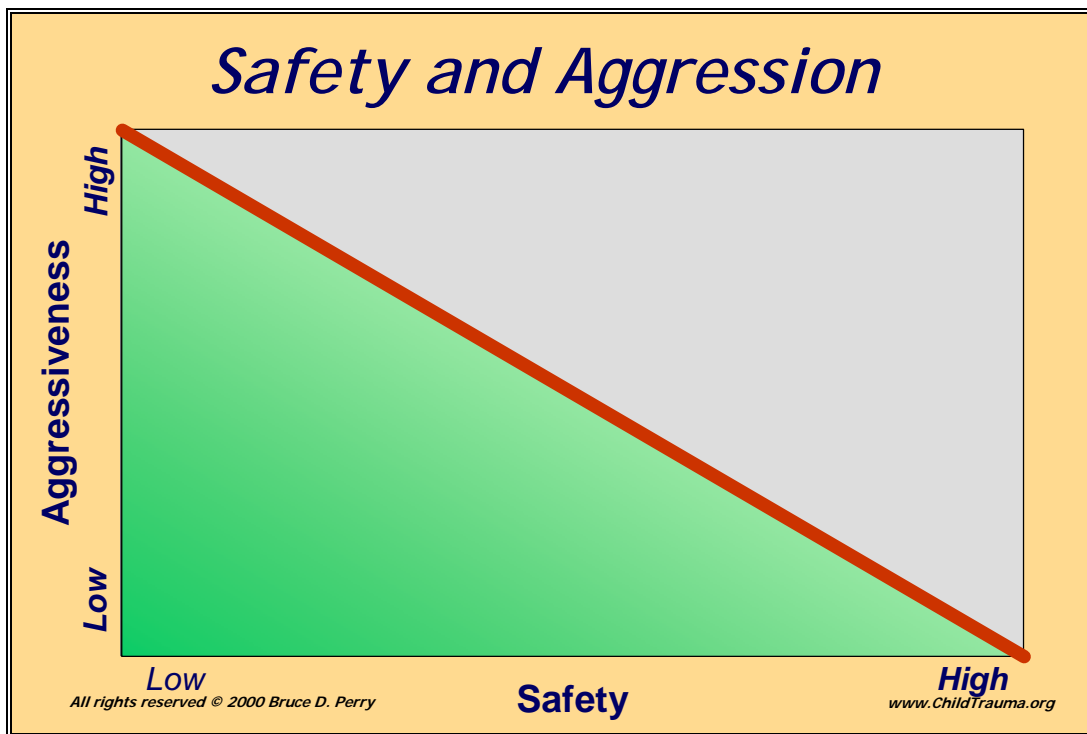




Video Series 1

UNDERSTANDING TRAUMATIZED AND MALTREATED CHILDREN:  
THE CORE CONCEPTS

## Violence and Childhood



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This chapter is designed as supplemental material for The ChildTrauma Academy's video/DVD series *Understanding Traumatized and Maltreated Children: The Core Concepts*. These materials have been developed by the ChildTrauma Academy to assist parents, caregivers, teachers and various professionals working with maltreated and traumatized children. Continuing Education credits can be given for reviewing these materials. Please refer to the Introductory materials for more information about additional supplemental materials and CEU credits.

TRAIN-THE-TRAINER SERIES  
Edited by B. D. Perry

## Introduction

Childhood is a dangerous time. For centuries, children--the most vulnerable members of our species--have struggled to survive this harsh world. For infants and children, survival is dependent upon adults, most typically, the nuclear family. It is in the family setting that the child is fed, clothed, sheltered, nurtured as well as educated - directly and indirectly - in the language, beliefs, and value systems of the culture. It is in the family setting in which the non-genetic 'DNA' of the culture is transmitted from generation to generation, allowing the amazing process of socio-cultural evolution.

When the child's development is characterized by structure, predictability, nurturing, and enriching emotional, social and cognitive experiences, a vulnerable and powerless infant can grow to become a happy, productive, insightful and caring member of society -- contributing to us all. Sadly, few families and communities can provide this idealized early life. Indeed, it is in the familial incubator that children are most frequently manipulated, coerced, degraded, inoculated with destructive beliefs, and exposed to violence.

This chapter will describe how children survive in a 'vortex' of violence: persisting threat resulting in persisting fear. Persisting fear and adaptations to the threat present in the vortex of violence alter the development of the child's brain, resulting in changes in physical, emotional, behavioral, cognitive, and social functioning. These changes in the developing child, in turn, contribute to the trans-generational cycle of violence as these young children become adolescents--and finally, the adults that shape our society, the adults that choose and determine our cultural values, the adults that raise the next generation of children in a new intra-generational vortex of violence.

### ***Course Objectives:***

- *Provide a brief overview of violence in our society: its roots, settings, and prevalence*
- *Outline the fundamentals of brain development within violent settings and the resulting physiological effects among children*
- *Discuss the potential impact of maturation within violent, terrorizing environments on a child's cognitive/academic, emotional, and social functioning*
- *Introduce the ability of adults to make a difference with kids growing up immersed in violence*

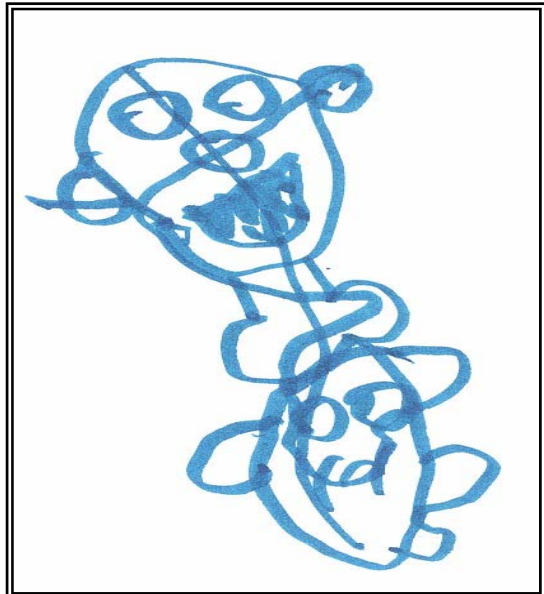
### ***Section 1 - Key Points:***

- *Various forms of aggression that can be considered “violence”*
- *The role of violence in the home on societal violence*
- *The pattern violence typically follows in the home*

