boredom & anxiety). These adolescents attribute difficulty in implementing tasks to lack of ability. This belief undermines their performance.

Performance Orientation
Adolescents with performance orientation are concern with outcome rather than process. What matters to them is to win. They focus on how to outperform others. Adolescents with performance orientation who are not confident of their success face a special problem. These adolescents often take failure as evident of their lack of ability.
Vocational and Career Planning

Developmental Career Choice Theory (Eli Ginzberg)

Children and adolescent go through three career choices stages: Fantasy, tentative and realistic. Childhood (11 years old) is a fantasy stage. At this stage, what the children want to be when they grow up seems unlimited. The second stage is tentative stage (11 – 17 years). At this stage, adolescents make more realistic decision-making. Adolescents at the age of 11-12 years will evaluate their interest. When they reach the age of 13 to 14 years, they start to evaluate their capacity in various aspects. They start to evaluate their values in vocational planning at the age of 15 to 16 years old. Career choice in the third stage is more realistic. Adolescent will seriously consider possible career before making a decision. This occurs at around 17 to 18 years old.

John Holland Personality Type and Career Choice

Individual functions best in an environment that matches his/her personality. Individual will choose a career that represents personality. The closer the match between personality and career choice, the higher is an individual’s life satisfaction. This theory emphasized knowledge concerning self (personality) and information needed to make a career choice.

Holland suggested 6 personality typologi and 6 working environment. They are R = Realistic, I = Investigative, A = Artistic, S = Social, E = Enterprising, and C = Conventional. Personality is determined by genetic (biological and genetic inheritance), activity (early experience), interest (choice of activity), competency and inclinations. The personality types must be considered when matching psychological make up to a career:
- REALISTIC – realistic persons are physically strong and deal with problems in practical ways. These persons are best suited for practical careers (labour, farming, construction and truck driving).
- INVESTIGATIVE - These people are conceptually and theoretically oriented – they are thinkers. They are oriented toward careers in math and science.
- ARTISTIC - Artistic person interact with the world through artistic expression and thus best suited for careers in art and writing.
- SOCIAL - People with good verbal and interpersonal skill will perform best in professions such as teaching and social work.
- ENTERPRISING – Enterprising individual will lead others. They are dominating individuals who will excel in careers such as sale, politics and management.
- CONVENTIONAL - Conventional people are very structured person and are best suited for subordinate jobs.

5.7. Psychosocial Developmental Problems

 blames

- Adolescent Sexuality
Adolescence is a time of sexual exploration, of sexual fantasies and realities, of incorporating sexuality into one’s identity. This period is a bridge between asexual child and the sexual adult. Psychologists exerts that sexual development and interest are normal aspects of adolescent development. Adolescent interest in sexuality and importance of emerging sexuality for understanding adolescent development have been present since the work of G. Stanley Hall (1904).

Sigmund Freud highlighted the upsurge in sexuality that occurs during adolescence. Popular stereotypes make people believe that adolescents are consumed with interest in sexuality and they spend very large portions of their time wondering about sexuality. Sexuality is part of adolescent identity. The development of a sense of sexual identity involves the ability to manage sexual
feelings, developing new forms of intimacy, and learning the skills to regulate sexual behavior to avoid undesirable consequences.

Sexuality emerges in the context of physical factors, social factors and cultural factors. Most societies place constraints on the sexual behavior of adolescents. Sexual identity involves an indication of sexual preference, activities, interests and style of behavior (feeling confident/discontent about their sexuality and physical characteristics).

Adolescents develop with positive and/or negative sexual perspectives. Sexuality is an issue of much significance in the lives of adolescents and it is often an area of great volatility, secrecy, awkwardness, disagreement and misapprehension. Although sexual development is frequently problematic, most adolescents traverse healthy sexuality pathways. This is especially true when they receive accurate education and information concerning sexual development and appropriate ways of expressing intimacy and relating with both genders.

Eating Disorder

Sometimes a determination *not* to become obese can result in graver problems than obesity itself. The concern with body image (one’s perception of one’s own appearance) often intensifies in adolescence and may lead to obsessive efforts at weight control. This pattern is more common among girls than among boys and is less likely to be related to actual weight problems.

Girls who try to look like the unrealistically thin models they see in the media tend to develop excessive concern about weight. And both girls and boys who believe that thinness is important to their parents, especially to their fathers, tend to become constant dieters. Excessive concern with weight control and body image may be warning signs of *anorexia nervosa* or *bulimia nervosa*, which involve abnormal patterns of food intake. Anorexia and bulimia tend to run in families, suggesting a possible genetic basis. Other apparent causes are neurochemical, developmental; and social-cultural. These disorders are especially
common among girls driven to excel in ballet, competitive swimming, long
distance running, figure skating, and gymnastics.

