Chapter 7

MIDDLE CHILDHOOD
Learning Objectives

LO 7.1 Identify the changes in physical and sensory development that take place during middle childhood

LO 7.2 Describe the negative effects of both malnutrition and obesity on development, and identify the causes of obesity

LO 7.3 Explain why rates of illness and injury are relatively low in middle childhood

LO 7.4 Explain how children’s gross motor skills develop in middle childhood and how these advancements are related to participation in games and sports

LO 7.5 Describe the new skills that demonstrate children’s advances in fine motor development in middle childhood

LO 7.6 Explain the major cognitive advances that occur during Piaget’s concrete operations stage

LO 7.7 Describe how attention and memory change from early childhood to middle childhood, and identify the characteristics of children who have ADHD

LO 7.8 Describe the main features and critiques of intelligence tests, and compare and contrast Gardner’s and Sternberg’s approaches to conceptualizing intelligence
Learning Objectives

LO 7.9 Identify the advances in vocabulary, grammar, and pragmatics during middle childhood
LO 7.10 Explain the consequences for cognitive development of growing up bilingual
LO 7.11 Summarize the international variations in school enrollment during middle childhood, and compare and contrast the school socialization practices of eastern and western cultures
LO 7.12 Describe how reading and math skills develop from early childhood to middle childhood and the variations in approaches to teaching these skills
LO 7.13 Describe the main features of emotional self-regulation and understanding in middle childhood and how other life stages compare
LO 7.14 Explain how different ways of thinking about the self are rooted in cultural beliefs, and summarize how self-concept and self-esteem change in middle childhood
LO 7.15 Describe how beliefs and behavior regarding gender change in middle childhood, including cultural variations
Learning Objectives

LO 7.16 Explain the distinctive features of family relations in middle childhood, and describe the consequences of parental divorce and remarriage

LO 7.17 Explain the main basis of friendships in middle childhood, and describe the four categories of peer social status and the dynamics between bullies and victims

LO 7.18 Describe the kinds of work children do in middle childhood, and explain why work patterns differ between developed and developing countries

LO 7.19 Summarize the rates of daily TV-watching among children worldwide, and describe the positive and negative effects of television, especially the hazards related to TV violence
Physical Development
Growth in Middle Childhood
Physical Growth and Sensory Development

• Growth slow and steady
• Boys slightly taller and more muscular
• Lowest body mass index during this time
• Nearsightedness (myopia) rises during middle childhood

LO 7.1 Physical and Sensory Development
• Malnutrition a problem even for resilient children
• Guatemalan study found early differences nutrition affected long-term cognitive and social development
• Sensitive period tends to be second trimester through age 3
• Developed countries tend to have other nutrition problems.
  ▪ Overweight—BMI over 18
  ▪ Obesity—BMI over 21
• In U.S., overweight/obesity highest in least affluent ethnic minority groups
• Increase in obesity due to changes in diet, television viewing

LO 7.2 Malnutrition and Obesity
Growth in Middle Childhood Nutrition and Malnutrition

- Obesity can lead to social and physical consequences for children
- Socially can lead to exclusion and ridicule
- Can lead to later emotional and behavioral problems

LO 7.2 Malnutrition and Obesity
Growth in Middle Childhood Nutrition and Malnutrition

- Can result in diabetes
- At risk of becoming obese adults with more complications
- First step of prevention: recognizing the problem. Research has shown that fewer than half of parents of obese children view their children as overweight.

