

Physical Development: An Introduction

Our bodies go through amazing transformations when it comes to physical growth and development. Think about the vast physical changes that occur between a newborn baby and a young adult. Recall the different things you or children you know were able to do at different ages while growing up. Physical activity is very important for our overall development and growth. Moving the different parts of our bodies, sitting up, rolling, crawling, walking, running, jumping, holding, and manipulating different materials or objects are examples of ways in which we use our bodies to explore our environment and learn about the world. These are also ways to keep our bodies healthy, fit, and well-functioning.

Physical development refers to the advancements and refinements of motor skills, or, in other words, children's abilities to use and control their bodies. These advancements are evident in *gross-* and *fine-motor* skills, which are developed throughout early childhood. and they are essential to children's overall health and wellness. *Gross-motor skills* involve the mastery and use of large muscles in the legs, arms, and core, as well as general strength and stamina. Examples of such skills include jumping, throwing, climbing, running, skipping, and kicking. *Fine-motor skills* involve the use of small muscles in the arms, hands, and fingers for smaller, more precise movements, such as grasping and writing. Physical development is one domain of development. It relates to the growth and skill development of the body, including the brain, muscles, and senses.

Infant and Toddler Physical Growth and Development

Infant and toddler physical development includes the physical and motor skills that emerge during the first three years of life. These skills and abilities affect connections with other people, objects, and the environment. For example, babies learn about the world as they develop their physical senses of sight, touch, smell, sound, and taste. In fact, babies can hear well before they are born. Newborns like to look at faces and will seek interesting things to look at very early on. An infant can recognize the mother's smell and the sound of her voice within days after birth. From birth, infants are aware of the world around them, and the ability to grow, develop, and learn occurs quickly as infants begin to explore through their senses.

Gross-motor skills and *fine-motor skills* are developed during infancy and toddlerhood. Examples of gross motor skills for infants and toddlers include reaching, rolling, crawling, and climbing. For infant and toddlers, fine-motor skills include reaching and grasping. As their bodies grow, infants and toddlers progressively strengthen their muscles and become better able to control their bodies. Each new motor skill that is developed is the result of an earlier skill and a contributor to new skills. Newborn infants

do not have the strength to hold up their heads, however as they learn and develop control of muscles, they will be able to support their heads and move them from side to side to explore. Skill mastery and development are also the result of brain growth and development. Consider an infant who is starting to walk while holding on to couches and round-edged tables. This child must have acquired strength in the large muscles and a certain level of control over body movement. At the same time, the child also relies on vision to determine where to walk and what to cling onto. As infants and toddlers grow, their bodies and minds become capable of simple and mildly-complex movement and experiences.

Teachers must stimulate toddlers and infants and encourage the development of gross- and fine-motor skills. For example, teacher can stimulate physical development by holding a toddler upright while moving each leg to imitate walking. Eventually, the child will become accustomed to the balance and muscle movements that are required to walk and be able to do it on his own. Infants and toddlers depend on their teachers to meet their needs for safety and security. When infants and toddlers receive consistent, responsive care and attention from nurturing adults, they are able to establish a sense of trust in the world. This sense of being loved and feeling safe is essential to stimulate areas of development, including physical development. When they feel safe and secure, infants and toddlers use their brains, muscles, and senses to explore the world around them.

Below you will find the typical progression of gross- and fine-motor skills in infants and toddlers, respectively.

Roll → Scoot → Crawl → Walk → March

Hands to Mouth → Reach Midline → Move Objects → Pincer Grasp → Scribble

Importance of Physical Growth and Development

Preparing infants and toddlers for school requires more than developing a set of skills; it includes physical development and health. When an infant or toddler is healthy and happy, they are more likely to engage in learning. Physical development and health can help prepare infants and toddlers for activities that support language development, social skills, and other areas of learning for school success.

While there is not one particular area of development that determines later school success, research highlights the importance of supporting a strong foundation by promoting healthy physical, social, emotional, and cognitive development. During infancy, foundations are created and built upon as other areas of development

progress, such as physical and motor development. For example, young children will develop the abilities to balance, crawl, and walk from their foundational reflex responses. When infants and toddlers are able to move on their own, they are able to explore and contribute to their cognitive development in a way that was not possible when they were unable to walk or crawl.

Think about what life might be like for a one-year-old who has not started crawling. While sitting on their own, they struggle to coordinate movements, such as pushing up to a crawling position and moving their hands and legs at the same time. Most objects and people in their environment are brought to them to explore. How might the limitations in physical and motor development impact other areas of development for this 1-year-old?

