



Smith ScholarWorks

Theses, Dissertations, and Projects

2012

Talking through the body : a comparative study of cognitive-behavioral and attachment based treatments for childhood trauma

Eric A. Eichler

Follow this and additional works at: <https://scholarworks.smith.edu/theses>



Part of the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Eichler, Eric A., "Talking through the body : a comparative study of cognitive-behavioral and attachment based treatments for childhood trauma" (2012). Masters Thesis, Smith College, Northampton, MA.
<https://scholarworks.smith.edu/theses/879>

This Masters Thesis has been accepted for inclusion in Theses, Dissertations, and Projects by an authorized administrator of Smith ScholarWorks. For more information, please contact scholarworks@smith.edu.

Eric Eichler
Talking Through the Body:
A Comparative Study of Cognitive-
Behavioral and Attachment-Based
Treatments for Childhood Trauma

ABSTRACT

Childhood abuse and neglect have been shown to have a devastating impact on an individual's social, emotional, and physical development. This study was undertaken in order to determine the best treatment approach for survivors of childhood trauma. The author investigated the impact of traumatic stress on the brain, and reviewed the psychoanalytic, child development, and neurobiological literature on the importance of the attachment relationship for healthy development. Various perspectives on the diagnosis of childhood trauma were explored, including models that centralize childhood trauma as the cause of much of the spectrum of mental illness we see today.

The author researched the theoretical underpinnings of both cognitive-behavioral and attachment-based therapies, before analyzing representative interventions from each school of thought in order to determine the strengths and weaknesses of each approach. The author found that each approach has much to offer, but that an attachment-based, neurobiologically-informed perspective is especially relevant when working with survivors of trauma, who may experience dysregulation of the autonomic nervous system, the same system influenced by the attachment relationship. Moreover, because sensory processes stimulate brain areas that mediate the traumatic stress response, interventions that focus on sensory aspects of experience may be more effective for survivors of childhood trauma than cognitive-behavioral techniques alone.

TALKING THROUGH THE BODY: A COMPARATIVE STUDY
OF COGNITIVE-BEHAVIORAL AND ATTACHMENT-
BASED TREATMENTS FOR CHILDHOOD TRAUMA

A project based upon an independent investigation,
submitted in partial fulfillment of the requirements
for the degree of Master of Social Work.

Eric Eichler

Smith College School for Social Work
Northampton, Massachusetts 01063

2012

ACKNOWLEDGEMENTS

This thesis could not have been written without the assistance of many people whose contributions are gratefully acknowledged. Jeongah Kim, David Burton, Dennis Miehl, and Debra Carney provided guidance as I formulated my research plan. Elaine Kersten advised me as I wrote and helped me through all stages of the process. She has been a perpetually cheerful supporter. Pat Ogden provided me with encouragement and a reference. My father Tom Eichler edited the manuscript.

Tom Concannon, Cindy Knight, and Jonathan Mack each embody compassion in their work with traumatized children and teens, and inspired me to pursue this topic. My clinical supervisors John Christopher and Kathleen Moore helped me get my feet wet, and are both exemplars of clinical social work. Most of all, my clients taught me that it is possible to thrive in the wake of extremely adverse conditions.

To Madelaine: thank you.

Children don't grow up well without safety and confidence. If that wasn't in one's childhood—in growing up—you could say, now, there's something missing during all that time. And the next question is, how to supply it, and it does need to be supplied. Not all of the learning in all of the books is half as valuable in getting over nervousness as to find someone that you esteem, that you can learn to feel safe with, where you can get a feeling of being accepted, of cherished, where you get a feeling that you are worthwhile, and that you are important to someone. You could say, the feeding that you didn't get—that's something more than bread—when you were little, you still need to get it. You still need to be fed acceptance and to find safety. In other words, knowledge alone is not enough.

—U.S. Army psychiatrist, quoted in the film *Let There Be Light* (Huston, 1946)

The current discoveries in the neurosciences about the automatic activation of hormonal secretions, emotional states, and physical reactions in response to sensory input have once again confronted psychology with a reality that was first emphatically articulated by Freud: that most human actions and motivations are based on processes that are not under conscious control.

—Bessel van der Kolk (2006)

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
TABLE OF CONTENTS.....	iv
CHAPTER	
I Introduction	1
II The Enduring Effects of Childhood Trauma	3
III Cognitive-Behavioral Treatments for Childhood Trauma	34
IV Attachment-Based Treatments for Childhood Trauma	59
V Discussion & Conclusion	81
REFERENCES	96

CHAPTER I

Introduction

Many young people in U.S. society endure distressing experiences that affect them throughout childhood and later in life (Copeland, Keeler, Angold, & Costello, 2007; Costello, Erkanli, Fairbank, & Angold, 2002; Pynoos & Fairbank, 2003). Different studies have revealed various prevalence rates for childhood trauma in U.S. society, which is at least partly due to the fact that the victimization of children is far less reported than other kinds of offenses (Shaw, 2010). While some studies have determined the prevalence of childhood trauma to be approximately 25% (Costello, et al., 2002; Pynoos & Fairbank, 2003), others have determined it to be much higher. A 10-year longitudinal study of a large representational sample of youth found that 68% reported having experienced at least one traumatic event by age 16, with many reporting more than one event (Copeland, Keeler, Angold, & Costello, 2007). Regardless of the specific prevalence rate that exists in U.S. society, it is apparent that many children endure physical or sexual abuse, neglect, or other traumatic experiences.

