

Why Love Isn't Enough: Part Five – The Impact of Trauma on Brain Development

This is another in a series of posts on related challenging topics. You may want to print this post or others in the series (Introduction, Part One, Part Two, Part Three, Part Four, Part Six, Part Seven, Part Eight.) Study them, returning to them over time. Review the resources that are embedded within the articles. Keep them handy! They will make valuable references post-adoption. As you educate yourself, ask, “What does this information mean for me as the parent?” “What will this mean for the children I already parent?” “What does this mean for the child I am adopting?”

Certainly, most adoptive parents—prospective or veteran—have no expectation that understanding some “brain basics” could lead to a more successful adoption outcome in putting their newly configured family together! Yet, the brain is affected—long-term—by the experiences it encounters pre-natally and in the early years of one’s life.

Actually, the brain grows more in the first year of life than at any other point in time, and brain growth is 90% complete by the time a child is three-years-old! Brain development is contingent upon environment. A nurturing, sensorily stimulating environment best incubates and forms the brain. When this process is interrupted by neglect, physical abuse, sexual abuse, pre-natal drug and alcohol exposure, maternal stress, etc., the brain may be unable to form the pathways and connections that lead to emotional regulation, development of social skills or a secure attachment. Areas of the brain responsible for memory, learning, empathy and remorse can also be impaired by these early traumas. Early experiences have disproportionate importance in relation to the manner in which the brain develops, and subsequently to the way in which the developing brain functions.

The stress of living in a chaotic and/or neglectful environment (i.e., an orphanage, a dysfunctional birth home, etc.) creates a brain—a human being—more vulnerable to stress (i.e., real or perceived.) ([Child Welfare Information Gateway, 2001.](#)) The child, traumatized prior to adoption, arrives in the new family with an overactive stress response system. So, he or she will enter the states of “flight”(dissociation) or “fight” (hyperarousal) easily and long after placement even in a healthy family system.

In a child who has experienced trauma, “flight” often manifests itself as the child being in a “fog.” Following directions, understanding academic instruction, participating in conversation, and so on will all be hard when a child isn’t fully “present”, and thus can’t fully see, hear or comprehend what is going on around him or her.

We all experience dissociations. For example, while driving, we may cognitively disconnect from the steering wheel. We are deep in a thought process that isn’t even conscious. When we snap out of this state, we wonder how the car managed to stay on course! Traumatized children enter such a state on and off throughout the day, or they may maintain this state for days at a time. It should be obvious—from the driving example—that it would be difficult to function in a normal environment when plagued with frequent dissociation.

“Fight” in a child who has experienced trauma can take the form of intimidating body posture, shouting, profanity, stomping, slamming, raising fists, or full-blown aggression. A routine encounter—a social studies test, a disagreement with a peer, a request to complete a chore—can escalate the child into a state of fear very quickly; a temper tantrum occurs, an argument

ensues, an object gets thrown. Parents, siblings or peers are left wondering what has happened!

In essence, children with histories of trauma are like deer. Deer flee in an instant when frightened. Deer are hypervigilant—always wary of their environment. Traumatized children operate in a similar fashion. Physiologically, they quickly enter a state of “fight” or “flight,” even when others see no visible threat or demand.

In a state of *calm*, we use the higher, more complex parts of our brains to process and act on information. We make rational decisions because we can weigh the pros and cons of our choices. In a state of *fear*, we use the lower, more primitive parts of our brain. As the perceived threat level goes up, the less thoughtful and the more reactive responses become. Actions in this state may therefore be governed by emotional and reactive thinking styles. There is little ability to think about the consequences of actions taken.

The brain develops in a user-dependent way (Perry, 2006.) The repetition of experiences strengthens the brain’s pathways. So, chronic stress sensitizes neural pathways and over-develops the regions of the brain involved in anxiety and fear. Children who experience the stress of physical or sexual abuse will focus their brains’ resources on survival and responding to threats in their environment. Unfortunately, such children’s brains continue to overreact even after their placement in a safe and healthy family.