## **Violence in the Home**

The home is the most violent place in America. In 1995, the FBI reported that 27% of all violent crime involves family on family violence, 48% involved acquaintances, with the violence often occurring in the home (National Incident-Based Reporting System, Uniform Crime Reporting Program, 1999). Children are often the witnesses to, or victims of, these violent crimes. The major context for violence in America is the family. Intra-familial abuse, neglect, and domestic battery account for the majority of physical and emotional violence suffered by children in this country. Despite this, a majority of our entertainment, media and public policy efforts focus on community or predatory violence. Understanding the roots of community and predatory violence is impossible unless the effects of intra-familial violence and the impact of abuse and neglect on the development of the child are examined. The adolescents and adults responsible for violence in the community often developed these violent behaviors as a result of intra-familial violence during childhood.

Violent crime statistics, however, grossly underestimate the prevalence of violence in the home. It is likely that less than 5% of all domestic violence results in a criminal report. This violence takes many forms. The child may witness the assault of her mother by her father or a boyfriend. The child may be the direct victim of violence--physical or emotional--by the father, mother, or even older siblings (in fact, some researchers estimate that over 29 million children commit an act of violence against a sibling each year). The child may become the direct victim of adult violence if she tries to intervene and protect her mother or a sibling. While physical violence dramatically illustrates intra-familial toxicity, an additional destructive element is emotional violence: humiliation, coercion, degradation, and threat of abandonment or physical assault.



***When Dad Yells.*** This is a drawing by a three-year-old child from a home plagued by domestic violence. This is his depiction of his angry father.

## Intra-generational Conservation of Violence: The Vortex of Violence

Men commit most violence against men. Men commit most violence committed against women. Women commit most violence against children. Most violence committed by children is against other children. Children also commit most violence against pets. The intergenerational 'cycle of violence' is well documented. This intergenerational 'vortex of violence' is not. Violent behavior flows down a power differential. The majority of our violence initiatives and examinations of violence focus on violence of a specific type--violence committed against voters (typically property owners). Indeed if one man hits another man (especially one with a job), this is a felony--assault and battery; the same physical violence against a wife or a child is culturally sanctioned, often rationalized as 'deserved' or as 'discipline.' Prosecution of the former would proceed; prosecution of the latter would rarely be pursued. Indeed, the victim would often be openly or tacitly ridiculed, and made to feel responsible--"they deserved it."

The vortex of violence is fueled by the 'conservation of violence'. When you are helpless, frustrated, humiliated, and overwhelmed, it is common to bring this into your interactions with others. If the other is smaller and weaker, it is likely that the

### ***The Vortex of Violence***

#### **Intra-generational**

Flows down a power differential

"Conservation" of violence

- ***Men against men***
- ***Men against women***
- ***Women against children***
- ***Child against younger child***
- ***Young child against animals***

direction of frustration and violence will be from more powerful to least powerful. A typical flow of rage will start with a man frustrated and humiliated outside of the home. He will absorb this humiliation, modify some of it, and pass some on. At home, he will direct his anger and rage at his spouse--she will absorb, modify and pass on. The over-whelmed and assaulted mother (usually when father leaves) will pass the humiliation and violence on to the demanding children. The

older children will absorb, modify and pass on to younger or weaker children. The child at the center of the vortex may have no human to 'pass on' to--they may absorb, accumulate, and then wait until they are old enough, big enough, strong enough to hurt humans. They might pass this aggression on to animals. Children kill more cats than dogs do. Cruelty to animals is often a sign that a child has been exposed to violence or abuse.

Living in this vortex of violence creates violent children. What this process costs in robbed emotional, social, cognitive and physical potential is incalculable. Different individuals 'absorb' better and pass on less. Yet, they pay one way or the other--absorb and modify--creating anxiety, depression, cognitive impairment, and

often, violence. It is the rare and strong person that can carry their trauma without having it spill into the next generation. For as many individuals that carry their pain, there are those that pass theirs on--not to just one but to many. Violence by one person can leave a wake of destruction in the lives of hundreds.

### ***Section 2 - Key Points:***

- *The influence exposure to media violence has on children*
- *The prevalence and forms of violence in American communities and schools and their implications for kids*
- *The foundations of youth violence*

## **Media Violence**

In homes where no physical or emotional violence is present, children are still bathed in violent images; the average child spends more than three hours a day watching television. Television, videogames, music and film have become increasingly violent. The average 18-year-old in the United States will have viewed 200,000 acts of violence on television. Even with solid emotional, behavioral, cognitive, and social anchors provided by a healthy home and community, this pervasive media violence increases aggression and antisocial behavior, contributes to a sense that the world is more dangerous than it is, and desensitizes children to future violence. In children exposed to violence in the home, these media images of power and violence are major sources of 'cultural' values, reinforcing what they have seen modeled at home.