Moreover, in light of the current adverse economic situation in this country, with many people newly unemployed, it is likely that child maltreatment is on the rise (Zagorsky, J., Schlesinger, M., and Sege, 2010). As such, childhood trauma is an issue that merits serious concern and familiarity for any mental health professional, for it is highly likely that he or she will work with individuals who have endured traumatic experiences in childhood.

A range of approaches exists to treat survivors of childhood trauma, including individual and group cognitive-behavioral therapy, play therapy, art therapy, psychodynamic therapy, and pharmacologic therapy (Wethington, Hahn, Fuqua-Whitley, Sipe, Crosby, Johnson, et al., 2008). There are also a school of techniques that find their home in attachment theory, and that in the last decade have found great resonance with recent neurobiological findings (Schoore & Schoore, 2008). These therapies have emerged from divergent theoretical bases, and it is not the intention of this paper to address them all. Rather, after a discussion of the effects of trauma on the developing brain, this study will focus on two of the most prevalent treatment approaches employed today for the treatment of childhood trauma: cognitive-behavioral therapies and attachment-based approaches (Wethington, et al., 2008; Langmuir, Kirsh, & Classen, n.d.).

It is likely that one approach might be better suited than the other for a particular case. In this study I will outline the history and theoretical bases of these treatment perspectives, before presenting how representative therapies from each are conducted. The specific techniques I will discuss are Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT), which is grounded in cognitive-behavioral theory, and the Neurosequential Model of Therapeutics (NMT) and Sensorimotor Psychotherapy (SP), which are both grounded in attachment theory. I will examine each technique's strengths and weaknesses, in hopes that clinicians will be able to choose the appropriate intervention when working with this population.

CHAPTER II

The Enduring Effects of Childhood Trauma

Childhood maltreatment has been shown to have a devastating impact on an individual's social, emotional, and physical development (Goodman, 2010; Ludy-Dobson & Perry, 2010; van der Kolk, 2005). Maltreatment during childhood, however, is clearly not the only source of problems later in life; another potential precursor to problems in social, emotional, and physical health is the contracting of a serious disease like cancer during childhood, which has been shown to cause post-traumatic stress disorder (PTSD) in some cases (Stuber et al., 2010). While some of the conclusions reached in the present study might be relevant for survivors of cancer and other diseases, the focus of this paper will be on symptoms that emerge as a result of neglect or abuse.

In an attempt to measure the impact of child maltreatment on later development, the Adverse Childhood Experience Study group has conceptualized the category of “adverse childhood experiences” (ACEs), which consist of three broad categories: abuse, neglect, and growing up in a dysfunctional household (Anda, 2006). Abuse can be either emotional, physical or sexual; neglect can be of an emotional or physical nature; and growing up in a dysfunctional household can stem from any one or more of the following situations: domestic violence, marital discord, substance abuse, mental illness of a parent, suicidal behavior by a parent, or one or more parents being incarcerated. Any one of these experiences by itself can be extremely detrimental to a child's development, and it has been demonstrated that simply having one ACE—alcohol

abuse by a parent, for example—significantly raises the likelihood of having one or several more ACEs (Anda, 2006).

The more adverse childhood experiences an individual endures, the higher the likelihood that that individual will have later problems with alcohol abuse, the higher the chance that he or she will contract a sexually transmitted disease, and the greater probability that he or she will smoke cigarettes and develop lung disease (Anda, 2006). The more ACEs a person endures, the higher likelihood that an individual will develop depression or attempt suicide in his or her lifetime, and the greater chance that he or she will develop attention deficit hyperactivity disorder (Goodman, 2010; Anda, 2006). Abuse and neglect have also been linked to bullying, the development of sociopathic behavior (Schoore, 2003a), and health problems such as heart disease, high blood pressure, and cancer (Goodman, 2010).

Having a number of ACEs exponentially increases a person's chances of becoming a drug addict. A male child with six ACEs has been shown to have 46-fold increase in risk of becoming an intravenous drug user (Goodman, 2010). It is probably due to these staggering statistics that Bessel van der Kolk (2005) stated, “childhood trauma, including abuse and neglect, is probably our nation’s single most important public health challenge” (p. 401).

Many studies have linked the severity of childhood physical abuse to later marital violence (Fleming, 1979; Gelles, 1972; Hilberman & Munson, 1978; Strauss, 1977), as well as to violence directed at self or others and to criminal activity (Bach-y-Rita, 1974; Burgess, Hartman, & McCormack, 1987). Freud and others speculated that re-enactment of the traumatic experience—“repetition compulsion”—is an unconscious attempt by the traumatized individual to gain mastery over what happened to him or her (van der Kolk, 1989). This repetition of behavior, however, in which an individual can play the role of either victim or victimizer, can

cause further suffering for the individual and those in contact with him or her, rather than resulting in mastery. The reenactment of traumatic experience is said to be a major cause of violence in our society (van der Kolk, 1989).

What's more, as Hesse, Main, Abrams, and Rifkin (2003) have documented, survivors of childhood trauma have been shown to pass on unresolved issues related to their own trauma history to their children. In their review of a variety of studies on attachment patterns of children who had experienced childhood trauma, these authors emphasize the momentary slips of discourse or reasoning while a parent was discussing his or her own loss or abuse experiences, and extrapolate that these mental lapses are associated with corresponding, if involuntary, parental actions which result in second-generation effects on this parent's children. A trauma history appears to predispose a parent to pass on aspects of this experience, including fearful, catastrophic or chaotic fantasies, disorganized language, and silence or response inhibition, to the next generation.

