Chapter 7
MIDDLE CHILDHOOD
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
Growth in Middle Childhood Nutrition and Malnutrition

- 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

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

• 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
• 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?
Growth in Middle Childhood
Illness and Injuries

- 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

LO 7.3 Illness and Injury
Possible causes for the increase in asthma: the hygiene hypothesis and increased pollution

Most common cause of injury are automobile accidents and bicycle accidents
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
- Fine 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
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
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 <em>Huckleberry Finn</em>?”</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Give definitions, for example, “What does <em>formulate</em> 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>

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**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 20th 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 7.5  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

LO 7.12 Development of Reading and 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

LO 7.9 Vocabulary, Grammar and Pragmatics
• 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)
Figure 7.7  Age and Grammatical Knowledge  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.
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

LO 7.11 School Experiences
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
  ex: wait your turn, cooperate with others
- Understanding of ambivalence
  ex: I am happy that my team won but sad that my friend's team lost.
- Increased ability to understand others emotions even when they are being fake.
- Children learn to hide their true emotions “face” (Asian)
  ex: smiling when getting a gift that you do not like.

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

• **Self-concept** is how we view ourselves
• **I Self:** how we believe others view us
• **Me Self:** how we view ourself
• Children begin to describe themselves in more psychological or personality related terms
• Social comparisons also become more accurate b/c of better seriation skills.

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 Why?
• Self-concept also develops as children identify areas of life important for them: academic, athletic, social, appearance
  ex: I am good at gymnastics but not basketball.
• What is the strongest contributor to high self esteem?
• Parenting based on cultural influences also impacts self-esteem
  Ex: Asian parents discourage valuing self = children high levels of academic performance & low levels pf psychological problems
  American parents who discourage valuing self= American children having depression and poor academic performance

Why is there such a big difference w/in the two cultures?

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
- Globalization is causing traditional cultures to be more individualistic.

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
  ex: gentle, dependent, ambitious, dominant
• Occupations also become associated with gender

What are some examples?

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

ex: boys chase girls

ex: girls goto college to get more knowledge. Boys go to Jupiter to get more stupider.

LO 7.15 Gender Beliefs and Behavior
• 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
• Parenting moves from direct control towards coregulation
• More freedom and more responsibility during this time period
• Sibling rivalry also peaks in middle childhood
• 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 which leads to other negative effects.

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

LO 7.16 Family Relations
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

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

- Children capable of self-directed projects
- Industry vs. Inferiority (Erikson)
- 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)
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 = poor school performance, higher anxiety, & 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).