## **Community and School Violence**

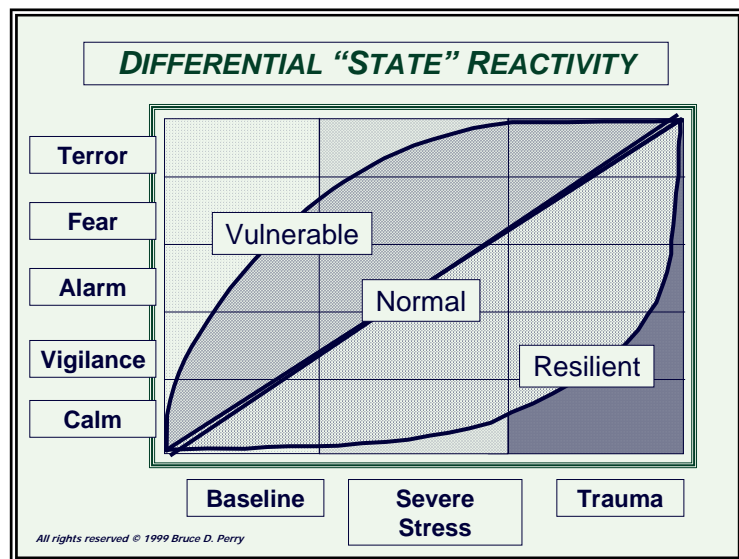
There has been a dramatic increase in juvenile violence over the last ten years. From 1986 to 1996 there was a 60% increase, with juveniles now accounting for 19% of all violent crime. From 1996 to 2004, this rate of increase decreased, but youth violence continued to increase most dramatically in young women. Much of this is youth-on-youth violence. The violence in communities witnessed by youth has become so pervasive in some communities that, in some studies, over half of all children surveyed had witnessed some form of violence in the year prior to the survey. The most heinous violence in schools has been widely publicized with the series of school shootings from 1992 to 2002. Yet, the more common forms of school violence are intimidation, threat, and simple assault. For thousands of children, school is not safe. It has been estimated that more than 250,000 students are attacked in school each month. For too many, school is a place of fear, dominated by the potential for harm and a sense of pervasive threat.

## Youth Violence

The majority of the initiatives dedicated to studying and intervening in violence have focused on violence committed by males. As discussed above, while men commit the vast majority of violence against women, the majority of direct violence to children takes place in the home.

The children who grow up to be violent “in the streets” are the products of the vortex of violence described earlier. This vortex of violence occurs within the very environments entrusted to nurture, protect and educate them: the home. These children are the products of their environments, adapted to living in a situation of pervasive threat, with all the expected adaptations in emotional, behavioral, cognitive, social and physiological functioning. The vortex of violence creates a pervasive sense of threat--an incubator of terror--for the developing child. The results are predictable.

Children raised in the vortex of violence are much more likely to be violent. This is related to many factors; in our society--through modeling and media--we teach that violent aggression is acceptable, even a preferable and honorable, solution to problems. Analysis of much of the violent behavior by children and adolescents today reveals a troubling degree of impulsive, reactive violence. This violence is often interpreted by the perpetrators as defensive --“If I didn’t shoot him, he would have shot me.” “I could tell that he was going to jump me--he looked me in the eyes.” “Listen, man, I just did him before he did me.” These verbalizations reflect the persistence of a state of fear, literally, a persisting ‘fight or flight’ state which these adolescents are unable to get out of. The persistence of this originally adaptive internal state is due to growing up in a persistently threatening environment (see earlier chapters in this series).



**Change in External Challenge--Change in Internal State:** Children exposed to significant threat will “re-set” their baseline state of arousal such that even at baseline -- when no external threats or demands are present, they will be in a physiological state of persisting alarm (top curve: Vulnerable). As external stressors are introduced (e.g., a complicated task at school, a disagreement with a peer) the traumatized child will be more ‘reactive’ -- moving into a state of fear or terror in the presence of even minor stressors. The cognition and behavior of the child will reflect their state of arousal (see Figures). This increased baseline level of arousal and increased reactivity in response to a perceived threat plays a major role in the associated behavioral and cognitive problems associated with traumatized children.

**Section 3 - Key Points:**

- *Neurological and physiological responses/adaptations to stress and threat*
- *Connection between violence and children from persistently threatening environments*
- *How heightened arousal can impact a child's ability to learn and constructively resolve conflict*
- *How cortical modulation works and why it is necessary*
- *Factors that may interfere with cortical modulation*

**Neurodevelopment and the Threat Response**

A growing body of evidence suggests that the developing brain organizes in response to the pattern, intensity and nature of sensory perceptual and affective experience of events during childhood (see earlier chapters in this series). Mediated by neurotransmitters and hormones, the stress responses can affect the development of the brain by altering neurogenesis, migration, synaptogenesis, and neurochemical differentiation. Indeed, the developing brain is exquisitely sensitive to stress. For example, rats exposed to perinatal handling stress show major alterations in their stress response later in life. Such studies suggest that early exposure to consistent, daily stress can result in more adaptive later behavior and resiliency, while exposure to unpredictable stress can result in deficits. Predictability and control can make events much less destructive or traumatic.

The human brain changes in a 'use-dependent' fashion (see earlier chapters in this series). Neural systems that are activated change in permanent ways, creating 'internal' representations--literally, memories. The brain makes cognitive memories, emotional memories, motor-vestibular memories, and state memories. The physiological hyperarousal state associated with fear and pervasive threat results in a brain that has created all of these memory types (i.e., cognitive, motor, emotional, state) and in doing so has adapted to a world characterized by unpredictability and danger. The brains of traumatized children develop to be hypervigilant and focused on non-verbal cues, potentially related to threat. These children are in a persisting state of arousal and, therefore, experience persisting anxiety.

If during development, the threat response apparatus is required to be persistently active, a commensurate stress response apparatus in the central nervous system will develop in response to constant threat. These stress-response neural systems (and all functions they mediate) will be overactive and hypersensitive. It is highly adaptive for a child growing up in a violent, chaotic environment to be hypersensitive to external stimuli, to be hypervigilant, and to be in a persistent stress-response state. While these adaptive changes in the brain make a child better-suited to sense, perceive and act on threat in their world, these "survival tactics" ill-

serve the child when the environment changes (e.g., in school, peer relationships: see Table below).