Given the above information on the impact of childhood trauma on physical and mental health, as well as its effects on society, it is imperative that the best and most appropriate treatments for survivors of childhood trauma be found. This is the overarching focus of this theoretical study, *Talking Through the Body: A Comparative Study of Cognitive-Behavioral and Attachment-Based Treatments for Childhood Trauma*. In order to provide a broad understanding of the issue this chapter will address the phenomenon of childhood trauma from several different perspectives in order to move towards a discussion and evaluation of some of the major treatments available today. First, I will review the literature on the effects of traumatic stress on the brain. Then I will highlight neurobiological findings that establish the importance of healthy attachment for proper brain development. In this section I will also introduce the vast

psychoanalytic and child development literature on attachment, and focus in on several key thinkers. Next, I will move to a discussion of the diagnosis of childhood trauma, beginning with a presentation of the diagnostic criteria for PTSD, before describing and analyzing alternative conceptualizations including Complex PTSD (also known as Disorder of Extreme Stress Not Otherwise Specified—DESNOS) and Developmental Trauma Disorder. Each of these alternatives offers nuances in approach that are unavailable in simpler conceptualizations of PTSD.

The discussion will then move to models that centralize childhood trauma as the cause of much of the spectrum of mental illness we see today. The discussion will round out with a presentation of the spectrum of treatment methods that are available today for the treatment of children who have experienced trauma. I will introduce both attachment-based treatments and treatments that are theoretically grounded in cognitive-behavioral therapy. The succeeding chapters of this paper will focus on each of these treatment approaches in greater depth.

The Neurobiology of Traumatic Stress

The brain's response to traumatic stress has emerged through an evolutionary process that has taken millennia (Allen, 2001). The stress response system—the biological hardware required to make immediate approach-avoidance decisions—evolved to keep the organism alive in the face of a variety of threats, from scorpions and bears to heights and open spaces (Cozolino, 2010). Our brains were formed by the constant demands of survival, and the result is that all of the circuitry we have now is intimately connected to this underlying task.

The brain does not stop developing until a person's early 20s (Heide & Solomon, 2006). When a child is born, all of the structures in the brain are present. However, there is significant brain development after birth, the majority of which occurs in early childhood. During the first

year of life, the brain expands to two and a half times its birth size (Stien & Kendall, 2003). By age four, a child's brain is 90% the size of an adult brain (Perry, 2006).

During the first two years of life there is an overproduction of axons, dendrites, and synapses in the brain (Stien & Kendall, 2003). It is during this crucial stage of development that a process known as "pruning" eliminates unused synapses while maintaining those that are used (Cicchetti, 2002). Perry, Pollard, Blakley, Baker, and Vigilante (1995) have extended this line of thinking, describing the "use-dependent" nature of the brain, not just in the first two years of life, but throughout childhood:

The more frequently a certain pattern of neural activation occurs, the more indelible the internal representation. Experience thus creates a processing template through which all new input is filtered. The more a neural network is activated, the more there will be use-dependent internalization of new information needed to promote survival. (p. 275)

Neural systems that are repeatedly activated will become firmly established through this very activation, while systems in the brain that are not used will, as a result of this neglect, remain underdeveloped.

Other recent researchers have also been focusing on this "use-dependent" nature of the brain, and the term "neuroplasticity" has gained currency as a descriptor of this dynamic quality of the brain (Cramer et al., 2011; Draganski et al., 2004). Traditionally, brain scientists held that cortical plasticity, or adaptability, was only associated with changes in brain function. However, the recent research indicates that our brains are never static, even on a physiological level.

Cramer et al. (2011) define neuroplasticity as "the ability of the nervous system to respond to intrinsic and extrinsic stimuli by reorganizing its structure, function, and connections" (p. 1592). The authors point to the brain's plasticity in response to insults such as stroke and spinal cord

injury, neuropsychiatric disorders, and substance use disorders. They are clear that injury to the developing brain can be more harmful than injury to an adult brain, writing that “many forms of neuroplasticity are at their maximum during early developmental stages” (p. 1596). And plasticity can be maladaptive: brains can adapt to adverse circumstances in ways that are harmful, for instance in a heightened stress response to stimuli that others might consider innocuous—one of the hallmarks of PTSD. Moreover, Kaiser, Gillette, and Spinazzola (2010) show that experiences of relational scarcity in childhood have the potential to alter pathways in the brain that facilitate emotional processing:

Upper cortical connections from prefrontal areas provide the capacity for emotional regulation. If dendrites in hypothalamic neurons that project to higher cortical areas are not utilized because of early experiential restriction, those dendrites are pruned in the normal pruning process. On the other hand, pathways to the subcortical systems responsible for dissociation are myelinated. (p. 702)

In response to inadequate caretaking—otherwise known as neglect—the brain appears to respond by buttressing itself against an unfriendly world.

However, if conditions are conducive, our brains can adapt in helpful ways as well. The authors point to several promising interventions that are “targeted towards promoting neuroplasticity” (p. 1597), including neuropharmacology, exercise and physical training, cognitive training, neurofeedback, and transcranial direct current stimulation, which harnesses low levels of electric current to stimulate particular regions of the brain. The common thread in each of these interventions is the goal of creating conditions in which the brain can restructure itself in helpful ways.

