CHAPTER 11

Middle Childhood: Biosocial Development

Chapter Preview

For the most part, middle childhood is a time of smooth and uneventful physical growth. Most of the variations in physique in children are caused by heredity and nutrition. Body maturation coupled with sufficient practice enables school-age children to acquire many motor skills. Physical activity through neighborhood games, school exercise programs, and athletic clubs and leagues benefit children's physical and emotional health, but also come with hazards.

During middle childhood, diet exerts its influence, however, interacting with heredity, activity level, and other factors to promote obesity, the most difficult size difference to bear during that period. Although middle childhood is generally the healthiest period of the life span, health-related problems still occur, one of the most serious being asthma.

In middle childhood, brain functions advance, allowing children to respond more quickly, concentrate more, and master routine activities. Aptitude and achievement tests help map where a child stands in mental and emotional intelligence. The idea that an IQ score measures one's underlying aptitude has been challenged by many psychologists.

For many children, however, the growth of new skills, social relationships, and ways of thinking is encumbered by the difficulties posed by disorders such as attention-deficit/hyperactivity disorder and autistic spectrum disorder. The field of developmental psychopathology applies insights from studies of normal development to the origins and treatment of childhood disorders. The section also points to the special problems involved in helping children with learning disabilities.

What Have You Learned?

The "What Have You Learned?" questions at the end of the text chapter are reprinted here for your convenience in checking students' understanding of the chapter contents.

1. What physical abilities emerge from age 6 to age 11?
2. How do childhood health habits affect adult health?
3. What are the main advantages and disadvantages of physical play during middle childhood?
4. How do children benefit from physical education in school?
5. How are after-school activities affected by socioeconomic status (SES), gender, and culture?
6. What are the national and cohort differences in childhood obesity?
7. Why does a thin 6-year-old not need to fatten up?
8. What roles do nature and nurture play in childhood asthma?
9. What would be primary prevention for childhood obesity?

10. Why does good tertiary prevention for childhood asthma not reach every child who needs it?
11. Why does quicker reaction time improve the ability to learn?
12. How do changes in brain functioning make it easier for a child to sit in a classroom?
13. When would a teacher give an aptitude test instead of an achievement test?
14. If the theory of multiple intelligences is correct, should IQ tests be discarded? Why or why not?
15. Why are some intellectual abilities valued more than others? Give examples.
16. Should brain scans replace traditional intelligence tests? Why or why not?
17. What would be normal child behavior in one culture but not in another?
18. What examples illustrate the difference between multifinality and equifinality?
19. Why is medication recommended for children with ADHD?
20. Why might parents ask a doctor to prescribe Ritalin for their child?
21. Why is bipolar disorder hard to diagnose in children?
22. What is the difference between bipolar disorder in children and in adults?
23. What specific learning disabilities do not matter much in the United States currently?
24. How could an adult have a learning disability that has never been diagnosed?
25. If a successful adult has high-functioning autism, what professions and sorts of family life would you expect him or her to have?
26. Why does the frequency of some kinds of developmental psychopathology increase while that of others decreases?
27. What are the signs of autistic spectrum disorders?

Chapter Guide

- ➤ "On Your Own" Activities: Developmental Fact or Myth? Portfolio Assignment
- ➤ AV: The Journey Through the Life Span, Program 5: Middle Childhood; Transitions Throughout the Life Span, Program 11: The Golden Years of Childhood
- ➤ Teaching Tip: Using Engaged Lecture

I. A Healthy Time

Instructional Objective: *To describe patterns of normal growth and health, and to explain the importance of physical activity during this period.*

- ➤ AV: Physical Development; Physical Development in the Middle Years
- ➤ "On Your Own" Activity: Tall and Short Classmates

1. Compared with other periods of life, ***middle childhood*** (about age 6 to 11) is a time of relatively smooth and uneventful biosocial development. It is the healthiest period of the entire life span. Parents must be diligent in providing regular preventive care, and children must develop the habit of taking care of their health.

2. Growth proceeds more slowly than during early childhood. However, children's muscles become stronger and the strength and capacity of their hearts and lungs increase.

3. Compared with 60 years ago, chronic illnesses are less prevalent, exposure to environmental toxins is reduced, and childhood surgery is unusual. These changes are all due to improved medical care.

4. School-age children are influenced by peers and many adults. So, if these people have good health habits, so will the children.
5. Physical activity promotes better health, less obesity, and an appreciation of cooperation and fair play, and it improves problem solving and social skills. On the other hand, when a child is criticized by a coach or teammate, it can lower self-esteem.

Physical activity also may increase injuries and stress, reinforce prejudices, and take time and effort away from learning academic skills.

6. Children can reap the benefits and avoid the hazards of active play in neighborhood games, school physical education, and sports leagues.