These children are characterized by persisting physiological hyperarousal and hyperactivity. They are observed to have increased muscle tone, frequently a low grade increase in temperature, an increased startle response, profound sleep disturbances, affect regulation problems and generalized (or specific) anxiety. In addition, our studies indicate that a significant portion of these children have abnormalities in cardiovascular regulation. Using continuous heart rate monitoring during clinical interviews, male, pre-adolescent children exposed to violence exhibited a mild tachycardia during non-intrusive interview and a marked tachycardia during interviews about specific exposure to trauma (n = 83; resting heart rate = 104; interview heart rate = 122). In comparison, females exposed to traumatic events tended to have normal or mild tachycardia that, during interviews about the traumatic event decreased (n =24; resting heart rate = 98; interview heart rate = 82). This gender difference was associated by differences in emotional and behavioral symptoms, with males exhibiting more 'externalizing' and females more 'internalizing' symptoms.

The implications of this for the violent youth are profound. First, any child in the vortex of violence will develop a persisting fear-response. There are marked gender differences in this response. Females are more likely to dissociate and males more likely to display a classic "fight or flight" response. As a result, more males will develop the aggressive, impulsive, reactive and hyperactive symptom presentation. Males will more likely be violent outside the home and with women. This can be explained, in part, by the persistence of this "fight or flight" state--and by the profound cognitive distortions that accompany this neurodevelopmental state. A young man with these characteristics, then, will very easily misinterpret a behavior as threatening and will, being more reactive, respond in a more impulsive and violent fashion. Literally, using the original (childhood) adaptive "fight or flight" response in a new context but, now, later in life, in a maladaptive fashion.

In turn, the battered and overwhelmed woman will be more violent and abusive to her children. Women are more violent to children in the home than men. This may be due to the fact that men are often not in the home. It is also likely that when the direct object of their rage and violence can be the mother, it will be. If an older, typically male, child tries to defend the mother the abusive paramour will be physically abusive to that child. But on the whole, the traumatized, unsupported and frustrated mother is more likely to be the perpetrator of emotional and physical abuse to children in the home.

### **State-dependent Memory**

There are profound clinical implications of the persisting arousal states in children. These children will have impaired capacities to benefit from social,



emotional and cognitive experiences. This is explained by three key principles of brain functioning: 1) the brain changes in response to experience in a 'use-dependent' fashion; 2) the brain internalizes and stores information from any experience in a 'state-dependent' fashion and 3) the brain retrieves stored information in a state-dependent fashion.

As described above, the brain changes in a use-dependent fashion. All parts of the brain can modify their functioning in response to specific patterns of activation -- or to chronic activation. These use-dependent changes in the brain result in changes in cognition (this, of course, is the basis for cognitive learning), emotional functioning (social learning), motor-vestibular functioning (e.g., the ability to write, type, ride a bike) and state-regulation capacity (e.g., resting heart rate). No part of the brain can change without being activated -- you can't teach someone French while they are asleep or teach a child to ride a bike by talking with them.

Mismatch between modality of teaching and the 'receptive' portions of a specific child's brain occur frequently. This is particularly true when considering the learning experiences of the traumatized child--sitting in a classroom in a persisting state of arousal and anxiety or in a state of dissociation. In either case, essentially unavailable to process efficiently the complex cognitive information being conveyed by the teacher. This principle, of course, extends to other kinds of 'learning'--social and emotional. The traumatized child frequently has significant impairment in social and emotional functioning. These capabilities develop in response to experience--experiences that these children often lack, or fail at. Indeed, hypervigilant children frequently develop remarkable non-verbal skills in proportion to their verbal skills (street smarts). Indeed, often they over-read (misinterpret) non-verbal cues--eye contact means threat, a friendly touch is interpreted as an antecedent to seduction and rape -- accurate in the world they came from but now, hopefully, out of context. During development, these children spent so much time in a low-level state of fear (mediated by brainstem and midbrain areas) that they were focusing consistently on non-verbal cues. In our clinic population, children raised in chronically traumatic environments demonstrate a prominent V-P split on IQ testing (n = 108; WISC Verbal = 8.2; WISC Performance = 10.4, Perry, in preparation).

This is consistent with the clinical observations of teachers that these children are really smart but struggle to learn. Often these children are labeled as learning disabled. These difficulties with cognitive organization contribute to a more primitive, less mature style of problem solving--with violence often being employed as a "tool."

This principle is critically important in understanding why a traumatized child--in a persisting state of arousal--can sit in a classroom and not learn. The brain of this child has different areas activated--different parts of the brain 'controlling' his functioning. The capacity to internalize new verbal cognitive information depends upon having portions of the frontal and related cortical areas being activated, which,

in turn, requires a state of attentive calm. A state the traumatized child rarely achieves.

<i>Sense of Time</i>	Extended Future	Days Hours	Hours Minutes	Minutes Seconds	No Sense Of Time
<b>Arousal Continuum</b>	REST	VIGILANCE	RESISTANCE Crying	DEFIANCE Tantrums	AGGRESSION
<b>Dissociative Continuum</b>	REST	AVOIDANCE	COMPLIANCE Robotic	DISSOCIATION Fetal Rocking	FAINTING
<b>Regulating Brain Region</b>	NEOCORTEX Cortex	CORTEX Limbic	LIMBIC Midbrain	MIDBRAIN Brainstem	BRAINSTEM Autonomic
<b>Cognitive Style</b>	ABSTRACT	CONCRETE	EMOTIONAL	REACTIVE	REFLEXIVE
<b>Internal State</b>	CALM	AROUSAL	ALARM	<i>FEAR</i>	TERROR

**The continuum of adaptive responses to threat.** Different children have different styles of adaptation to threat. Some children use a primary hyperarousal response, others a primary dissociative response. Most use some combination of these two adaptive styles. In the fearful child, a defiant stance is often seen. This is typically interpreted as a willful and controlling child. Rather than understanding the behavior as related to fear, adults often respond to the ‘oppositional’ behavior by becoming angry and more demanding. The child, over-reading the non-verbal cues of the frustrated and angry adult, feels more threatened and moves from alarm to fear to terror. These children may end up in a primitive “mini-psychotic” regression or in a very combative state. The behavior of the child reflects their attempts to adapt and respond to a perceived (or misperceived) threat.

