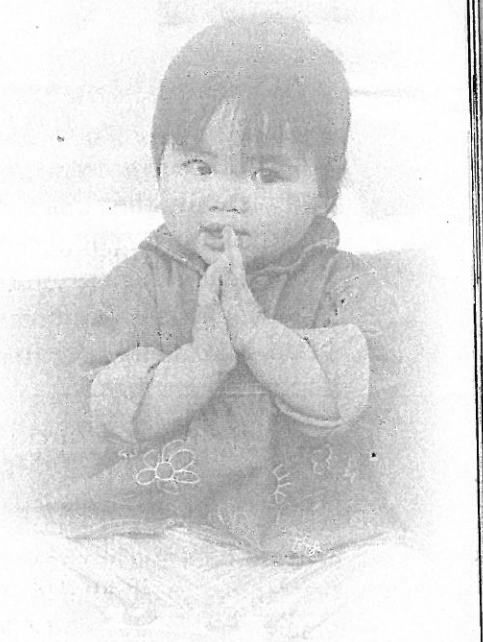
SECTION 1-2

Studying Children



Imagine spending your entire career doing research on child development. By the time you retired, do you think you could solve all its mysteries? The answer is no. Many researchers have devoted their professional careers to the study of children, yet there are still many unanswered questions. What has been learned, however, has dramatically changed how parents raise children, how educators teach them, and how we think of development today—as a lifelong process.

Objectives

- Explain why childhood is an important time of development..
- Compare and contrast the leading theories about how children develop.
- Identify and give examples of the five characteristics of child development.
- Explain the impact that heredity and environment each has on development.
- List and define the stages of development after childhood.
- Describe how self-esteem and development are interrelated.

Key Terms

stimulation
sequence
heredity
environment
human life cycle
developmental tasks
self-esteem

Why Is Childhood Crucial?

Childhood is a time of preparation for adulthood. Recent research has shown that early childhood may be the most important life stage for brain development. Children's brains are not yet fully developed at birth—in fact, the brain is the least developed of the organs. A baby's brain is about one-quarter the size of an adult's. By age three, it has produced hundreds of trillions of connections among the brain cells. Scientists have found that babies' brains develop in response to **stimulation**, which includes activities that arouse a baby's sense of sight, sound, touch, taste, and smell. Such activities can improve a baby's curiosity, attention span, memory, and nervous system development. In addition, babies who are stimulated develop more quickly and have a more secure self-image.

By the time babies are three to four months old, they are beginning to connect what they see with what they smell, feel, and taste. By the time toddlers start walking, the brain is sending messages faster and more clearly. Repetition of actions, such as throwing a ball, reinforces pathways in the brain, making it easier to perform the same action the next time.

THE DEVELOPING BRAIN

Why do babies learn so much so fast in the first three years of life? Newborn babies' brains contain about 100 billion nerve cells, called *neurons*. Those neurons have about 50 trillion connections. These connections increase rapidly, and by the age of three, a child has twice as many connections as an adult. As a child matures, unused pathways are eliminated. This also means that babies who live in an environment where they learn more retain a greater number of connections.

Theories About Development

Child development theorists have provided valuable information about how children learn and develop skills. Some perform experiments involving children to test their theories. For example, children's perceptions of volume can be tested using the same amount of water in containers of various shapes. Other theories cannot be tested, such as Erik Erikson's belief that each stage of development includes a personal crisis. Not everyone agrees on how parents, caregivers, and educators should apply theories and research findings. Figure 1-4 summarizes the study and research findings of some of the major child development theorists.

What Researchers Have Found

Although they don't always agree, scientific researchers have given us insight about how best to nurture and educate children. They have also laid the foundations upon which future researchers can build.