Exploration	Limited motor development and skills can mean limited exploration of the environment.
Cognitive Development	Limited exploration can mean limited experiences. For example, learning about cause and effect (a contributor to cognitive development) can be limited merely because of restricted “experiments” with the things nearby.
Social Development	The one-year-old can only observe the play of other children within his range of sight. This can affect the development of particular social skills.
Emotional Development	The child depends on other people in his environment to provide stimulation. This can affect emotional development, as it may be difficult for the child to make his or her own way in the world and achieve autonomy

Physical & Cognitive

Physical development is connected to cognitive development (thinking skills) in infants.

Seven-month-olds are given a toy. When the infants use their motor skills to push a button, they hear an exciting sound. The infants are presented with the toy again after a period of wait time. They immediately push the button repeatedly, suggesting that they learned how to perform an action to cause a sound (Hauf & Aschersleben, 2008).

Additional examples include:

- As infants grasp toys with their fingers and hands, they are building small-muscle (fine-motor) skills, which will help them hold crayons and pencils as they get older (communication).
- Toddlers begin scribbling, which leads to writing their names and other words as they get older (communication).
- As mobile infants roll a ball back and forth with their caregiver, they learn how to take turns and play with others (social development).
- As toddlers push and pull a friend in a wagon while outdoors, they learn about relationships with others and waiting for a turn (social development).

Making an effort to better understand infant and toddler physical development can open up opportunities for you to enhance the programming offered to infants, toddlers and families.

Preschool Age Children Physical Growth and Development

Children's motor abilities in preschool develop as a result of physical development. Examples of gross motor skills in preschool age children include jumping, throwing, climbing, running, skipping, and kicking. Examples of fine motor skills in preschool age children include stringing beads, scribbling, cutting, and drawing. Fine-motor skills enable children to perform a variety of self-help tasks, such as using utensils and dressing themselves. There is a great deal of variation in the development of fine-motor skills (Trawick-Smith, 2014).

Physical Activity and Preschool Children's Development

Physical activity is critical for young children's development. Considering that preschool children learn best when they are actively engaged in their environments, it is essential that we provide them with ample opportunities to explore the environments by moving, touching, experimenting, and manipulating different toys, objects, and materials. Studies indicate that physical activity in young children is linked to brain growth and

development. One study that explored body and brain connections found that preschoolers' motor-play activities activate visual brain centers (James, 2010). Findings like this suggest that motor activity contributes to the general organization of the brain, ultimately supporting the notion that young children need time to be active.

Moreover, physical well-being is also linked to mental health. The World Health Organization defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." This suggests that physical health is fundamentally linked to mental health, as well as other aspects of life. We must keep that in mind as we think about young children's physical development and as we engage with them and their families. Fostering young children's physical development helps build lifelong skills necessary for wellness, and a love for physical activity. Understanding physical development in the preschool years creates opportunities for you to enhance the care you offer preschoolers and their families.

Understanding Physical Development for Young School Age Children

As their bodies mature over time, children progressively strengthen their muscles and become able to better control their bodies. Examples of gross motor for young school age children skills include jumping, throwing, climbing, running, skipping or kicking. Fine-motor skills typical for young school age children include stringing beads, scribbling, cutting or drawing. Fine-motor skills enable children to perform a variety of self-help tasks such as using utensils or dressing themselves.

Skill mastery and development, however, are also the result of brain growth and development. Consider a child kicking a ball back and forth with a peer. This child must have acquired control over movement and muscles to be able to kick the ball. At the same time, the child also depends on vision to determine the location and direction in which to kick the ball and on hearing for instructions from a peer or caregiver. As children move through the school-age years, their bodies and minds become capable of increasingly more-complex movement patterns and experiences.

Importance of Physical Activity for Young School Age Children

Young school age children who are physically active are more likely to stay at a healthy weight, sleep better, maintain strong bones, and avoid obesity-related diseases. Children who are physically active also have more opportunities to develop muscle strength and endurance. They are more likely to feel confident about themselves and their bodies as they grow (Let's Move Child Care, 2013).

Physical activity also provides children with access to learning across domains. A school-age child who joins a group soccer game is broadening his or her social connections. The negative consequences of inactivity for children are stark. Children are explorers, and their brains develop through activity and movement. Children who are not active are more likely to have behavior problems in school or to have trouble with academics.

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Adapted from:

- <https://www.virtuallabschool.org/infant-toddler/physical-development/lesson-1?module=7536>
- <https://www.virtuallabschool.org/preschool/physical-development/lesson-1?module=7541>
- <https://www.virtuallabschool.org/school-age/physical-development/lesson-1?module=7546>