When threatened, a child is likely to act in an ‘immature’ fashion. Regression, a ‘retreat’ to a less mature style of functioning and behavior, is commonly observed in all of us when we are physically ill, sleep-deprived, hungry, fatigued or threatened. During the regressive response to the real or perceived threat, less-complex brain areas mediate our behaviors. If a child has been raised in an environment of persisting threat, the child will have an altered baseline such that the internal state of calm is rarely obtained (or only artificially obtained via alcohol or drug use). In addition, the traumatized child will have a ‘sensitized’ alarm response, over-reading verbal and non-verbal cues as threatening. This increased reactivity will result in dramatic changes in behavior in the face of seemingly minor provocative cues. All too often, this over-reading of threat will lead to a ‘fight’ or ‘flight’ reaction - and increase the probability of impulsive aggression. This hyper-reactivity to threat can, as the child becomes older, contribute to the trans-generational cycle of violence.

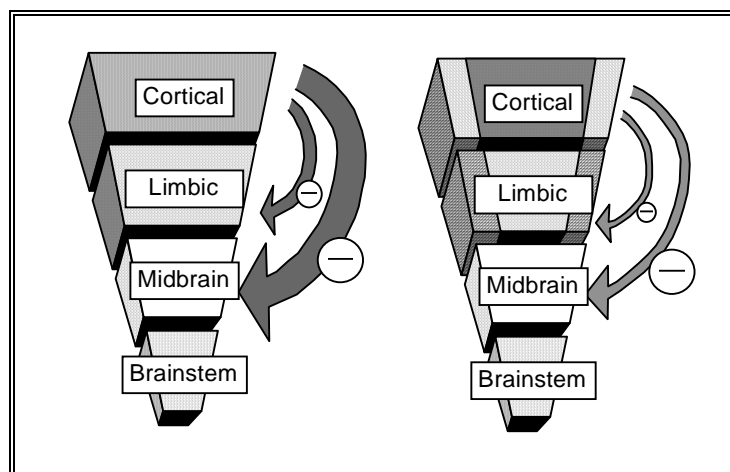
Children in a state of fear retrieve information from the world differently than children that feel calm (see Figure above). We all are familiar with ‘test’ anxiety. Imagine what life would be like if all experiences invoked the persisting emotion of anxiety. If a child has information stored in cortical areas but in the specific moment is very fearful, this information is inaccessible. In this regard, cognitively stored

information does little good in the life-threatening moment. Simple, didactic conflict-resolution models are doomed to fail unless they involve elements of role-playing. Imagine how much you would trust an army that went through combat training by sitting in classroom; or the E.R. physician about to run her first code after only learning how to do that by reading a book. In the midst of most threatening experiences--situations where violence often takes place--the 'problem-solving' information in the cortex is not easily accessed. It is of interest to note that information learned in song, rhyme or rap is more easily recalled when in a state of high arousal. This is due, of course, to the fact that this information is stored in a different fashion than traditional verbal cognitive information.

### Cortical Modulation and Malignant Combinations of Risk Factors

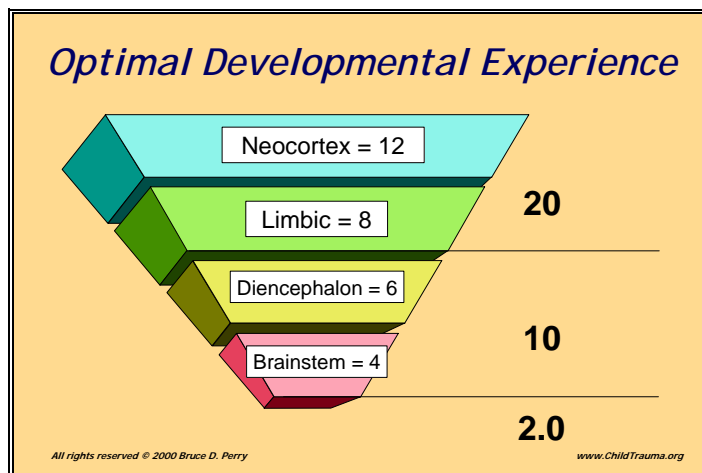
The most dangerous among us have come to be this way because of a malignant combination of experiences: lack of critical early life nurturing; chaotic and cognitively impoverished environments; persisting fear and physical threat; and finally, watching the strongest, most violent in the home get what he wants while watching the same aggressive, violent use of power idealized on television and at the movies (see Figures below). These violent offenders have been incubated in terror, waiting to be old enough to get "one of those guns", waiting to be the one who controls, the one who takes, the one who hits, the one who can "make the fear, not take the fear." Unfortunately, because of clear socio-cultural devolution in some segments of our communities, there are more and more undersocialized, traumatized children. These children get little cognitive stimulation--the public schools are falling apart; getting little emotional contact--mom is a child herself and pregnant again; getting little predictability, structure or nurturing out of the home--the community has dissolved.

