



## SERVE AND RETURN

**Serve and return** interactions shape **brain architecture**. When an infant or young child babbles, gestures, or cries, and an adult responds appropriately with eye contact, words, or a hug, neural connections are built and strengthened in the child's brain that support the development of communication and social skills. Much like a lively game of tennis, volleyball, or Ping-Pong, this **back-and-forth is both fun and capacity-building**. When caregivers are sensitive and responsive to a young child's signals and needs, they provide an environment rich in serve and return experiences.

**Because responsive relationships are both expected and essential, their absence is a serious threat to a child's development and well-being.** Healthy brain architecture depends on a sturdy foundation built by appropriate input from a child's senses and stable, responsive relationships with caring adults. If an adult's responses to a child are unreliable, inappropriate, or simply absent, the developing architecture of the brain may be disrupted, and subsequent physical, mental, and emotional health may be impaired. The persistent absence of serve and return interaction acts as a "double whammy" for healthy development: not only does the brain not receive the positive stimulation it needs, but the body's stress response is activated, flooding the developing brain with potentially harmful stress hormones.

**Building the capabilities of adult caregivers can help strengthen the environment of relationships essential to children’s lifelong learning, health, and behavior.** A breakdown in reciprocal serve and return interactions between adult caregivers and young children can be the result of many factors. Adults might not engage in serve and return interactions with young children due to significant stresses brought on by financial problems, a lack of social connections, or chronic health issues. Caregivers who are at highest risk for providing inadequate care often experience several of these problems simultaneously. Policies and programs that address the needs of adult caregivers and help them to engage in serve and return interactions will in turn help support the healthy development of children.

## **Questions & Answers**

**Will occasional lapses in attention from adults harm a child's development?**

Probably not. If diminished attention occurs on an intermittent basis in an otherwise loving and responsive environment, there is no need for concern. Indeed, some developmental scientists suggest that variations in adult responsiveness present growth-promoting challenges that may help young children recognize the distinction between “self” and “other,” which is a necessary next step for moving toward greater independence and increasing capacity for self-care and problem-solving.



## **Are educational toys and multimedia products useful in building healthy brain architecture in young children?**

The most important influence on early brain development is the real-life serve and return interaction with caring adults. There are no credible scientific data to support the claim that specialized videos or particular music recordings have a measurable impact on developing brain architecture in the first 2 to 3 years of life. Although a varied array of experiences clearly stimulates learning in the preschool years and beyond, promotional statements about the superior brain-building impacts of expensive “educational” toys and videos for infants and toddlers have no scientific support. For more information, see [The Timing and Quality of Early Experiences Combine to Shape Brain Architecture](#). For more research on media use with children of all ages, visit the Center on Media and Child Health’s website.