Characteristics of Development

Researchers have found that child development follows five general rules:

- **Development is similar for each individual.** Children go through the same stages in about the same order. For example, all babies lift their heads before they lift their bodies.
- **Development builds upon earlier learning.** Development follows a **sequence**, or an order of steps. The skills a child learns at one stage build on those mastered earlier. For example, a child learns to say single words before speaking in phrases or complete sentences.
- **Development proceeds at an individual rate.** While all children pass through the same stages of development, each child goes through these stages at his or her own pace.
- **The different areas of development are interrelated.** Even though researchers tend to focus on one area of development at a time, changes occur in many areas—body, mind, emotions—at the same time.
- **Development is a lifelong process.** The rate of development varies. Sometimes it is rapid and sometimes less so. No matter what the pace is, development doesn't stop.

Fig. 1-4 Major Child Development Theorists

These are some of the researchers who have made a significant contribution to the study of child development.

Theorist	Findings or Ideas	Significance
Sigmund Freud (1856–1939)	Believed that personality develops through a series of stages. Experiences in childhood profoundly affect adult life.	Childhood is much more important than previously thought, and its effects are longer lasting.
Jean Piaget (1896–1980)	The first to study children scientifically. Focused on how children learned. Believed that children go through four stages of learning.	Children must be given learning tasks appropriate to their level of development.
Lev Vygotsky (1896–1934)	Wrote that biological development and cultural experience both influenced children's ability to learn. Believed social contact was essential to intellectual development.	Children should be given the opportunity for frequent social interaction.
Erik Erikson (1902–1994)	Like Freud, said that personality develops in stages. Thought that each stage includes a unique psychological crisis. If that crisis is met in a positive way, the individual develops normally.	Parents and other caregivers must be aware of, and sensitive to, children's needs at each stage of development and support them through crises.
B. F. Skinner (1904–1990)	Argued that when a child's actions have positive results, they will be repeated. Negative results will make the actions stop.	Parents and other caregivers can affect a child's behavior through the use of negative and positive feedback.
Albert Bandura (1925–)	Said that children learn by imitating others. Disagreed with Skinner. Pointed out that although the environment shapes behavior, behavior also affects environment.	Caregivers must provide good examples for children to follow.
Urie Bronfenbrenner (1917–)	Outlined layers of environment that affect a child's development, such as the child's own biology, family/community environment, and society.	Child's primary relationship with a caregiver needs to be stable, loving, and lasting.

Influences on Development

Children develop at different rates because each has a unique combination of factors influencing their development. These factors fall into one of two categories:

- **Heredity. Heredity** is the biological transfer of certain characteristics from earlier generations. Blood type, eye color, and hair color are just a few of the characteristics determined by heredity.
- **Environment. Environment** refers to the people, places, and things that surround and influence a person, including family, home, school, and community.

Heredity is often referred to as *nature*. For example, if someone says, "Dylan is musically talented—it's in his nature," they mean that he was born with this gift. *Nurture* is used to refer to influences and conditions in a child's environment. Dylan may also play the piano well because his parents make

Children Around the World

Development Is Similar Around the World

If you traveled the world visiting families in various countries, you would see that babies are cared for in different ways in different cultures and environments. However, all infants follow an orderly, predictable sequence of development at approximately the same ages. When learning to talk, they first express their needs or feelings by crying, then babbling before they utter their first words. Babies must learn to lift their heads before they can sit, crawl, stand, and eventually walk. While the sequence remains largely the same, however, the rate babies progress at each step varies.

Investigating Culture

1. What aspects of babies' lives might influence their rates of development through the various stages of childhood?
2. Do you think babies everywhere babble the same way? Why or why not?