**Cortical Modulation:** The capacity to moderate frustration, impulsivity, aggression and violent behavior is age-related. With a set of sufficient motor, sensory, emotional, cognitive and social experiences during infancy and childhood, the mature

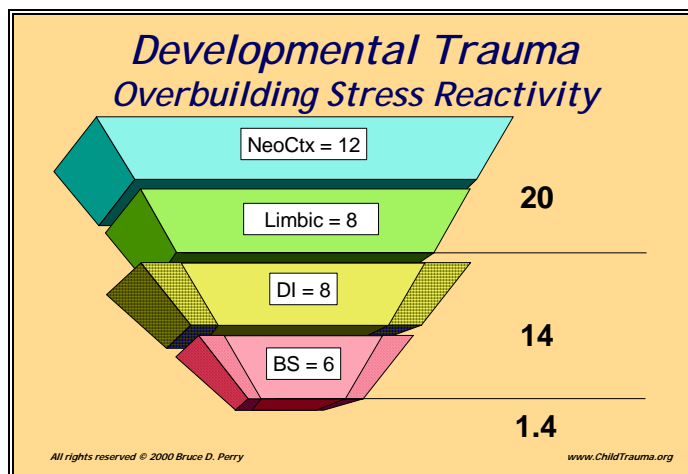


brain develops - in a use-dependent fashion -- a mature, human capacity to tolerate frustration, contain impulsivity and channel aggressive urges.

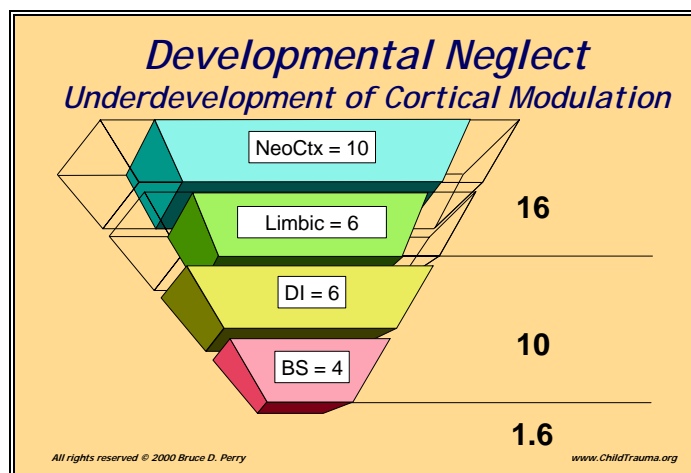
The human brain is organized from the most simple (e.g., fewest cells: brainstem) to most complex (e.g., most cells and most synapses: frontal cortex). The various functions of the brain, from most simple and reflexive (e.g., regulation of body temperature) to most complex (e.g., abstract thought), are mediated in parallel with these various areas. These areas organize during development and change in the mature brain in a 'use-dependent' fashion. The more a certain neural system is activated, the more it will 'build in' this neural state--creating an internal representation of the experience corresponding to this neural activation. This use-dependent capacity to make internal representations of the external or internal world is the basis for learning and memory.



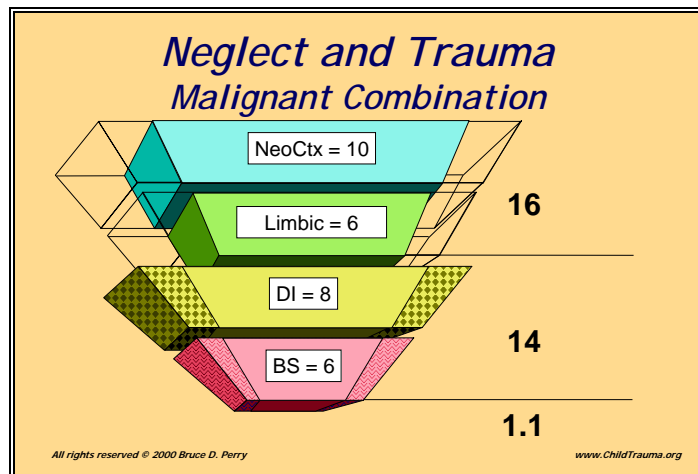
**Ratio of Modulation: Optimal Development.** A healthy Cortical Modulation ratio (Cortical and Limbic/Midbrain and Brainstem) develops when the child experiences a variety of optimal emotional, behavioral, cognitive and social experiences at key times during their development. This ratio indicates the relative 'power' of the mature brain to modulate the more primitive, reactive, reflexive output of the brainstem and midbrain. During infancy and childhood, sequential development of the brain necessitates that the lower, more primitive portions of the brain develop first and, over time, the output of these areas is shaped, modulated, modified in more mature fashion as the higher brain areas develop: any disruption of development which either 'overdevelops' the midbrain and brainstem or 'underdevelops' the limbic and cortical areas will result in an imbalance in the Cortical Modulation ratio, predisposing to aggressive and violent behavior.



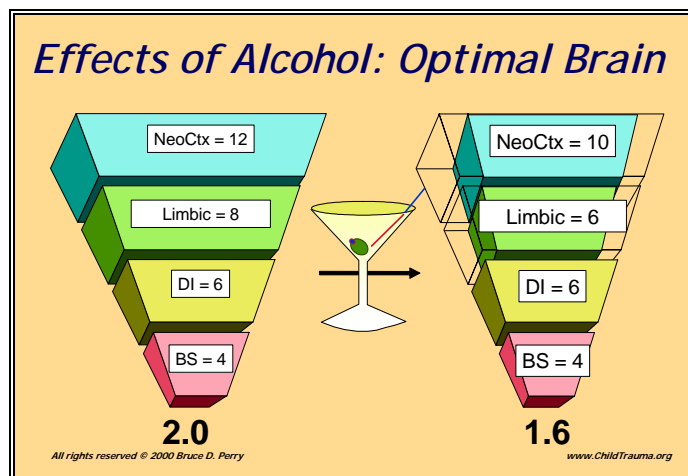
**The Persisting Fear Response: Developmental Trauma.** A child raised in an environment characterized by persisting trauma (e.g., domestic violence, physical abuse, community violence) will develop an excessively active and reactive stress-response apparatus. The majority of the stress response systems reside in the brainstem and midbrain (e.g., locus coeruleus). Overdevelopment of these areas, even in the presence of optimal emotional or cognitive experience will result in an altered Cortical Modulation ratio and, a predisposition to act in an aggressive, impulsive, behaviorally reactive fashion.