Anorexia Nervosa
Anorexia nervosa, or self-starvation, is a potentially life-threatening eating
disorder. Irregularity or cessation of menstruation and growth of soft, fuzzy body
hair may accompany it. Anorexics have a distorted body image; though they are
constantly dieting and eat next to nothing, they think they are too fat. They often
are good students, described by their parents as "model" children. They may be
withdrawn or depressed and engage in repetitive, perfectionist behavior. Anorexia
also may in part be a reaction to societal pressure to be slender. Early warning
signs include determined, secret dieting; dissatisfaction after losing weight; setting
new, lower weight goals after reaching an initial desired weight; excessive
exercising; and interruption of regular menstruation.

Bulimia Nervosa
In bulimia nervosa, a person regularly goes on huge eating binges within a short
time, usually two hours or less, and then tries to undo the high caloric intake by
self-induced vomiting, strict dieting or fasting, engaging in excessively vigorous
exercise, or taking laxatives, enemas, or diuretics to purge the body. Bulimics do
not become abnormally thin, but they become overwhelmed with shame, self-
contempt, and depression over their eating habits. They have low self-esteem; a
slim ideal body image; and a history of wide weight fluctuation, dieting, or
frequent exercise. Bulimia and binge eating disorder are much more common
than anorexia. From the psychoanalytic perspective, people with bulimia use
food to satisfy their hunger for love and attention. Many people with bulimia also
are alcoholics or substance abusers or have other mental health problems, which
may arise from the physical effects of the disorder, laxatives, enemas, or diuretics to
purge the body.
Juvenile Delinquency

What is juvenile delinquency? It refers to a broad range of behaviors, from socially unacceptable behavior (such as acting out in school) to criminal acts (such as burglary). Delinquency involves offenses that violate a penal code (criminal acts) such as offences against property, drug, people, and traffic.

Is juvenile delinquency a phenomena of modern day living? Socrates complained about the misbehavior of youth. So did Plato and Aristotle — both had negative view of adolescents’ behavior. It also occurred when our parents were adolescents and when we were young. So, why is a problem? It is a problem because it still exists, Increase in severity and efforts to halt this menace seem to bear little fruit.

Table 5: Cases of Juvenile Delinquency

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5284</td>
</tr>
<tr>
<td>2001</td>
<td>5182</td>
</tr>
<tr>
<td>2002</td>
<td>4819</td>
</tr>
<tr>
<td>2003</td>
<td>4998</td>
</tr>
</tbody>
</table>

Predictors of Delinquency

Adolescent involvement in delinquent behavior relates to identity, self-control, age, and sex, expectation for education, school grades, peer influence, socioeconomics status, parental role, and neighborhood quality (Table 6).
# Table 6: Predictors of Juvenile Delinquency

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Association with Delinquency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>Negative identity</td>
<td>Erikson believes delinquency occurs because the adolescent fails to resolve a role identity.</td>
</tr>
<tr>
<td>Self-control</td>
<td>Low degree</td>
<td>Some children and adolescent fail to acquire the essential controls that others have acquired during the process of growing up.</td>
</tr>
<tr>
<td>Age</td>
<td>Early initiation</td>
<td>Early appearance of antisocial behavior is associated with serious offenses later in adolescence. However, not every child who acts out become a delinquent.</td>
</tr>
<tr>
<td>Sex</td>
<td>Males</td>
<td>Boys engage inmore antisocial behavior more than girls do, although girls are more likely to run away. Boys engage more in violent acts.</td>
</tr>
<tr>
<td>Expectation for education and school grades</td>
<td>Low expectations and low grades</td>
<td>Adolescents who become delinquents often have low educational expectations and low grades. Their verbal ability are often weak.</td>
</tr>
<tr>
<td>Parental influence</td>
<td>Monitoring (low), Support (low), Disciplined (ineffective)</td>
<td>Delinquents often come from families which parents rarely monitor their adolescents, provide them with little support, and ineffectively discipline them.</td>
</tr>
<tr>
<td>Peer influences</td>
<td>Heavy influence, low resistance</td>
<td>Having delinquent peers greatly increases the risk of becoming delinquent.</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Low</td>
<td>Serious offenses are committed more by frequently by lower-class males.</td>
</tr>
<tr>
<td>Neighborhood quality</td>
<td>Urban, high crime, high mobility</td>
<td>Communities often breed crime. Living in a high-crime area, which also is characterized by poverty and dense living conditions, increases the probability that a child will become a delinquent. These communities often have grossly inadequate schools.</td>
</tr>
</tbody>
</table>

Depression

The prevalence of depression increases during adolescence, even in normal surroundings. Adolescent girls, especially early-maturing girls—like adult women—are more subject to depression than boys are. This gender difference may relate to biological changes connected with puberty or to the way girls are socialized and their greater vulnerability to stress in social relationships. Body image and eating disturbances can aggravate depressive symptoms.

