

MORE RECENT RESEARCH AND FINDINGS – THE NEUROBIOLOGY OF ATTACHMENT

The Neurobiology of Attachment and Personality Organization

“The foundations of brain architecture are established early in life through a continuous series of dynamic interactions in which environmental conditions and personal experiences have a significant impact on how genetic predispositions are expressed. Because specific experiences affect specific brain circuits during specific developmental stages—referred to as sensitive periods—it is vitally important to take advantage of these early opportunities in the developmental building process. That is to say, the quality of a child’s early environment and the availability of appropriate experiences at the right stages of development are crucial in determining the strength or weakness of the brain’s architecture, which, in turn, determines how well he or she will be able to think and to regulate emotions.

The exceptionally strong influence of early experience on brain architecture makes the early years of life a period of both great opportunity and great vulnerability for brain development. An early, growth-promoting environment, with adequate nutrients, free of toxins, and filled with social interactions with an attentive caregiver, prepares the architecture of the developing brain to function optimally in a healthy environment. Conversely, an adverse early environment, one that is inadequately supplied with nutrients, contains toxins, or is deprived of appropriate sensory, social, or emotional stimulation, results in faulty brain circuitry. Once established, a weak foundation can have detrimental effects on further brain development, even if a healthy environment is restored at a later age.

Impoverished early experience can have severe and long-lasting detrimental effects on later brain capabilities. Sensitive periods act as double-edged swords. On the one hand, a sensitive period enables a neural circuit to optimize its architecture for the needs and environment of the individual. On the other hand, this period of extreme receptivity also makes the circuit vulnerable to the damaging effects of adversity.”

National Scientific Council on the Developing Child, *The Timing and Quality of Early Experiences Combine to Shape Brain Architecture: Working Paper No. 5.*, Center on the Developing Child, Harvard University, 2007, p.4.

http://developingchild.harvard.edu/index.php/resources/reports_and_working_papers/working_papers/wp5/ [as of January 17, 2012].