Duncan et al. (2005) point to the window of opportunity after stroke for effective intervention, stating that “effective rehabilitation interventions initiated early after stroke can enhance the recovery process and minimize functional disability” (p. e100). The authors cite a study by Paolucci and colleagues (p. e107) in which therapy was administered to two groups of individuals who had had strokes: the first group started therapy soon after the stroke, and the second group 20 days later. The first group had a significantly high probability of excellent therapeutic response, while the second, later-starting group had a poor response (p. e108). This study suggests the importance of early intervention following insult or injury in order to leverage the brain’s plastic qualities. Perry (2006) writes that “once an area of the brain is organized, it is much less responsive to the environment; in other words, it is less plastic” (p. 43). It follows that working with children as soon after a traumatic event as possible is most helpful.

Draganski et al. (2004) used whole brain magnetic-resonance imaging (MRI) to visualize the brain plasticity of individuals who learned how to juggle. The individuals showed structural changes in “brain areas that are associated with the processing and storage of complex visual motion,” revealing a “stimulus-dependent alteration in the brain’s macroscopic structure” (p. 311). Many interventions exist that might effect changes in brain structure. In subsequent chapters of the present study, two schools of therapeutic intervention for PTSD will be examined and compared, and attention will be paid to the role attributed in each school to plasticity of brain function and structure.

One way of understanding the organization of the human brain is the triune brain model proposed by MacLean (1990). According to this model, the brain is divided into three main areas: the brainstem, the limbic system, and the cortex (Stien & Kendall, 2003). The model proposes that the brain is organized hierarchically, with the top area being more complex than

the lower areas. Cozolino (2010) labels the brainstem the reptilian brain and the limbic system (located more or less in the center of the skull) the paleomammalian brain, and describes both as being “nonverbal” and comprising “aspects of the Freudian unconscious” (p. 77). In contrast, the neomammalian brain—the outer cortex—although unconscious in terms of its processing activities, is responsible for explicit verbal memory (p. 77).

Perry et al. (1995) make use of this model when they point to the sequential nature of brain development: the least complex area—the brainstem—develops first, before the more complex areas such as the limbic system and the cortical regions. The brainstem, which is responsible for regulating heart rate, blood pressure, respiratory function, and arousal states, is already developed at birth, because the human child needs all of these capacities in order to survive. Any abnormalities will be immediately observable because of the essential nature of these bodily processes. In contrast, the cortical areas, responsible for abstract cognition and complex language, are not needed until much later in life. Different areas of the central nervous system organize at different times, and they require and are more sensitive to organizing experiences at different times.

According to the triune brain model, the limbic system is the intermediary section of the brain. It is often referred to as the emotional brain because it is the region of the brain in which our urges and emotions originate (Stien & Kendall, 2003). Moreover, it is responsible for attachment and affect regulation (Perry et al., 1995). This system, which includes the amygdalae, the hypothalamus, and the hippocampus, among other structures, regulates perception, memory, and body chemistry—entities which, in concert, create the experience of emotion (Ziegler, 2002). The limbic system regulates the body and emotions through all the different aspects of sensory stimuli experienced in a human life: from hunger and thirst to lust and depression

(Ziegler, 2002). Because of its centrality in this constant process of regulation, the limbic system has been shown to be central in the activation of fear and the survival instinct, and directly impacted by traumatic experiences (Cozolino, 2010). But it is not the limbic system alone which is activated and impacted by trauma. The fear response starts in the amygdala, but it does not end there. The right hemisphere of the cortex is centrally important for emotional learning and attachment. In fact, it is deeply connected to the limbic system and the autonomic nervous system, and so it is integrally involved in mounting a stress response and controlling vital functions (Perry, 1997).

According to van der Kolk and Saporta (1991), the implications for damage to the limbic system are severe:

Severe or prolonged stress can disrupt hippocampal functioning, creating context-free fearful associations which are hard to locate in space and time. This results in amnesia for the specifics of traumatic experiences, but not the feelings associated with them. These experiences then may be encoded on a sensorimotor level without proper localization in space or time. (p. 204)

Children who have endured chronic abuse or neglect are likely to experience distressing emotions but not be able to connect these emotions to their traumatic history, so that in essence, the whole world becomes distressing. The limbic system becomes overactivated, and the child lives in a heightened stress response state—a state which becomes a trait over time (Perry et al., 1995). This constant hypervigilance has been shown to weaken academic and social-emotional learning (Perry, 2006). Because the limbic system is more activated than the neocortex, the child focuses more on non-verbal cues such as eye contact, body language, facial expressions, and tone of voice, and less on the content of the words (Perry, 1997).

By researching animals, LeDoux (1994) was able to demonstrate two fear pathways—slow and fast—which are separate but interrelated. The slow system involves conscious processing and many more synaptic connections than the fast one. In the slow circuit, the stimulus is sent from the thalamus to the cerebral cortex and on to the hippocampus, where “the brain tries to find already established connections as a means to understand the new input” (Kirouac, 2009, p. 21). The slow circuit facilitates fear processing, and the experience is contextualized in time and place (Cozolino, 2010).

In contrast, the fast, reflexive system sends information from the sense organs immediately through the thalamus to the amygdalae—without first moving to the cerebral cortex. The amygdalae evaluate the sensory input and initiate immediate bodily responses (Cozolino, 2010). The amygdalae are two small almond-shaped structures located on the left and right sides of the brain deep within the medial temporal lobes. Part of the brain’s limbic system, the amygdalae trigger a subconscious sympathetic response of the autonomic nervous system, in which one experiences a racing heart, sweating, and other symptoms as the body prepares for fight or flight (Cozolino, 2010). Concomitantly, emotions of anxiety and fear emerge, as evidenced by the often aggressive behavior and anger management problems of individuals who have been traumatized.