LO 7.2 Malnutrition and Obesity
Figure 7.1 Rates of Childhood Overweight and Obesity Worldwide The highest rates occur in the most affluent regions.
Map 7.1  Childhood Obesity in the United States  What explains why some states and regions have higher childhood obesity rates than others? How do the rates of obesity vary by ethnicity?
Death rates are lower than any other time period

Developed countries have seen decreases in illness

Asthma tends to have higher rates in middle childhood with boys at higher risk than girls
Growth in Middle Childhood
Illness and Injuries

• Possible causes for the increase in asthma: the hygiene hypothesis and increased pollution
• Most common cause of injury are automobile accidents and bicycle accidents

LO 7.3 Illness and Injury
Motor Development
Gross Motor Development

• Advancement occurs in balance, strength, coordination, agility and reaction time
• Involvement in organized sports increases
• Boys more likely than girls to participate in sports but there are increases occurring worldwide

LO 7.4 Gross Motor Skills
Motor Development
Gross Motor Development

• Screen time is displacing play time
• It is recommended children get 60 minutes a day of physical activity

LO 7.4 Gross Motor Skills
Motor Development
Fine Motor Development

- Increased ability in fine motor skills
- Writing improves and becomes smaller and neater
- Fine motor skills will reach adult maturity by end of middle childhood
- Gross motor skills continue to develop

LO 7.5 Fine Motor Skills
Figure 7.2  Change in Drawing Abilities from Early to Middle Childhood  Drawings become more realistic as fine motor development advances during middle childhood. Here are drawings from a child at ages 3 (top left), 5 (left), and 7 (top right).
Cognitive Development
Theories of Cognitive Development

Piaget’s Concrete Operational Stage

- Child is able to use mental operations to organize and manipulate information mentally
- New abilities in conservation, classification and seriation

LO 7.6 Concrete Operations
Piaget’s Concrete Operations

- Conservation
  - Decentering
  - Reversibility

- Seriation
- Classification
  - Transitive Inference
Theories of Cognitive Development
Evaluating Piaget’s Theory

- Piaget may have underestimated ability
- Piaget focused on mastery and not basic ability
- Exposure to tasks and materials impacts concrete operational thought

LO 7.6 Concrete Operations
Theories of Cognitive Development

Information Processing/ADHD

- Children exhibit selective attention during middle childhood
- ADHD includes problems of inattention, hyperactivity, and impulsiveness
- For most, it persists into adolescence and adulthood
- Possible causes: genes, prenatal environment, and brain differences

LO 7.7 Changes in Attention and Memory
Theories of Cognitive Development
Information Processing/ADHD

• ADHD treatments include
  ▪ Medication, which can lead to some side effects
  ▪ Behavioral therapy including parenting training

• Most effective treatments include both

LO 7.7 Changes in Attention and Memory
Theories of Cognitive Development
Information Processing/ADHD

• Cross Cultural research (Europe) identified some similarities and differences with American children with ADHD
• Treatment options are more diverse

LO 7.7 Changes in Attention and Memory
Theories of Cognitive Development
Information Processing/Memory

• Increased use of mnemonics such as:
  ▪ Rehearsal
  ▪ Organization
  ▪ Elaboration

• Increased understanding of how memory works (metamemory)

LO 7.7 Changes in Attention and Memory
Theories of Cognitive Development

Intelligence Testing

- Intelligence testing examines individual differences in cognitive development
- Most widely used test is the Wechsler Intelligence Test for Children and Wechsler Adult Intelligence Scale

LO 7.8 Intelligence Tests and Theories
### TABLE 7.1 The WISC-IV: Sample Items

#### Verbal Subtests

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>General knowledge questions, for example, “Who wrote Huckleberry Finn?”</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Give definitions, for example, “What does formulate mean?”</td>
</tr>
<tr>
<td>Similarities</td>
<td>Describe relationship between two things, for example, “In what ways are an apple and an orange alike?” and “In what ways are a book and a movie alike?”</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>Verbal arithmetic problems, for example, “How many hours does it take to drive 140 miles at a rate of 30 miles per hour?”</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Practical knowledge, for example, “Why is it important to use zip codes when you mail letters?”</td>
</tr>
<tr>
<td>Digit Span</td>
<td>Short-term memory test. Sequences of numbers of increasing length are recited, and the person is required to repeat them.</td>
</tr>
</tbody>
</table>