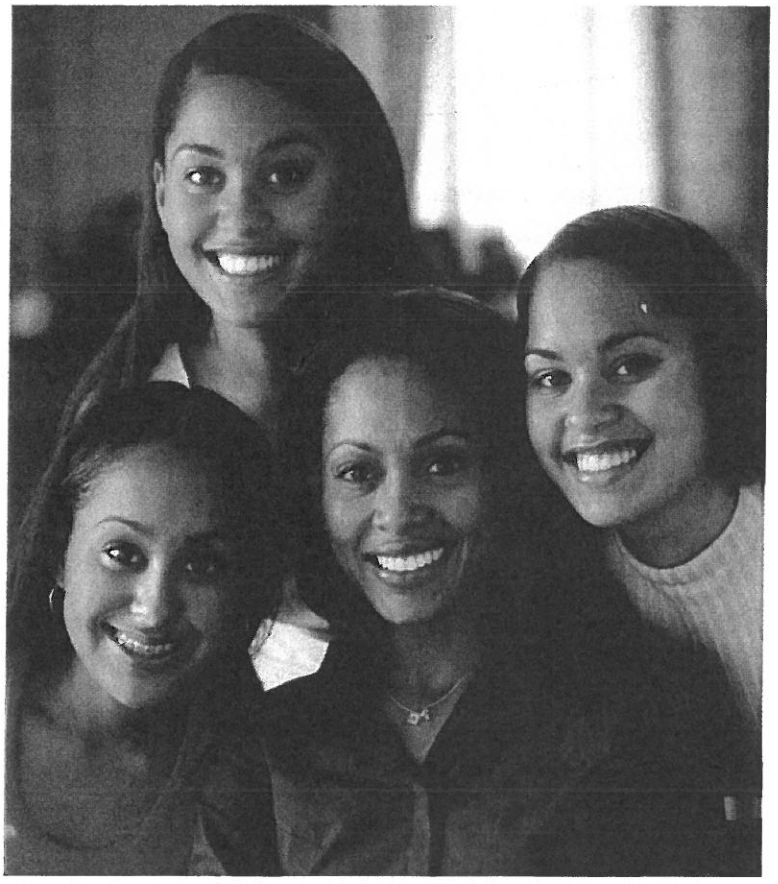


Fig. 1-5 Heredity plays a major role in physical characteristics and development. What are some ways environment might affect development?

him practice each day. For years, scientists and philosophers have debated whether nature or nurture has more influence. Most agree that they work together.

Children inherit certain physical characteristics from their parents and ancestors. For example, Alejandra has brown hair and eyes, as do her parents. Children also learn attitudes and beliefs from their environment. Samira's parents take helping family and friends very seriously, and so does she. Children are greatly influenced by the wider world around them. What they read, the music they listen to, the type of community in which they grow up—all these and many other influences play a part in who they become. If you spend time around children, you can count yourself as one of these influences.

Of course, children don't always copy the attitudes and actions of others, and no two children are exactly alike. They react to outside influences in their own ways. That's one reason that brothers and sisters who grow up in the same home may experience life differently, and why they may become different people. No two children have exactly the same environment—even those who grow up in the same home. Their choice of friends, food, and activities will differ, and so will they.

During infancy and early childhood, environment plays a particularly important role in development. That is why working with young children is such an important responsibility—and such a challenging opportunity. See Fig. 1-5.

LOOKING AT REAL LIFE

Anne, a pediatric nurse, has two nine-year-old patients, Ian and Seth, who have asthma. Aside from their age and diagnosis, their situations are different.

"Seth has been to the hospital only once for an asthma attack," Anne says. "His mom also has asthma, so they have learned together how to manage their symptoms. They keep emergency medication on hand and clean their house often to reduce dust.

"Ian, on the other hand, spends a lot of time in the hospital for asthma attacks," Anne continues. "Two conditions in his home can make his asthma worse: his family has a cat and one of his parents smokes. Ian's parents asked how to help reduce his number of attacks. I told them that keeping the cat out of Ian's bedroom and eliminating his exposure to smoke would be very helpful."

▸▸PERSONAL APPLICATION

1. What steps can you take to avoid getting common illnesses, such as colds?
2. Think of some health hazards that you might find in your environment. How could you go about eliminating one of them?