**Developmental Neglect: Emotional or Experiential Deprivation.** The ability of the brain to develop a healthy Cortical Modulation ratio (Cortical and Limbic/Midbrain and Brainstem) is impaired when key experiences are minimal or absent. This results in poor modulation of impulsivity, persisting 'primitive' or immature emotional and behavioral functioning and, in combination with other developmental experiences, a predisposition to violence. The ability of the maturing brain then, to modify impulsive and reactive responses in the face of stress or frustration is decreased in individuals deprived of specific developmental experiences.

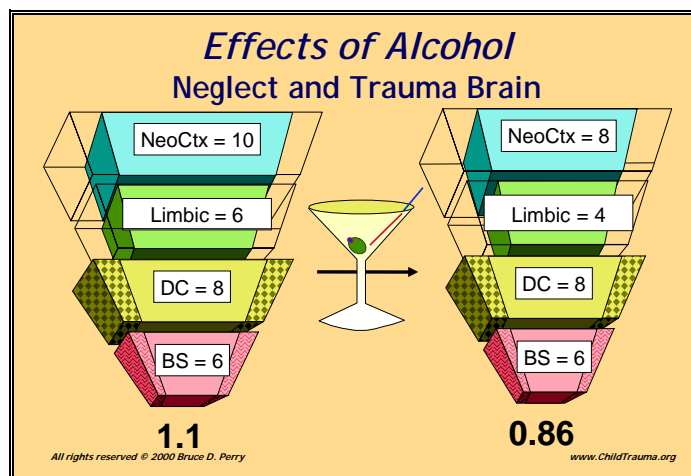


**Neglect and Trauma: The Malignant Combination.** Developmental neglect or traumatic stress during childhood can profoundly alter development. Unfortunately, emotional and cognitive neglect usually occur in combination with traumatic stress. The combination of a lack of critical emotional experiences and persisting traumatic stress leads to a dramatic alteration in the brain’s modulation and regulation capacity. This is characterized by an overdevelopment of brainstem and midbrain neurophysiology and functions (e.g., anxiety, impulsivity, poor affect regulation, motor hyperactivity) and an underdevelopment of limbic and cortical neurophysiology and functions (e.g., empathy, problem solving skills). This experience-based imbalance predisposes to a host of neuropsychiatric problems -- and, violent behavior.

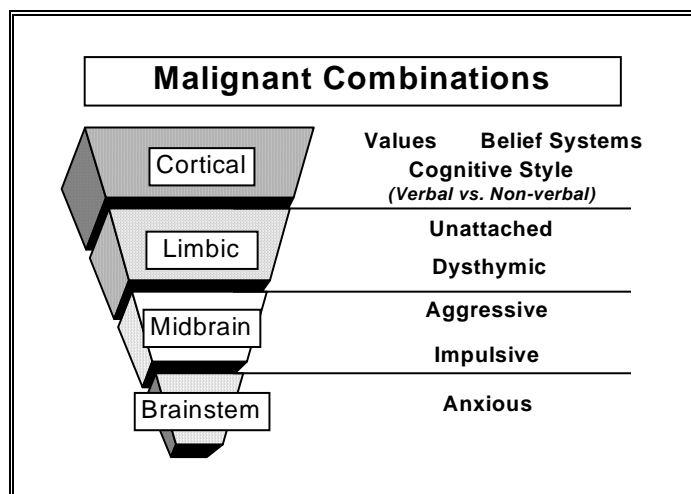


**Alcohol Decreases the Cortical Modulation Ratio.** Alcohol has a well-documented relationship with violent behavior. Under optimal circumstances, drinking can decrease judgment, impair capacity to modulate impulsivity and predispose to aggressive and violent behaviors. Alcohol does this, in part, because of mass action effects of the non-specific actions on neurons, decreasing functional capacity in all cells. Because the cortex has the most cells, however, it is relatively more-sensitive to the non-specific effects of alcohol, resulting in the general phenomenon of

'getting' drunk from the top down. The sequence of loss of function under the influence of alcohol match the hierarchical organization of the brain: simply state, you get drunk from the top down. The temporary decrease of Cortical Modulation power under the influence of alcohol leads to many violent actions.



**Alcohol Effects on the Brain following Maltreatment or Trauma:** The capacity of alcohol to impair functioning and decrease Cortical Modulation ratio is even more dramatic in the poorly organized brain. The combination of alcohol (or other drugs) and a neglected, abused adolescent often leads to deadly and chilling violence.



**Malignant Combination of Experience:** Neurodevelopmental experiences of trauma or neglect alter a variety of brain areas and functions important in predisposing to violence. Depending upon the time in development, the nature and extent of the abuse and the presence of attenuating factors, the developing brain will be impacted differentially. These experiences may occur in utero or in the perinatal period, impacting the brainstem and resulting in symptoms of anxiety. Experiences in the

perinatal and first few years of life can impact the midbrain, resulting in impulsive and aggressive symptoms. Trauma and neglect during infancy and childhood can impact the sub-cortical and limbic areas, resulting in dysthymic, depressed or unattached individuals. Finally, experiences throughout childhood can impact the development of cognitive capabilities resulting in processing and problem-solving styles which predispose to violent solutions. Ultimately, however, being anxious or impulsive or depressed or unattached or cognitively impaired do not alone lead to violence. It is a malignant combination of one or more of these vulnerabilities in concert with a facilitating or encouraging belief system that leads to violent behaviors.

