

Emotional Development is Built into the Architecture of Children's Brains

A growing body of scientific evidence tells us that emotional development begins early in life, according to the National Scientific Council on the Developing Child. Emotional development is a critical aspect of the development of overall brain architecture with enormous consequences over the course of a lifetime. From birth, children rapidly develop their abilities to experience and express different emotions, as well as their capacity to cope with and manage a variety of feelings. The development of these capabilities occurs at the same time as a wide range of highly visible skills in mobility, thinking, and communication. Yet, emotional development often receives relatively less recognition as a core emerging capacity in the early childhood years.

The foundations of social competence that are developed in the first five years are linked to emotional well-being and affect a child's later ability to functionally adapt in school and to form successful relationships throughout life. As a person develops into adulthood, these same social skills are essential for the formation of lasting friendships and intimate relationships, effective parenting, the ability to hold a job and work well with others, and for becoming a contributing member of a community.

The core features of emotional development include the ability to identify and understand one's own feelings, to accurately read and comprehend emotional states in others, to manage strong emotions and their expression in a constructive manner, to regulate one's own behavior, to develop empathy for others and to establish and sustain relationships. Emotional development is actually built into the architecture of young children's brains in response to their individual personal experiences and the influences of the environments in which they live. In fact, emotion is a biologically based aspect of human functioning that is "wired" into multiple regions of the central nervous system that have a long history in the evolution of our species. These growing interconnections among brain circuits supports the emergence of increasingly mature emotional behavior, particularly in the preschool years. As young children develop, their emotional experiences literally become embedded in the architecture of their brains.

The emotional experience of newborns and young infants occur most commonly during periods of interaction with a caregiver (such as feeding, comforting and holding). Infants display distress and cry when they are hungry, cold, wet or uncomfortable, and they experience positive emotions when they are fed, soothed and held. During this early period, children are incapable of modulating the expression of overwhelming feelings, and they have limited ability to control their emotions in the service of focusing or sustaining attention. Associations between positive emotions and the availability of sensitive and responsive caregiving are strengthened during infancy in both behavior and brain architecture.

The emotional states of toddlers and preschoolers are much more complex. They depend on their emerging capacities to interpret their own personal experiences and understand what others are doing and thinking, as well as to interpret the nuances of how others respond to them. As their brains build on foundations that are established earlier, children mature and acquire a better understanding of a range of emotions. They also become more capable of managing their feelings, which is one of the most challenging tasks of early childhood.

By the end of the preschool years, children who have acquired a strong emotional foundation have the capacity to anticipate, talk about, and use their awareness of their own and others' feelings to better manage everyday social interactions. Their emotional repertoires have expanded dramatically and now include such feelings as pride, shame, guilt, and embarrassment – all of which influence how individuals function as contributing members of a society. Throughout the early childhood years, children develop increasing capacities to use language to communicate how they feel and to gain help without “melting down,” as well as to inhibit the expression of emotions that are inappropriate for a particular setting.

When feelings are not well managed, thinking can be impaired. Recent scientific advances have shown how the interrelated development of emotion and cognition relies on the emergence, maturation and interconnection of complex neural circuits in multiple areas of the brain, including the prefrontal cortex, limbic cortex, basal forebrain, amygdala, hypothalamus and brainstem. The circuits that are involved in the regulation of emotion are highly interactive with those that are associated with “executive functions” (such as planning, judgment and decision making), which are intimately involved in the development of problem-solving skills during the preschool years. In terms of basic brain functioning, emotions support executive functions when they are well regulated but interfere with attention and decision making when they are poorly controlled.

Young children are capable of surprisingly deep and intense feelings of sadness (including depression), grief, anxiety and anger (which can result in unmanageable aggression), in addition to the heights of joy and happiness for which they are better known. The emotional health of young children – or the absence of it – is closely tied to the social and emotional characteristics of the environments in which they live, which include not only their parents but also the broader context of their families and communities. Young children who grow up in homes that are troubled by parental mental-health problems, substance abuse or family violence face significant threats to their own emotional development. In fact, the experience of chronic, extreme and/or uncontrollable maltreatment has been documented as producing measurable changes in the immature brain.

Differences in early childhood temperament – ranging from being extremely outgoing and adventurous to being painfully shy and easily upset by anything new or unusual – are grounded in one's biological makeup. These variations lead to alternative behavioral pathways for young children as they develop individual strategies to control their emotions during the preschool years and beyond. They also present diverse challenges for parents and other adults who must respond differently to different kinds of children. When it comes to finding the “best” approach for raising children, one size does not fit all.