Lifelong Growth and Development

Development doesn't end when childhood does. It continues through life—from birth to death—in stages called the **human life cycle**. Each stage of the cycle presents different challenges that must be met or skills to be acquired. These **developmental tasks**, such as starting a career, occur at different stages in life. Of course, individuals differ in how they approach these challenges. Mastering the tasks of one stage prepares a person for the next.

Development Beyond Childhood

- **Adolescence.** This is the stage of life between childhood and adulthood. During this time, teens work on three developmental tasks: creating an identity, becoming independent, and pursuing education and career opportunities.
- **Young adulthood.** This stage refers to people in their twenties, when many young adults finish their education and begin working. Many marry in this period.
- **The Thirties.** This stage presents the challenges of establishing roots, reevaluating life choices made earlier, and finding stability in career and relationships.
- **Middle age.** This stage lasts from about ages 40–55. Parents adjust as their children become more independent. Adults in this stage typically ask themselves if they are satisfied with the life they have built. If not, they may make changes, such as starting a new career.

- **Late adulthood.** At some point during this stage (ages 55–75), most adults retire. They may become more politically or socially active, travel, take classes, or enjoy other activities they didn't have time for before. Others enjoy having more time with their grandchildren. Health issues may arise.
- **Very late adulthood.** It is in this stage (beyond age 75) when health problems become more common. However, many older adults are still active, and they contribute their knowledge and experience to society. Those in fragile health often need more assistance or care.

Parenting Q&A

How Can We Help Children Develop Self-Esteem?

Parents and other caregivers play a major role in developing a child's sense of self-worth, or self-esteem. Here are a few ways to have a positive effect.

- **Give praise.** Praise children for their accomplishments or real effort. Praise builds confidence.
- **Don't be overly critical.** Remember that they are still learning. When children don't do things quite right, don't yell or belittle them. Instead, try to find the good in what they have done and discuss how they can do better the next time.
- **Set realistic goals.** Help children set goals that they can reach. When children try activities that are too difficult, they become discouraged. Reaching smaller, more realistic goals makes them feel good about their accomplishments and want to try more.
- **Encourage new activities.** Help children learn to enjoy trying new things. Explain that life is not always about winning; it is also about the adventure.
- **Model self-esteem.** Children learn by example. If the adults in their lives say negative things about themselves, children will learn to imitate this negative behavior.
- **Be honest about mistakes.** Children need to see that adults have faults and make mistakes, too. It is reassuring to know that no one is perfect.

THINKING IT THROUGH

1. Identify the characteristics of someone with high self-esteem. With low self-esteem.
2. Think of a time when someone's criticism lowered your self-esteem. How might that person have encouraged you instead?

The Role of Self-Esteem in Development

Self-esteem, or self-worth, refers to the value people place on themselves. Self-esteem plays a role in people's ability to face and overcome the challenges of each developmental stage, including those of young childhood.

People with low self-esteem often feel that they are failing or constantly disappointing others. Researchers have found a link between low self-esteem and poor school performance, truancy, and criminal behavior.

A sense of self-worth is critical to children's development. Research has shown that the level of self-esteem that is developed in childhood changes little over time. Children who feel good about themselves are more likely to show enthusiasm for learning, form friendships, and make healthy choices. Having a sense of self-worth can help children deal with life's frustrations and disappointments as well as its successes.

SECTION 1-2 Review and Activities

Reviewing the Section

1. Explain why early childhood is considered the most important period for brain development.
2. What are the five characteristics of child development?
3. Compare the major theories of Erikson and Freud. How are they alike and different?
4. Explain what is meant by "nature" and "nurture." Why do scientists believe that they work together to influence development?
5. Identify the six stages of adolescent and adult development, and choose one to explain in detail.
6. How can positive *self-esteem* help a child?

Observing and Interacting

Think of a time when your self-esteem was especially high.

1. Describe what took place.
2. What steps could you take to maintain a strong sense of self-worth? You may need to do some additional research to find out. Researching some of the development theorists may be a good starting point.