#### Performance Subtests

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture arrangement</td>
<td>Cards depicting various activities are provided, and the person is required to place them in an order that tells a coherent story.</td>
</tr>
<tr>
<td>Picture completion</td>
<td>Cards are provided depicting an object or scene with something missing, and the person is required to point out what is missing (for example, a dog is shown with only three legs).</td>
</tr>
<tr>
<td>Matrix reasoning</td>
<td>Patterns are shown with one piece missing. The person chooses from five options the one that will fill in the missing piece accurately.</td>
</tr>
<tr>
<td>Block design</td>
<td>Blocks are provided having two sides all white, two sides all red, and two sides half red and half white. Card is shown with a geometrical pattern, and the person must arrange the blocks so that they match the pattern on the card.</td>
</tr>
<tr>
<td>Digit symbol</td>
<td>At top of sheet, numbers are shown with matching symbols. Below, sequences of symbols are given with an empty box below each symbol. The person must place matching number in the box below each symbol.</td>
</tr>
</tbody>
</table>

Table 7.1 The WISC-IV: Sample Items
Theories of Cognitive Development

Intelligence Testing

• Intelligence is impacted by a combination of genes and environment
• Adoption and twin studies help to unravel the relationship
• Research indicates each child has a reaction range for intelligence
Figure 7.4  IQ and Genetics  The closer the genetic relationship, the higher the correlation in IQ.
Based on: Brant et al., 2009
Theories of Cognitive Development

Intelligence Testing

• Environmental influences stronger for poor children than affluent
• Median IQ scores rose in 20\textsuperscript{th} century—Flynn effect
• Environmental improvements include better prenatal care, smaller families, television, and decline of infectious diseases

LO 7.8 Intelligence Tests and Theories
Figure 7.3  Bell Curve for Intelligence  IQ scores for a population-based sample usually fall into this kind of pattern.
Figure 7.4  IQ and Genetics  The closer the genetic relationship, the higher the correlation in IQ.  Based on: Brant et al., 2009
Figure 7.5  Flynn Effect  IQ scores have risen across developed countries in recent decades.
Source: Flynn (1999)
Theories of Cognitive Development
Alternate Theories of Intelligence

• Gardner’s theory of multiple intelligences
  ▪ Linguistic Intelligence
  ▪ Logical-mathematical Intelligence
  ▪ Spatial
  ▪ Musical
  ▪ Bodily-kinesthetic
  ▪ Interpersonal
  ▪ Intrapersonal

LO 7.8 Intelligence Tests and Theories
Theories of Cognitive Development
Alternate Theories of Intelligence

• Sternberg’s theory focused on three distinct but related forms of intelligence
  • (CAP)
    ▪ Creative Intelligence—combine information in new ways
    ▪ Analytical Intelligence—what most IQ tests measure
    ▪ Practical Intelligence—apply information to everyday problems

LO 7.8 Intelligence Tests and Theories
Figure 7.6 Inverse Relation Between IQ and Disease
Could this explain the Flynn effect?
Math skills develop comparably to language skills
  - Numeracy—understanding of numbers develops in first couple of weeks
  - Counting begins by age two
  - Simple addition and subtraction by five

Cultures vary in timing and approach to teaching math skills
• Language development in middle childhood involves:
  ▪ Vocabulary—after formal schooling vocabulary expands greatly
  ▪ Grammar—becomes more complex and can be seen with use of conditional sentences
  ▪ Pragmatics—improves to a degree and can be seen in the understanding of humor
Language Development: Bilingualism

LO 7.10 Growing Up Bilingual

- Learning a second language does not interfere with mastering the primary language
- It is easier to learn language in early childhood than later in life
- Benefits of being bilingual
  - Better meta-linguistic skills—awareness of underlying structure of language
  - Higher scores on general cognitive abilities
Map 7.2 Bilingualism in the United States

Which states have the highest percentage of bilingual families? How might this relate to the ethnic diversity that exists within these states (refer back to Map 1.1)? (continued on next slide)
Map 7.2  Bilingualism in the United States  Which states have the highest percentage of bilingual families? How might this relate to the ethnic diversity that exists within these states (refer back to Map 1.1)? (continued from previous slide)
The challenge of learning a second language rises with age. Source: Johnson & Newport (1989)
Cultural Variations in School Experiences

• In U.S., school enrollment increased steadily over the 19th century due to:
  ▪ Industrialization
  ▪ Urbanization
• In developing countries ¼ of children do not attend primary school.