II. Health Problems in Middle Childhood

Instructional Objective: *To increase student understanding of the causes and means of preventing or treating obesity and asthma during middle childhood.*

- ➤ Classroom Activity: Childhood Obesity and Healthful Eating
- ➤ Teaching Tip: A One-Minute Paper: Thinking Critically About a New Childhood Obesity Hypothesis
- ➤ "On Your Own" Activity: Images of Obesity
- ➤ Critical Thinking Activity: Obesity and Weight Loss

1. Chronic conditions that often get worse during the school years include Tourette syndrome, stuttering, and allergies.
2. One serious size problem during middle childhood is obesity. Children are said to be ***overweight*** when their ***BMI (body mass index)*** is above the 85th percentile of the growth chart for their age and ***obese*** when their body mass index is above the 95th percentile of the growth chart for their age and height.
3. Overweight children are more likely to have asthma, high blood pressure, and elevated levels of cholesterol, and if they stay heavy, they risk diabetes, strokes, and liver and heart disease. Also, school achievement and self-esteem decrease and loneliness increases as weight increases.
4. Genes are part of the explanation for one child being heavier than another, because they affect body type, metabolic rate, activity level, and food preferences. People who inherit the FTO gene allele from both parents are more likely to be obese.
5. Genes do not act alone. Environmental factors, such parental practices and a lack of physical activity, are the main reasons for the increase in childhood obesity. Children who watch television and drink soda each day are more often overweight than those who do not. A third cause of childhood obesity is social policies. Governments determine the quality of school lunches.
6. A serious problem for many children is ***asthma***—a disorder characterized by chronic inflammation of the airways. Asthma is becoming increasingly prevalent worldwide, especially among schoolchildren. The causes of asthma include genetic factors, overprotection from infections and diseases that could strengthen the immune system, carpeted floors, airtight windows, less outdoor play, and exposure to pet hair, dust mites, and cockroaches. The use of injections and inhalers to treat asthma is an example of *tertiary prevention*. The best approach to treating childhood diseases is *primary prevention,* which in the case of asthma includes proper ventilation of homes and schools, decreased pollution, and more outdoor play spaces. *Secondary prevention* reduces new cases among high-risk children by advising parents to rid the house of dust, smoke, cats, and cockroaches.

III. Brain Development

Instructional Objective: *To describe the development of the brain during middle childhood, and to discuss the definition and measurement of intelligence.*

- ➤ AV: Growing the Mind: How the Brain Develops
- ➤ Classroom Activity: Introducing Neuroethics

1. As the executive functions of the brain continue to develop in middle childhood, several behaviors that were common in early childhood can be controlled, including emotional outbursts. Ongoing maturation of the prefrontal cortex and increasing brain interconnections allow children to master complex tasks and to analyze the consequences of their behaviors before engaging in them.
2. Brain maturation is a key factor in ***reaction time,*** which naturally improves with age.

3. Two other advances in brain function become evident in middle childhood: the ability to attend to information from many areas of the brain at once and focus on the most important elements, called ***selective attention,*** and ***automatization,*** in which the repetition of thoughts and actions allows skills to become automatic.

   ➤ AV: Intelligence: A Complex Concept; Intelligence; A Conversation with David Wechsler; It's Cool to Be Smart; In a Class of His Own; Prodigies: Great Expectations
   ➤ Classroom Activity: st Scores and Other Criteria for Evaluating Intelligence
   ➤ "On Your Own" Activity: Developing Your Practical Intelligence

4. ***Aptitude*** tests are designed to measure learning potential; ***achievement tests*** are designed to measure what a child has learned.

5. Intellectual aptitude is often measured by ***IQ tests.*** In the original version of these tests, a person's score was translated into a mental age, which was divided by the person's chronological age and multiplied by 100 to determine his or her IQ. Today's formula is more complex, but an IQ of 100 is still considered average. The average IQ scores of nations have increased, a phenomenon called the ***Flynn Effect.***

6. IQ testing is controversial because no test can measure aptitude without also measuring achievement. Also, intellectual potential changes over time, and culture comes into play.

7. Many studies suggest that people inherit a set of abilities, or ***multiple intelligences,*** rather than a general intellectual ability. Robert Sternberg believes that there are three distinct types of intelligence: *academic, creative,* and *practical*. Similarly, Howard Gardner describes nine intelligences (he extended his original seven to include naturalistic and existential).

8. Neuroscientists agree that brain development depends on a person's specific experiences and continues throughout life.

IV. Children with Special Needs

Instructional Objective: *To describe the field of developmental psychopathology and to discuss the nature and treatment of attention-deficit/hyperactivity disorder, learning disabilities, and autistic spectrum disorders.*

➤ Classroom Activity: What's on My Back?
➤ "On Your Own" Activity: Physical Disabilities: Everything Is Harder
➤ AV: The Special Child: Maximizing Limited Potential, Dyslexia: Diagnosis and Prognosis, and Dyslexia: Disabled or Different?

1. The field of ***developmental psychopathology*** applies insights from studies of normal development to the origins and treatment of childhood disorders, and vice versa. Research in this area has provided four lessons:

   a. Abnormality is normal.

   b. Disability changes over time. Most disorders are ***comorbid;*** that is, more than one disorder is evident in the same person.

   c. Adulthood may be better or worse.

   d. Diagnosis depends on the social context.