While chronic abuse can result in the over activation of the stress response system, neglect can result in other problems. Again, a child is considered neglected when physical and psychological needs go unmet. Lacking in stimulation, neural pathways don’t develop as they should. The impact of neglect was explained in depth in [Part Two of this series](#).

Understanding and learning to recognize the appearance of this phenomenon of emotional dysregulation—flight or fight—can save adoptive families years of unproductive therapeutic intervention, as well as untold number of conflicts within the home. For example, the “hypervigilant” child is often deemed “hyperactive” or “oppositional.” The child receives a mental health diagnosis of [Attention-Deficit/Hyperactivity Disorder](#) or [Oppositional Defiant Disorder](#). The adopted son or daughter is prescribed a stimulant medication (i.e., Ritalin®, Concerta, etc.), and the family is directed to a course of behavioral modification. However, a diagnosis such as Posttraumatic Stress Disorder—a trauma based disorder—is often more accurate. [Cognitive therapies](#), [neurodevelopmental reorganization](#), [neurofeedback](#), [sensory processing treatment](#), [infant massage](#), [The Listening Program](#) and medications for mood regulation will likely offer more productive results for such a child! The educated family seeks and obtains the appropriate diagnosis and early intervention!

Parents welcoming previously traumatized child will also want to learn a bit about the implicit memory system. There are declarative (or explicit) memories—events we can recall—a fun trip to an amusement park, high school graduation, moving into a first home, etc. We have a conscious ability to retrieve explicit memories and state the facts and events.

Nondeclarative (or implicit) memory operates very differently. Implicit memory systems store emotions, sensory experiences (sounds, smells, etc.) and expectations and assumptions about relationships based on prior experiences. Implicit memories form early in life, prior to the individual having language. Implicit memories cannot be recalled by the brain in picture form,

but they can be triggered. Once triggered, an emotional reaction occurs ([Briere & Scott, 2006](#)). For example, let's return to this photo first seen in part two of this series.

This child's implicit memory system is storing the event of being tied to a potty in a foreign orphanage. The infant only knows that this type of restraint is *very* uncomfortable, and that it is carried out by adults. Once adopted, traveling by car—strapped into a car seat—can trigger the feelings associated with having been tied to the potty. The adoptive family which has not thought about implicit associations for the child would be confused at the temper tantrum that may ensue each time the family attempts to make a trip to the local grocery store, favorite restaurant or park!

In this photo of the birth home of a domestically adopted child, also first seen in part two of this series, the smell of alcohol permeated this home. The debris alongside this “bed” consists of empty beer cans. Intoxicated birth parents proved the source of much physical abuse (and neglect) for the toddler and infant removed from this house.

The adoptive dad who has a beer upon arrival home from the office, or parents who enjoy a glass of wine with dinner, may inadvertently trigger the implicit memory of this abuse in their new child. The child, then, goes from playing calmly to becoming fearful. His brain goes on alert for what it perceives could be coming next—pain from abuse! His brain—primed for surviving a harsh environment—won't automatically distinguish between his new, healthy adoptive family, and his past violent birth parents.

Fortunately, we now have therapeutic interventions that can restructure implicit memories. We can utilize a technique referred to as *cognitive feeding*—described and exemplified in *Implicit Memories: The Roots of Today's Behavioral Challenges*—to help bring calm to the adoptive family. Once again, the family that seeks information will have the tools and coping skills to more successfully transition the newly arrived son or daughter into their family!

The information and examples above should make clear that every pre- and post- adoptive parent needs to understand some “brain basics.” We refer prospective parents to *Nurturing Adoptions: Creating Resilience after Neglect and Trauma* and *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are*. Readers can also peruse the previous blog posts

- The Brain on Trauma
- Consequences vs. Reactions: Parent “Deerly”
- Neurofeedback: Training the Brain
- Posttraumatic Stress Disorder: Thinking About the Adoptee's Trauma.
- Implicit Memories: The Roots of Today's Behavioral Challenges – Part One and Part Two

Because this brain-related information is critical, I've especially packed today's “Readings and Resources.” I encourage the entire adoption community to learn “brain basics.” We must tame our “deer” adoptees and those children still waiting for their forever families!