The amygdalae have a tendency towards generalization, such that as one experiences more and more stimuli that elicit a fight or flight response, “panic is triggered by an increasing number of internal and external cues” (Cozolino, 2010, p. 247). The brain processes information based on previous experiences (largely in the hippocampus, as seen above); if trauma-inducing events were a typical experience for an individual, then he or she might maladaptively experience a triggering of the stress response system in the face of minor or everyday stressors.

Perry et al. (1995) created a label for this process, in which hyperarousal or dissociation are elicited by seemingly innocuous stimuli: sensitization.

When the reflexive fear system is activated, the body immediately goes into overdrive to mount as effective a response to the threat as possible. The hypothalamus-pituitary-adrenal axis (HPA) regulates the secretion of hormones involved in the stress response (Cozolino, 2010). Endogenous stress-responsive neurohormones such as epinephrine, norepinephrine, oxytocin, vasopressin and opioids are released into the bloodstream, in order to increase arousal and prepare the body's vital organs for fight or flight (van der Kolk, 1994). Opioids prepare the body for injury by modulating pain (Sibley-Schwartz, 2011).

As part of the stress response system, cortisol is also released. It is produced by the adrenal glands which are located on top of the kidneys, but which are directly connected to the pituitary gland and the hypothalamus, both located in the brain. Cortisol is catabolic, meaning it breaks down complex carbohydrates into immediate energy for the muscles (Cozolino, 2010). However, cortisol refocuses energy that had been dedicated to protein synthesis—a mechanism central to neural growth and immune system health. Hence, prolonged high levels of cortisol impair not only learning but also health (Cozolino, 2010).

Throughout the entire stress-response process, the brain is in constant contact with the body, through many different pathways. One pathway of particular import is the tenth cranial nerve, known as the vagus. A central component of the autonomic nervous system, the vagus serves as a hub of communication between the brain and the vital organs, innervating the heart, the respiratory tract, the gastrointestinal tract, and abdominal viscera (Porges, 2009; Cozolino, 2010). The vagus contains both efferent (motor) and afferent (sensory) fibers, so it provides bidirectional dynamic feedback between the brain and the organs in order to promote

homeostasis (Porges, Doussard-roosevelt, & Maiti, 1994). When there are no external threats, the vagus facilitates digestion, restoration, and growth. However, when the fight or flight response is initiated, one effect is a decrease in vagal activity (Porges et al., 1994). If a child is abused or neglected over a prolonged period of time, and the child's stress response system is consistently activated, her or his vagus is susceptible to losing its "tone," or its ability to effectively regulate the heart and other organs. Lower vagal tone is correlated with irritability, emotional dysregulation, impulsivity, hyper-reactivity to environmental and visceral stimuli, and disruptive and oppositional behavior including bullying, threatening, and physical abuse (Cozolino, 2010).

Achieving high vagal tone appears to depend on the quality of attachment relationships in early childhood (Cozolino, 2010). If a child grows up in a secure attachment relationship, he or she will be more likely to have high vagal tone, and will be more likely to be able to internalize "moment-to-moment somatic regulation" from experiences with caretakers that provide a feeling of nurturing and safety (Cozolino, 2010, p. 234). The vagus is central in translating a feeling of security—what will be defined below as secure attachment—into an ability to self-soothe. Self-regulation and attachment will be directly addressed in the next section.

Attachment and Self-Regulation

"The essential task of the first year of human life," Allan Schore writes, "is the creation of a secure attachment bond between the infant and his or her primary caregiver" (2009, p. 116). In order to create this bond, the caregiver needs to be attuned to the infant's shifting internal states of arousal. Schore points to the "psychobiological" nature of this attunement, emphasizing "visual-facial, auditory-prosodic, and tactile-gestural communication" (p. 116). Both the caregiver and the infant must learn "the rhythmic structure of the other and modify their behavior to fit that structure, thereby co-creating a specifically fitted interaction" (pp. 116-117). An infant

becomes accustomed to the particular way his mother coos to him, looks at him with open eyes and smiles, and strokes his body; similarly, the mother is immediately aware of any abnormality in the infant's appearance and utterances.

Schore's work stands as a pillar among the current iteration of the theories on attachment first proposed by John Bowlby and Mary Ainsworth in the middle of the twentieth century. They were the first to focus attention on the lasting effect on development of the caregiver's sensitivity, or attunement, to the child's needs. In their work at the Tavistock Clinic in London, Bowlby and Ainsworth established the correlation of the security of the infant's attachment with the mother's degree of attunement. Ainsworth continued this work when she lived in Uganda and also in Baltimore (Shilkret & Shilkret, 2008).

Freud had written about the infant's relationship with the parents, too, but his mature work did not centralize the idea that the manner in which an infant is cared for has a decisive impact on later functioning. He emphasized, rather, the interpersonal dynamics between the mother and the child epitomized by the Oedipal complex, and the effects of this dynamic on the individual's psychological structure. It is important to note, however, that early in his career Freud had subscribed to a trauma model when he explained his patients' mood, dissociative, and anxiety symptoms as the results of childhood sexual abuse (Freud, 1896; Ross, 2007). Largely due to the frosty reception that this theory received in patriarchal and Victorian Viennese culture, Freud later repudiated this theory, and decided that the abuse histories were false memories (Herman, 1997).

