

**Understanding and Helping  
Children Who Have Been Traumatized  
By Dave Ziegler**

*The following are excerpts from Traumatic Experience and the Brain, A Handbook for Understanding and Treating Those Traumatized as Children.*

There has been an explosion of new information on the human brain over the last fifteen years. As our technology has improved, we have been able to study how the brain works in ways never before imagined. This has led to an avalanche of scientific research and exciting, although difficult to understand, professional literature on the brain—how it develops and how it works. These advancements have helped in many areas of science, but perhaps have been most helpful in understanding the mental and emotional problems that people develop. This is especially true for children who have been traumatized.

The word trauma can refer to a wide variety of negative experiences—accidents, painful medical procedures, or life changing emotional events; but by far the most common traumatic experience is some form of abuse such as physical or sexual abuse or serious neglect. Because of the impact of trauma on the developing brain, new advancements in understanding brain functioning have opened new doors to understanding children in our foster and adoptive homes.

As a psychologist and researcher, I am just like you, I can't get lost in complicating medical and neurological explanations. I just need to know the answer to one important question, "So what?" What should I know and what should I do differently based upon all these new studies and all this new scientific information coming out on the brain. I have spent several years asking this question, and I now share some of the answers I have found, particularly with parents who can use the information to help their children.

The human brain is the most complex organism in the known universe. It is comprised of 1,000 billion individual brain cells (neurons) that develop 1,000 trillion connections with each other. An infant at birth has a brain that is only 25% developed, which enables the child to adapt to a wide range of environments. The brain of a child who is cared for by a loving family will adapt very differently than a child who has a drug addicted mother in a home where domestic violence is common. We have learned from new research that positive and negative experiences not only are stored in the memory areas of the brain, but experiences also sculpt the developing brain and determine how it will process all new information. This process goes on at every age even before birth, and just because a child does not have conscious memory of an event (explicit memory), does not mean the brain does not remember (implicit memory). "So what?" Well, this helps us see that the earliest experiences of a child will not only be carved in the brain's memory but the brain itself will develop differently because of the environment. The brain develops in predictable ways to experiences. The loving supportive environment produces larger more well developed brain structures that will help the child be smarter, be more inquisitive, and feel safer allowing the brain to put less energy into self protection. If the child comes into a world with trauma of any kind, the higher regions of the brain grow smaller affecting the child's ability to learn and fully understand the world other than how to survive by being ever vigilant of possible harm.

The brain has many complex components, but basically it can be divided into four areas. The brainstem is at the base of the brain and handles the less glamorous but essential functions such as breathing, heart rate, blood pressure, temperature regulation and respiration. The diencephalons includes several parts of the brain and controls motor regulation such as walking and balance as well as appetite, sleep patterns, and the memory to ride a bike even after years of no practice. The limbic system is fundamentally impacted by trauma. It controls emotions, perceptions, attachment and sexual behavior. All memories of trauma are stored and impact the individual in the limbic system, but these memories are for the most part unavailable for conscious recall. The last and highest region of the brain is the neocortex. This is the largest part of the brain and controls the personality, goals, decisions, and what makes a person a success or a failure in life. The difference in the overall functioning of the brains of Adolf Hitler and Mother Teresa was minor, but the neocortex produced very different people. “So what?” A traumatized child operates from the limbic system and doesn’t understand why they act as they do. The goal is to provide safety the child experiences so they can operate and develop the higher regions of their brain—decision making, learning from the past, developing values, and forming a personality others care to be around.

The primary job of the brain is survival. If survival is threatened, the rest of the brain shuts down except for functions that help self-protection. The brain adapts throughout life, but the strongest adaptation is within the first two years of life. So what? Early nurturing care for a child makes a lasting difference as does early abuse of a child. However, the brain continues to adapt to the environment, so ingrained patterns can be changed with consistent positive experience.

The brain is made up of networks of neurons (brain cells) that communicate with each other. If mommy is a caring, loving, nurturing experience for the infant, a strong neuro-network develops that says ‘mommy is good.’ If mommy is self-absorbed, unresponsive to the child’s needs when they cry and physically abusive to the child, an even stronger neuro-network develops that says ‘mommy is to be avoided’ to support survival. So what? To an abused child, mommy can be any adult in the role of care provider, which may include foster parent, adoptive parent, teacher, grandparent, etc. The reason attachment is a common problem with many abused children and children in a foster or adoptive home should be clear. The goal must be to develop new neuro-networks that have to do with safety, predictability, caring, and the child’s physical and emotional needs getting met. Remember the brain literally changes with every experience. It will continue to adapt in your positive, nurturing home regardless of how serious past abuse has been. Yes, Virginia, there is hope!

### **More “So What’s”**

- Consider all problematic behavior within the context of survival to better understand ‘why he keeps doing that?’
- Repetition is important because with every positive experience the impact on the brain grows.
- Traumatized children expect the worst and focus on the negative. If you understand this, you will be better prepared for it.
- Childhood neglect is the most damaging trauma. The child must not have basic needs threatened in any way or survival will be all they think about.

- Do not allow radical therapies for traumatized children. “Holding Therapy,” “Rage Reduction,” and other desperate approaches trigger the memories in the limbic system and make matters worse.
- At the point the child was abused, the brain was focused on survival not learning. The development the child missed due to abuse will need extra attention.
- Traumatized children will often score lower on IQ tests than their true ability. Retest when their environment is helping them heal and watch the scores go up.
- The goal in healing trauma is not to keep the child calm. The goal is when the child becomes agitated to help them learn skills to reduce the agitation. This repeated cycle is what most helps the child.
- Promote play with traumatized children. Play is very healing to the brain and the emotions.
- Don’t give up hope! The human brain is capable of healing in ways we do not yet understand. It may be a long road to healing and the child may not get there while still in your home, but every situation makes a difference.