LO 7.11 School Experiences
Figure 7.8  Primary School Attendance in World Regions  Attending primary school is common but not universal, worldwide. Based on: *UNICEF (2008)*
The Social and Cultural Contexts of Middle Childhood: School Experiences

• School enrollment higher in developed countries
• Expectations vary:
  ▪ Asian countries—high standards and hard work
    – Emphasize obedience and cooperation
  ▪ United States—innate ability for success
    – Emphasize individual success
    – More school time in art, music, sports
Theories of Cognitive Development
Cognitive Skills of School: Reading

- Two major approaches
  - Phonics Approach—from simple phonics to longer sentences and structures
  - Whole-Language Approach—focus on meaning of written language
- Unusual difficulty in reading could be caused by dyslexia

LO 7.12 Reading and Math Skills
Emotional and Social Development
Emotional and Self-Development

Emotional Regulation

• High emotional well-being
• Emotional self-regulation grows
• New contexts demand more self-control and cooperation
• Understanding of ambivalence
• Increased ability to understand others' emotions

LO 7.13 Emotional Self-Regulation
Emotional and Self-Development
Self Understanding

• Self-concept is how we view ourselves
• Children begin to describe themselves in more psychological or personality related terms
• Social comparisons also become more accurate

LO 7.13 Emotional Self-Regulation
Emotional and Self-Development
Self Understanding

• Self-esteem is a person’s overall sense of worth and well being
• Self-esteem declines slightly
• Self-concept also develops as children identify areas of life important for them
• Parenting based on cultural influences also impacts self-esteem

LO 7.14 Self-Concept and Self-Esteem
Emotional and Self-Development Culture and the Self

- **Independent Self**
  - Encourage reflection about self
  - Be an independent person

- **Interdependent Self**
  - Encourage importance of group
  - Focus on interests of others

- **Most cultures are not purely one or the other**

LO 7.14 Self-Concept and Self-Esteem
Emotional and Self-Development
Gender Development

• Traditional cultures- gender roles are defined by difference in daily activities of men and women
• Gender specific personality traits are also socialized
  ▪ Men—-independent and tough
  ▪ Women—nurturing and compliant

LO 7.15 Gender Beliefs and Behavior
Emotional and Self-Development
Gender Development

• Modern cultures—gender roles are less rigid and more flexible during middle childhood
  ▪ While flexibility increases, attitudes and behaviors become more stereotyped
• Personality traits are gender specific as in developing countries
• Occupations also become associated with gender

LO 7.15 Gender Beliefs and Behavior
Play groups become more gender segregated

Interactions seen in opposite gender play tend to be antagonistic or quasi romantic
Emotional and Self-Development
Gender Development

• Gender self-perceptions drive boys to avoid feminine activities
• Girls may add masculine traits to their self-perception and consider occupations associated with men

LO 7.15 Gender Beliefs and Behavior
The Social and Cultural Contexts of Middle Childhood: Family Life

- Parenting moves from direct control towards coregulation
- More freedom and more responsibility during this time period
- Sibling rivalry also peaks in middle childhood

LO 7.16 Family Relations
The Social and Cultural Contexts of Middle Childhood: Diverse Family Forms

• Family comes in many forms
  ▪ 20% of gay and 33% lesbian couples were living with children
  ▪ Single motherhood has increased over the years
    – Increases likelihood of growing up in poverty

LO 7.16 Family Relations
• Divorce has risen in mainly U.S., Canada, and northern Europe

Figure 7.9 Divorce Rates, Selected Countries  In many countries divorce rates have risen in recent decades. Based on: http://www.divorcemag.com/statistics/statsWorld.shtml
The Social and Cultural Contexts of Middle Childhood: Divorce