Melanie Klein was also concerned with the relationship of the child with the mother, but her work was focused primarily on the internal fantasy world of the child, rather than on the caregiving environment *per se* (Shilkret & Shilkret, 2008). The British Independent School,

however, with such luminaries as D. W. Winnicott and and Ronald Fairbairn, were the true forebears of attachment theory.

Winnicott emphasized the holding environment, postulating that the child who thrives is one who has a mother who allows herself to merge into a state of blissful oneness with her child, a state in which she allows herself to be lost completely in her baby and totally devoted to it. The mother did not have to be perfect, however: she just had to be “good enough.” The most important aspect of being “good enough” was to be attuned to the baby’s changing needs and to protect the baby from often experiencing overwhelming extremes of discomfort and distress, whether emotional or physical (Grolnick, 1990, Flanagan, 2008a). Here we see a close cousin of attachment theory. Winnicott also emphasized what can happen if the child’s caregiving is pathological: the development of a “false self” that “seeks to suppress individuality and molds itself to the needs of others” (Flanagan, 2008a).

Another important thinker on this topic was Fairbairn. He discussed the importance of a person’s early object relations, arguing that these experiences become prototypes for all subsequent relationships. He postulated that an individual’s ego was composed of three parts: the central ego, the libidinal ego, and the antilibidinal ego. The central ego is responsible for the tasks of everyday living; the libidinal ego is “the part of the self that is loving and expansive, and grows in relation to good, positive experiences with others”; and the antilibidinal ego is the repository of bad object experiences, introjected into the self (Flanagan, 2008a). According to Basham's (2008) explication of Fairbairn’s theory, “in order to hold on to an internalized image...of the offending caretaker,” traumatized children or adults “often blame or hate themselves for the abuse so that they can maintain an idealized tie to their offender” (pp. 425-6).

Fairbairn called this introjected bad object the “internal saboteur,” and argued that this dynamic explained much of mental illness.

It is important to include the critique that all of the theories discussed here are highly culture-bound, arising as they did from white American and European thinkers. Except for Ainsworth when she was in Uganda, the clients whom these researchers were studying were all from Western societies, and were predominately white; the results of their studies do not necessarily apply to all cultural groups. Moreover, these theories arose before the feminist revolution, at a time when stay-at-home mothers were idealized. Nowadays, it is estimated that 76% of mothers work outside the home, so the primacy of the mother-child bond has changed to a bond of caretaker and child (Flanagan, 2008a).

We see from the preceding examples that the bed was well prepared for Ainsworth and Bowlby, but their work was the first to systematically study the effects of qualitatively different caregiving on children. Through their empirical research, they came to the conclusion that “attachment is a primary, biological, and absolute need in human beings, necessary for the survival of the species” (Flanagan, 2008a).

In what was the most influential research that Ainsworth conducted, she and her team in Baltimore set up the Strange Situation, a half-hour procedure to determine the quality of mother-infant interactions. The child was observed before, during, and after a series of brief separations. During the separations, a friendly stranger entered the room and attempted to interact with the infant. These experiences were mildly anxiety-provoking for the child, and elicited differential responses. It was based on these responses that Ainsworth and her team proposed the following categories for attachment. Securely attached children protested when the mother left, searched for her when she was gone, greeted her warmly when she returned, and explored more freely

when she was present (Atwool, 1997). Ambivalently attached children exhibited signs of stress before, during, and after separation, alternated clinginess with anger, and were loathe to explore (Shilkret & Shikret, 2008). And avoidantly attached children were relatively indifferent to the mother, not protesting when she left or celebrating when she returned, and exploring independently of the mother's presence or absence (Atwool, 1997).

Ainsworth and Bowlby proposed that these early attachment styles are the result of the quality of the mother's caregiving, and that they become the basis of internal working models—schema or templates upon which all subsequent relationships are based. Ainsworth, in work with Bell (Bell & Ainsworth, 1972) had declared that “an infant whose mother's responsiveness helps him to achieve his ends develops confidence in his own ability to control what happens to him” (p. 1188). This fortunate infant has developed an internal working model that is adaptive.

Mary Main (1995) created the Adult Attachment Interview in order to determine the quality of attachment in adults. She postulated new attachment categories for adults that would correspond to those of children: avoidantly attached children would become “dismissing” adults, and ambivalently attached children would grow up to be “preoccupied” adults. Main also proposed a fourth category: “disorganized” attachment. These children lacked a “consistent strategy to deal with anxiety about separations,” and would grow up to be “unresolved/disorganized” adults (Shilkret & Shilkret, 2008, p. 196).

Other researchers have demonstrated the effects of attachment quality on later development. Bretherton & Waters (1985) demonstrated that securely attached six-year-olds were able to cope with a parent's absence and were able to relate with unfamiliar adults more easily than insecurely attached children of the same age. Belsky & Nezworski (1988) highlight a

link between attachment quality and conduct problems, as well as the long-term consequences of avoidance.

What Schore has brought to the table are neurobiological findings that flesh in these theories of attachment. Indeed, his findings have prompted him to attempt to reframe the entire category of theory. In a paper cowritten with his wife Judith Schore, a clinical social worker, Schore proposes that even the name attachment be jettisoned:

In line with Bowlby's fundamental goal of the integration of psychological and biological modes of human development, the current clinical and experimental focus on how affective bodily-based processes are non-consciously interactively regulated...has shifted attachment theory to a regulation theory. (Schore & Schore, 2008, p. 10)

While the authors make sure to pay their due to Bowlby, they are also clear that the new findings from neurobiology reveal how attachment actually works, and change what critics might have labeled speculation into science.