#### ***Section 4 - Key Points:***

- *Therapeutic, restorative work with kids and instilling hope*

### **Decreasing the Alarm State: The Start of Therapeutic Work**

How do you begin to help the traumatized child -- the child that has been living in the vortex of violence? The frustrating fact is that whether teacher, caseworker, mental health professional, pediatrician, police officer or any other caring adult, we often are unable to remove a child from the vortex. We see the impact, we know the home, the community, the peer group, and the gang will stay the same. We know that for '24-7' the child is in settings where we may have no control or impact. This need not be reason for despair--motivation for outrage and action, yes—but, there is no reason for hopelessness.

An amazing quality of the human brain is to create an image of the future. To make an internalization of a better place, a better way, a better life, a better world. This capacity is called hope. We can give children hope that not all adults are inattentive or abusive or unpredictable or violent. Some of the most influential people in any person's life may be someone they have never even met. They have used that person to create an inner image to aspire to, to idealize or to idolize. Role models, mentors, and heroes--all can provide critical formative experiences for children.

And what are the qualities that we should introduce into our work to provide the experience for the children that can give them hope and the opportunity for change? The hallmarks of the transforming therapeutic interaction are safety, predictability, and nurturance. The most 'therapeutic' interactions often come from people who have no training (or interest) in psychological or psychiatric labels, theories, treatments and the adult expectations of the child that go with these. In interacting with the child, respect, humor and flexibility can allow the child to be valued as what they are.



Clinical principles for effective work with children have additional critical elements. One is helping the child understand what they feel and why they behave a certain way in given situations. Traumatized children frequently act impulsively and misunderstand why this has happened. They will often explain this (as will the adults around them) as the by-product of them being stupid, insensitive, bad, selfish, sick or damaged in some way. The false cognitions of the traumatized child need to be addressed and changed. A second important element of clinical work with traumatized children is educating the adults in the child's world about the ways in which maltreated and traumatized children think, feel and behave. This can lead to understanding rather than confusion, frustration, or rage. If a clinician can make the ten adults in the child's life 5 percent more understanding, they can increase the number of neutral and positive interactions in the child's life ten-fold and decrease the number of negative interactions dramatically. The resulting impact is much more effective than 45 minutes a week in the clinician's office.

There are many more important specific treatment aspects of working with these children that are beyond the scope of this chapter. Yet even with optimal clinical 'techniques', treatment of maltreated children would overwhelm the entire mental health and child welfare community in this country. Today the number of children that would benefit from intervention far outstrips the meager resources our society has dedicated to maltreated children. At the end of the day -- and possibly at the end of our society -- we will have to focus on prevention.

## Prevention and Solutions

What we are as adults is the product of the world we experienced as children. The way a society functions is a reflection of the childrearing practices of that society. Today, we reap what we have sown. Despite the well-documented critical nature of early life experiences, we dedicate few resources to this time of life. We do not educate our children about development, parenting, or about the impact of neglect and trauma on children. As a society we put more value on requiring hours of formal training to drive a car than we do on any formal training in childrearing.

In order to prevent the development of impulsive, predatory or violent children, we need to dedicate resources of time, energy and money to the complex problems related to child maltreatment. We need to understand the indelible relationship between early life experiences and cognitive, social, emotional, and physical health. Providing enriching cognitive, emotional, social and physical experiences in childhood could transform our culture. But before our society can choose to provide these experiences, it must be educated about what we now know regarding child development. Education of the public must be coupled with the continuing generation of data regarding both the impact of positive and negative experiences on the development of children. All of this must be paired with the implementation and testing of programs dedicated to enrich the lives of children and

families and programs to provide early identification of, and proactive intervention for, at-risk children and families.

The problems related to maltreatment of children are complex and they have complex impact on our society. Yet there are solutions to these problems. The choice to find solutions is up to us. If we choose, we have some control of our future. If we, as a society, continue to ignore the laws of biology, and the inevitable neurodevelopmental consequences of our current childrearing practices and policies, our potential as a humane society will remain unrealized. The future will hold sociocultural devolution -- the inevitable consequence of the competition for limited resources and the implementation of reactive, one-dimensional and short-term solutions.

## **About the Author**

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Dr. Perry is the Senior Fellow of the ChildTrauma Academy. Dr. Perry served as the Thomas S. Trammell Research Professor of Child Psychiatry at Baylor College of Medicine and Chief of Psychiatry at Texas Children's Hospital in Houston, Texas from 1992 to 2001. In addition he has served as the Director of Provincial Programs in Children's Mental Health for Alberta, Canada, and is the author of more than 200 scientific articles and chapters. He is the recipient of dozens of awards and honors and is an internationally recognized authority in the area of child maltreatment and the impact of trauma and neglect on the developing brain.

## **About The ChildTrauma Academy**

The ChildTrauma Academy, a not-for-profit organization based in Houston, TX, is a unique collaborative of individuals and organizations working to improve the lives of high-risk children through direct service, research and education. These efforts are in partnership with the public and private systems that are mandated to protect, heal and educate children. The work of the Academy has been supported, in part, by grants from Texas Department of Protective and Regulatory Services, the Children's Justice Act, the Court Improvement Act and through innovative partnerships with academic and corporate partners such as Powered, Inc., Scholastic, Inc., Linkletter Media and Digital Consulting and Software Services.

The mission of the ChildTrauma Academy is to foster the creation of innovations in practice, programs and policy related to traumatized and maltreated children. To support this mission, the Academy has two main activities; 1) Program development and consultation and 2) Specialized education and training services.

*For more information or to direct donations:*

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### **Web Resources:**

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