

Middle Childhood: Biosocial Development

Chapter Preview

For the most part, middle childhood is a time of smooth and uneventful physical growth. 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 benefits children's physical and emotional health, but also comes with hazards.

During middle childhood, diet exerts its influence. It interacts with heredity, activity level, and other factors to promote obesity, which is 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 autism 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.

II. Health Problems in Middle Childhood

1. For children with chronic conditions, learning good health habits before adolescence is especially important. 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. The ratio between a person's height and weight is expressed as BMI.
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 and are less likely to marry, find jobs, and live to an old age. 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.

Chapter Guide

I. A Healthy Time

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.
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. A 10 year old child can probably throw a ball twice as far as the child could at age 6.
3. 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, and reinforce prejudices. Play time in the neighborhoods have decreased due to overpopulated cities.
4. Children can reap the benefits and avoid the hazards of active play in neighborhood games, school physical education, and sports leagues. Because schools are pressured to increase time for math and reading, however, time for physical education has declined. One of the best known organized recreation programs for children is the Little League.
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, 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

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. The maturing corpus callosum connects the brain's hemispheres, enabling balance and two-handed coordination. 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. Automatization is a major advancement in brain function in middle childhood. Reading is possibly the most important intellectual accomplishment of the school-age child.
4. ***Aptitude*** tests are designed to measure learning potential; ***achievement tests*** are designed to measure what a child has learned. Achievement tests include tests that are given during the semester of class.
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***. This effect is due to better health, smaller families, and more schooling. About two-thirds of all those who take IQ tests score in the average range or between 85 and 115.
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. IQ tests may not reflect the culture of the person taking the test.
7. Many studies suggest that people inherit a set of abilities, or ***multiple intelligences***, rather

8. Neuroscientists agree that brain development depends on a person's specific experiences and continues throughout life. Also, children with disorders often have unusual brain patterns.

IV. Children with Special Needs

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).
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. Ritalin is a medication that the child may take and it is a chemical stimulant.
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.
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**.
10. **Autism spectrum disorders** are characterized by inadequate social skills, impaired communication, and unusual play. Today, more children have autism 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. Autism is seen as one of the most troubling problems due to the severity of the problems and the dispute about the cause of and treatments for the disorder.
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. 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.

14. Professionals use a battery of tests to reach their diagnosis and develop recommendations. This may ultimately lead to agreement on an **individual education plan (IEP)** for the child. IEP is a document for children with special needs that specifies their educational goals and plans for achieving the goals.

15. About 40 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 (RTI)**, all children in early grades in the United States who are below average in achievement are given some special intervention.

18. The practice of educating gifted children with other children of the same mental age, but not necessarily chronological age, is called **acceleration**. Today, this is rarely done because many of those accelerated children were bullied, unhappy, and never learned social skills.