Accordingly, the authors narrow the focus of the study. Instead of the primary focus with "attunement" of a mother to a child's behaviors or cognitions, they argue that what is crucial is her "regulation," as Schore later puts it, "of the infant's internal states of arousal, the energetic dimension of the child's affective state" (2010, p. 20). He goes on to discuss the mechanism of this regulation, taught by the mother and slowly learned by the infant:

During the bodily based affective communications of mutual gaze, the attuned mother synchronizes the spatio-temporal patterning of her exogenous sensory stimulation with the infant's spontaneous expressions of endogenous organismic rhythms. Via this contingent responsivity, the mother appraises the nonverbal expressions of her infant's

arousal and affective states, regulates them, and communicates them back to the infant.

(Schore, 2010, p. 20)

By consciously aligning her actions and presence to respond to the infant's internal state, the mother creates an environment in which the infant's arousal and affect are regulated.

This regulation must come from the caregiver—the child at this age is not able to self-regulate—and it has a profound effect on brain development. The communication between mother and child consists of “signals produced by the autonomic, involuntary nervous system in both parties” (Schore, 2010, p. 20), and it mediates the infant's internal homeostatic state.

Because the child's brain is growing so much during the first year of life (Stien & Kendall, 2003), the attachment transactions have a profound impact on brain development. Writing about the effects of early relational trauma, Port, Weiss, and Leverich (1994, as quoted in Schore, 2003b) declare that “early adverse developmental experiences may leave behind a permanent physiological reactivity in limbic areas of the brain” (p. 130). Gabor Maté (as cited in Goodman, 2010) points to the high levels of children in our society with attention deficit hyperactivity disorder as a product to the predominance of disrupted attachment bonds in childhood.

In the neuroscience literature, Ziabreva, Poeggel, Schnabel, & Braun (2003) propose that the quality of the attachment relationship has profound implications for the child's limbic system:

The mother functions as a regulator of the socio-emotional environment during early stages of postnatal development...Subtle emotional regulatory interactions, which obviously can transiently or permanently alter brain activity levels...may play a crucial role during the establishment and maintenance of limbic system circuits. (p. 5334)

The limbic system myelinates in the first 18 months, and the right brain is also undergoing a growth spurt during this time (Schore, 2010). These two systems are intricately interrelated, and they are both crucial areas in the development of the capacity for self-regulation (Perry et al., 1995; Ziegler, 2002; Schore, 2003b).

Finally, it is important to note that in formulating his own conclusions, Schore has followed not only in the footsteps of Bowlby, but also Heinz Kohut, whose self psychology Schore labels as “perhaps the most important revision of Freud’s theory” (Schore, 2009, p. 189). Kohut’s model of psychopathogenesis is centered on the hypothesis that “the mother’s traumatic failures of empathic mirroring lead to enduring defects in the infant’s emerging self” (p. 195). According to Kohut’s model, an individual has three basic selfobject needs: the need for mirroring of his or her healthy grandiosity; the need for idealization of important others; and the need for twinship, to feel that there are others in the world who are similar to oneself (Flanagan, 2008b). If these needs are not adequately met, the result is disturbed physiological regulation and “enduring defects in the infant’s emerging self” (Schore, 2009, p. 195). In place of a coherent self structure, one can develop a fragmented or dissociated self. Dissociation is, after all, “the bottom-line survival defense against overwhelming, unbearable, emotional experiences” (p. 195).

The Diagnosis of Posttraumatic Stress

Adverse reactions to traumatic experiences have long been recognized, with the resulting symptom picture engendering labels from “soldier’s heart” in the Civil War era U.S., to “hysteria” in continental Europe at the turn of the twentieth century, and from “shell shock” in the wake of World War I, to “battered woman syndrome” in the U.S. of the 1970’s (Herman, 1997). It was not until 1980, however, that posttraumatic stress disorder was first affirmed by the

American Psychological Association (APA) for inclusion in their dominant catalog of mental problems, the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; Davison & Neale, 2001). The timing of the disorder's formulation and inclusion in DSM-III were due largely to the political efforts of Vietnam veterans disaffected from war (Herman, 1997).

A useful model for understanding a client's inner world when responding to a traumatic event is the Stress Response Syndrome proposed by Mardi Horowitz (Preston et al., 2010). According to the model, after a person experiences a sudden or intense stressful event, he or she is likely to go through a series of phases of emotional intensity. The first of these phases is a state of outcry, which includes not only the emotions of shock, fear and sadness, but also the psychological defense of denial. The second phase can be either a state of intrusion or one of numbness and denial. If it is intrusion, the person experiences intrusive thoughts and impulses regarding the traumatic event—thoughts and impulses not brought on willfully, and which torment the individual. A period of denial can come on the heels of one of intrusion, or it can come immediately after outcry. If the second phase consists of denial, the person may experience emotional numbness, or if it is more severe, dissociation. The third stage consists of working through to completion.

In the current iteration of the DSM, the text revision of the fourth edition (DSM-IV-TR), the diagnostic criteria of posttraumatic stress disorder (PTSD) are as follows:

A) The person has been exposed to a traumatic event in which the person has experienced, witnessed, or been confronted with actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others; and the person's response involved intense fear, helplessness, or horror. In children, this response may be expressed instead by disorganized or agitated behavior.