Nine symptoms define a major depressive episode (APA, 1994) and those who experience at least five of these during a two-week period may be classified as having major depressive disorder:

- Depressed mood most of the day
- Reduced interest or pleasure in all or most activities
- Significant weight loss or gain, or significant decrease in interest or appetite
- Trouble sleeping or sleeping too much
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feeling worthless or guilty in an excessive or inappropriate manner
- Recurrent thoughts of death and suicide

Studies in the west have indicated that approximately one-third of adolescents who go to mental health clinics suffer from depression. It is estimated that depression is twice as common in adolescent years as in the elementary school years. Studies also found that adolescent girls have a much higher rate of depression than adolescent males. Santrock (2004) stated that among the reasons for the sex differences are:

- Female tend to ruminate in their depressed mood and amplify it.
- Females’ self-images, especially their body images, are more negative than males.
- Females face more discrimination than males do.
5.8 Summary

Introduction to Adolescent

- Most researchers and educators on adolescence agreed that the word adolescent does not refer to biological development only. The word adolescent also covers individual psychosocial development in contexts.
- The beginnings of adolescent period are signaled by biological change. The end of adolescent period is determined by social and psychological factors. Thus, it is easier to determine when the adolescent period begins than when it ends.
- A developmental task is a task to be performed or achieved during a certain period in a person’s life. Many developmental tasks are related to the society in which an individual lives.

Physical Development and Health

- Puberty is a period of rapid physical maturation involving hormonal and bodily changes that occur primarily during early adolescence.
- Adolescent growth spurt is a sharp increase in height and weight that precedes sexual maturity.
- A secular trend (a trend that spans several generations) in the onset of puberty refers to a lowering of the age when puberty (menarche — a girl’s first menstruation; wet dream marks the arrival of puberty) begins and when young people reach adult height and sexual maturity. Menarche began to occur earlier at about the time of industrial revolution.
- Puberty involves a number of hormonal changes in the endocrine system. Hormonal production changes in intensity during puberty. Hormones are chemical substances secreted by the endocrine glands and carried through the body by the bloodstream.
Therefore, the goals of any health programs for adolescents must include reducing adolescents' health-compromising behaviors and increasing adolescents' health-enhancing behaviors.

Factors related to adolescent health behavior are **cognitive factors and social contexts.** **Cognitive factors** include concepts of health behavior, beliefs about health and health knowledge.

© Cognitive Development

The main perspectives in cognitive development are:

- The Cognitive Developmental View (Piaget's theory & Vygotsky's theory)
- The Information Processing View
- The Psychometric/Intelligence View

Simultaneous with cognitive development is the phenomenon known as egocentrism. **Egocentrism** refers to the universal characteristics of being centered on an individual point of view and being unable to see the views of others. It is not synonymous with selfishness or self-centeredness.

Adolescent egocentrism can be divided into two social thinking (David Elkind): Personal fable and imaginary audience.

© Personality and Identity Development

Personality comprises three processes or structure that is interrelated (Sigmund Freud). Those processes are **id, ego and superego.** Individual's behavior is the result of the interaction between id, ego and superego.
• Identity is a self-structure or internal organization of values, ability, feelings and previous experiences.
• Erikson introduced eight stages of psychosocial development. The successful resolution of conflict at each stage contributes to identity achievement and adolescents will able to resolve conflicts at higher stages easier.
• James Marcia believed that theory of identity development proposed by Erikson contain four ways of resolving conflict or identity crises. They are identity diffusion, identity foreclosure, identity moratorium, and identity achievement.

اقل: Moral Development
• Piaget’s concluded that there are 2 distinct ways about morality – depending on children’s maturity: Heteronomous morality and autonomous morality.
• Kohlberg proposed 3 level of moral development, each characterized by 2 stages.

اقل: Achievement and Vocational/Career Planning
• There are two types of motivation in achievement. They are extrinsic motivation and intrinsic motivation.
• Ginzberg and Holland’s personality type theory explains the manner in which adolescents make choices about career development.

اقل: Psychosocial Problems
• Most adolescents go through normal process of development. However, a small percentage of them experience various problems due to developmental change and the result of of their interactions with social contexts.