

Physical Development: Age 2–6

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Ages 2 through 6 are the **early childhood** years, or preschool years. Like infants and toddlers, preschoolers grow quickly—both physically and cognitively. A short chubby toddler who can barely talk suddenly becomes a taller, leaner child who talks incessantly. Especially evident during early childhood is the fact that development is truly **integrated**: The biological, psychological, and social changes occurring at this time (as well as throughout the rest of the life span) are interrelated.

Although physical development in preschoolers is dramatic, the development is slower and more stable than during infancy. Some important influences on physical development during the preschool period include changes in the child's brain, gross and fine motor skills, and health.

Physical changes

Children begin to lose their baby fat, or chubbiness, around age 3. Toddlers soon acquire the leaner, more athletic look associated with childhood. The child's trunk and limbs grow longer, and the abdominal muscles form, tightening the appearance of the stomach. Even at this early stage of life, boys tend to have more muscle mass than girls. The preschoolers' physical proportions also continue to change, with their heads still being disproportionately large, but less so than in toddlerhood.

Three-year-old preschoolers may grow to be about 38 inches tall and weigh about 32 pounds. For the next 3 years, healthy preschoolers grow an additional 2 to 3 inches and gain from 4 to 6 pounds per year. By age 6, children reach a height of about 46 inches and weigh about 46 pounds. Of course, these figures are averages and differ from child to child, depending on socioeconomic status, nourishment, health, and heredity factors.

Brain development

Brain and nervous system developments during early childhood also continue to be dramatic. The better developed the brain and nervous systems are, the more complex behavioral and cognitive abilities children are capable of.

The brain is comprised of two halves, the right and left **cerebral hemispheres**.

Lateralization refers to the localization of assorted functions, competencies, and skills in either or both hemispheres. Specifically, language, writing, logic, and mathematical skills seem to be located in the left hemisphere, while creativity, fantasy, artistic, and musical skills seem to be located in the right hemisphere. Although the hemispheres may have separate functions, these brain masses almost always coordinate their functions and work together.

The two cerebral hemispheres develop at different rates, with the left hemisphere developing more fully in early childhood (ages 2 to 6), and the right hemisphere developing more fully in middle childhood (ages 7 to 11). The left hemisphere predominates earlier and longer, which may explain why children acquire language so early and quickly.

Another aspect of brain development is **handedness**, or preference for using one hand over the other. Handedness appears to be strongly established by middle childhood. About 90 percent of the general population is right-handed, while the rest of the population is left-handed and/or **ambidextrous**. A person is ambidextrous if he or she shows no preference for one hand over the other. Typically, right-handedness is associated with left-cerebral dominance and left-handedness with right-cerebral dominance.

The nervous system undergoes changes in early childhood, too. The majority of a child's **neurons**, or cells that make up nerves, form prenatally. However, the **glial cells**, (nervous system support cells surrounding neurons) that nourish, insulate, and remove waste from the neurons without actually transmitting information themselves, develop most rapidly during infancy, toddlerhood, and early childhood. The **myelin sheaths** that surround, insulate, and increase the efficiency of neurons (by speeding up the action potential along the axon) also form rapidly during the first few years of life. The postnatal developments of glial cells and myelin sheaths help to explain why older children may perform behaviors that younger children are not capable of.

Motor skills

Motor skills are physical abilities or capacities. **Gross motor skills**, which include running, jumping, hopping, turning, skipping, throwing, balancing, and dancing, involve the use of large bodily movements. **Fine motor skills**, which include drawing, writing, and tying shoelaces, involve the use of small bodily movements. Both gross and fine motor skills develop and are

refined during early childhood; however, fine motor skills develop more slowly in preschoolers. If you compare the running abilities of a 2-year-old and a 6-year-old, for example, you may notice the limited running skills of the 2-year-old. But the differences are even more striking when comparing a 2-year-old and 6-year-old who are tying shoelaces. The 2-year-old has difficulty grasping the concept before ever attempting or completing the task.

Albert Bandura's theory of **observational learning** is applicable to preschoolers' learning gross and fine motor skills. Bandura states that once children are biologically capable of learning certain behaviors, children must do the following in order to develop new skills:

1. Observe the behavior in others.
2. Form a mental image of the behavior.
3. Imitate the behavior.
4. Practice the behavior.
5. Be motivated to repeat the behavior.

In other words, children must be ready, have adequate opportunities, and be interested in developing motor skills to become competent at those skills.

Health

Preschoolers are generally quite healthy, but may develop medical problems. Typical minor illnesses, which usually last no more than 14 days, include colds, coughs, and stomachaches. Respiratory ailments are the most common illnesses among children at this age because preschoolers' lungs have not yet fully developed. Most childhood illnesses usually do not require a physician's or nurse's attention. Additionally, minor illnesses may help children to learn coping skills, particularly how to deal with physical discomfort and distress. Minor illnesses may also help children learn **empathy**, or how to understand someone else's discomfort and distress.