2. Two basic principles of developmental psychopathology are *equifinality* (one manifestation may have many causes) and *multifinality* (one cause may have many manifestations).

   ➤ AV: The Diagnosis and Treatment of Attention-Deficit Disorder in Children; ADD Children; ADHD: What Do We Know? ADHD: What Can We Do? All About Attention-Deficit Disorder; Coping with Attention-Deficit Disorder in Children; Childhood Depression
   ➤ Classroom Activities: Attention-Deficit/Hyperactivity Disorder; A Case Study of ADHD

3. About 10 percent of all young children have *attention-deficit disorder (ADD).* With ***ADHD (attention-deficit/hyperactivity disorder),*** the child has great difficulty concentrating for more than a few moments at a time and is almost always in motion.

4. A child with ADHD is usually inattentive, impulsive, and overactive.

5. ***Bipolar disorder*** is characterized by extreme mood swings. It is often comorbid with attention-deficit disorder.
6. (text and A View from Science) Treatment for both ADHD and bipolar disorder involves psychological counseling and training for the family and the child, showing teachers how to help the children learn, and medication to stabilize moods for the bipolar child and quiet down the ADHD child. With medication, ongoing monitoring is crucial because stimulants (such as Ritalin) usually help children with ADHD but harm bipolar ones. Most child psychologists agree that drugs are both overused and underused for children with ADHD. Treating children with drugs is a complex issue. Testing of the medication of children is inadequate, and dosages are hard to nail down because of a child's constantly changing weight and metabolism.
   - ➤ AV: Hidden Handicaps and Specific Learning Difficulties in the Classroom; A Video Guide to (Dis)Ability Awareness; Learning Disabilities; Page Fright: Inside the World of the Learning Disabled
   - ➤ Classroom Activities: Understanding and Helping Children with Learning Disabilities; We All Learn to Compensate
   - ➤ Internet Activity: Dyslexia Resources
7. A ***learning disability*** is a marked delay in a particular area of learning that is not caused by any apparent physical disability, by mental retardation, or by an unusually stressful home environment.
8. A common learning disability is ***dyslexia***, which is unusual difficulty with reading. Because dyslexia seems to originate with speech and hearing problems, early speech therapy may reduce or prevent later reading problems.
9. Similar conditions apply to learning disabilities in math, called *dyscalculia*.
   - ➤ AV: Autism: A World Apart; Autism: Diagnosis, Causes, and Treatments; Understanding Autism; Day by Day: Raising the Child with Autism; A School for Robin; Asperger's Syndrome: Autism and Obsessive Behavior
   - ➤ Classroom Activity: Asperger Syndrome
10. ***Autistic spectrum disorders*** are characterized by inadequate social skills, impaired communication, and unusual play. Most children with autistic spectrum disorders show signs in early infancy. Once such sign is lack of the social smile. Today, more children have autistic spectrum disorder than in the past. This may be the result of an increase in the incidence of the disorder, or an increase in the disorder's diagnosis.
11. ***Autism*** is marked by an inability to relate to other people normally, extreme self-absorption, and an inability to acquire normal speech.
12. *Asperger syndrome* (also called "high-functioning" autism) is a disorder in which a person has impaired social interaction but near-normal communication skills and brilliance in some areas.
13. Girls with *Rett syndrome* seem fine at first, then their brain develops much more slowly than normal.
14. A child can have autistic symptoms for many reasons, which makes treatment difficult, as an intervention that seems to help one child proves worthless for another. It is known, however, that biology is crucial (genes, birth complications, prenatal injury, or perhaps chemicals) and that brain patterns are unusual. An added problem is the gap between parents of autistic children and medical professionals. This has been dramatically illustrated with the controversy about thimerosal, an antiseptic containing mercury that was once used in childhood immunizations. Parents who believe thimerosal is responsible for their child's autism refuse to immunize them, leaving them open to other diseases.
   - ➤ AV: LD = Learning Differences; Learning Disabled; Lilly: A Story About a Girl Like Me; Mainstreaming in Action; Who Will Teach the Water to Swim?
   - ➤ Classroom Activity: *Classroom Debate:* "Resolved: Children with Learning Disabilities Should Be Mainstreamed"
15. The process of formally identifying a child with special needs usually begins with a teacher referral, which may ultimately lead to agreement on an ***individual education plan (IEP)*** for the child.

16. About 35 years ago, a U.S. law mandated that children with special needs must learn in the ***least restrictive environment (LRE),*** which meant *mainstreaming* them in a regular classroom. Some schools developed *resource rooms* in which special-needs children would spend time with a teacher who worked individually with them. However, pulling them out of the classroom in this way undermined friendships and learning. In another approach, *inclusion,* learning-disabled children receive targeted help within regular classrooms.
17. Most recently, according to the strategy called response to intervention, all children in early grades in the United States who are below average in achievement are given some special intervention.