- Effects of divorce include
  - Externalizing behaviors—impulsive and conflicts with family
  - Internalizing problems—depression, anxiety, phobias, and sleep disturbances
- Low point for most occurs 1 year after divorce
- Buffer for negative effects includes minimal parental conflict

LO 7.16 Family Relations
The Social and Cultural Contexts of Middle Childhood: Divorce

• Family processes affected by divorce:
  ▪ Mother’s parenting becomes more punitive
  ▪ Mother and son’s relationships turn into a coercive cycle
  ▪ Fathers who remain involved have children with fewer post-divorce problems

LO 7.16 Family Relations
Most stepfamilies involve entrance of stepfather
Mothers’ lives improve but children’s outcomes worsen
Causes for negative outcomes include
- Disruption of family systems
- Perception of stepfathers interfering
- Children may resent stepfathers
The Social and Cultural Contexts of Middle Childhood: Friendships

- Main basis for friendship is similarity
  - Selective association—prefer being around others like ourselves
- Friendship can change from early childhood to middle childhood
  - Trust becomes important and not just shared activity
- Shared activity becomes more complex and rule based

LO 7.17 Friends and Peers
The Social and Cultural Contexts of Middle Childhood: Friendships

- Social status becomes important
  - Popular—most often liked
  - Rejected—disliked by other children
    - Aggressive rejected—lack impulse control
    - Aggressive withdrawn—internalize problems
  - Neglected—neither liked nor disliked
  - Controversial—liked by some, disliked by others, can be aggressive
The Social and Cultural Contexts of Middle Childhood: Bullies

- Three components: Aggression, repetition, and power imbalance
- Two general types of bullies
  - Rejected children who are bully victims
  - Controversial children- high status, but also feared and resented for bullying.
- Victims most often rejected—withdrawn

LO 7.17 Friends and Peers
### TABLE 7.2  From Work to School in One Generation: Guatemalan Children and Parents

<table>
<thead>
<tr>
<th>Activity</th>
<th>Parents %</th>
<th>Children %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls learn weaving</td>
<td>87</td>
<td>0</td>
</tr>
<tr>
<td>Boys learn to care for younger children</td>
<td>53</td>
<td>7</td>
</tr>
<tr>
<td>Boys do farm work</td>
<td>57</td>
<td>36</td>
</tr>
<tr>
<td>Expect education beyond grade 6 (boys)</td>
<td>7</td>
<td>71</td>
</tr>
<tr>
<td>Expect education beyond grade 6 (girls)</td>
<td>3</td>
<td>76</td>
</tr>
<tr>
<td>Expect to weave as adults (girls)</td>
<td>43</td>
<td>15</td>
</tr>
<tr>
<td>Expect to do farm work as adults (boys)</td>
<td>77</td>
<td>22</td>
</tr>
</tbody>
</table>

*Based on: Rogoff et al., 2005.*
The Social and Cultural Contexts of Middle Childhood: Work

• Children capable of self-directed projects
• Developed countries focus on play type work

LO 7.18 Work Patterns
Map 7.3  Child Labor Rates and GDP Worldwide  What is the relationship between the rate of child labor and the GDP of a given country? How can you explain this relationship? (continued on next slide)
Map 7.3  Child Labor Rates and GDP Worldwide  What is the relationship between the rate of child labor and the GDP of a given country? How can you explain this relationship? (continued from previous slide)
The Social and Cultural Contexts of Middle Childhood: Media Use

• Television effects
  ▪ Prosocial effects include self-control and altruism
  ▪ Effects of television depend on level of exposure
    - Heavy use associated with poor school performance, higher anxiety, and social isolation
  ▪ Research supports link between television watching and aggressive behavior

LO 7.19 Effects of Television
Figure 7.10  International Television Viewing Rates in Childhood  In most developed countries, children watch TV for 1-3 hours a day. Based on: Hasebrink (2007a).