B) The traumatic event is persistently re-experienced by recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. In young children, repetitive play may occur in which themes or aspects of the trauma are expressed. These intrusive recollections may also take the form of distressing dreams or

flashbacks (including illusions and hallucinations), and the person might also feel intense psychological distress or physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C) The person experiences persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness, as indicated by at least three of the following: avoiding thoughts, feelings, or conversations associated with the trauma; avoiding activities, places, or people that arouse recollections of the trauma; inability to recall an important aspect of the trauma; markedly diminished interest or participation in significant activities; a feeling of detachment or estrangement from others; a restricted range of affect; and a sense of a foreshortened future.

D) Increased arousal, as evidenced by at least two of the following: difficulty falling or staying asleep, irritability or outbursts of anger, difficulty concentrating, hypervigilance, and an exaggerated startle response (American Psychiatric Association, 2000, pp. 467-68)

In addition, the disturbance must cause clinically significant distress or impairment in social, occupational, or other areas of functioning, and the symptoms must be present for at least one month.

While the above criteria account for people who experience discrete traumatic experiences, some researchers have advocated a diagnosis that accounts for traumatic experiences of a prolonged or repeated nature. According to Cloitre et al. (2009), “individuals with a trauma history rarely experience a single traumatic event but rather are likely to have experienced several episodes of traumatic exposure” (p. 399). Cloitre and her co-authors propose that in addition to the PTSD symptoms mentioned above, these individuals are likely to experience “symptoms reflecting disturbances predominantly in affective and interpersonal self-regulatory capacities such as difficulties with anxious arousal, anger management, dissociative symptoms, and aggressive or socially avoidant behaviors” (Cloitre et al., 2009, pp. 399-400).

The diagnosis these authors propose is complex trauma, a phrase first coined by Judith Herman. Herman was building on the work of Lenore Terr, who differentiated Type I trauma (a single event) from Type II (prolonged or repeated), as well as Jean Goodwin, who had similarly

differentiated “simple” PTSD from a more severe affliction seen in survivors of childhood abuse (Herman, 1997). “Complex trauma” encompasses not only the PTSD features of intrusive thoughts, avoidance, and hyperarousal, but also alterations in emotional regulation, alterations in consciousness (including forgetting or reliving traumatic events, or feeling detached from one’s body), changes in self perception (including helplessness, shame, guilt, and a sense of being totally different from other human beings), alterations in how the perpetrator is perceived, alterations in relations with others, and changes in one’s system of meanings, including a sense of hopelessness and despair (Whealin & Slone, 2007).

Cloitre et al. (2009) also point to the list of “Associated Features” of PTSD in the DSM-IV-TR, which include a constellation of symptoms that are seen in the specific case of “an interpersonal stressor (e.g., childhood sexual or physical abuse, domestic battering, being taken hostage, incarceration as a prisoner of war or in a concentration camp, torture)” (American Psychiatric Association, 2000, p. 465). These associated features are not a part of the official criteria for PTSD, but they are mentioned in the DSM chapter on PTSD. They include “feelings of ineffectiveness, shame, despair, or hopelessness; feeling permanently damaged; a loss of previously sustained beliefs; hostility; social withdrawal; feeling constantly threatened; impaired relationships with others; or a change from the individual’s previous personality characteristics” (American Psychiatric Association, 2000, p. 465). It is important to note that this small sidebar within the diagnostic criteria for PTSD arose through a working group of clinicians familiar with the concept of complex trauma. Some had advocated for adoption of a new diagnosis called Disorders of Extreme Stress Not Otherwise Specified (DESNOS), which would explain patients who had a trauma history and who exhibited self-regulatory and self-perception problems, as well as difficulties in relationships with others. However, DESNOS did not make it into DSM-

IV-TR, and it appears that it is not even being considered for DSM-V, which is scheduled to come out in 2013 (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005; American Psychiatric Association, 2010).

Some researchers have focused their attention on trauma's effects on children, with special consideration of the effects of PTSD on development. Bessel van der Kolk (2005) presented a new diagnosis, Developmental Trauma Disorder, to explain the problems in functioning of these individuals who sometimes don't meet criteria for PTSD, but who have significant problems in functioning due to their traumatic past:

PTSD cannot capture the multiplicity of exposures over critical developmental periods. Moreover, the PTSD diagnosis does not capture the developmental impact of childhood trauma: the complex disruptions of affect regulation, the disturbed attachment patterns, the rapid behavioral regressions and shifts in emotional states, the loss of autonomous strivings, the aggressive behavior against self and others, the failure to achieve developmental competencies; the loss of bodily regulation in the areas of sleep, food and self-care; the altered schemas of the world; the anticipatory behavior and traumatic expectations; the multiple somatic problems, from gastrointestinal distress to headaches; the apparent lack of awareness of danger and resulting self endangering behaviors; the self-hatred and self blame and the chronic feelings of ineffectiveness. (p. 9)

Clearly the situation that van der Kolk describes is qualitatively different than the DSM-IV-TR symptom picture described above.

As Shaw (2010) points out, children who have experienced trauma often do not meet the DSM criteria for PTSD, which emphasizes stressors that are perceived as threatening life. In contrast, a child can develop post-traumatic symptoms, such as terror, simply by looking into the

eyes of his or her depressed mother. Colin Ross (2007) flies in the face of conventional trauma theory when he argues for a new paradigm in treatment, one that focuses less on traumatic events and more on attachment problems:

It is the errors of omission by the parents, not the errors of commission, which are the fundamental problem. The deeper trauma is the absence of normal love, affection, attention, care, and protection. The trauma is not being special to mom and dad. (p. 71)

Ross argues that the DSM-IV-TR conceptualization of post-traumatic stress is unduly influenced by “the fact that many specialists in PTSD became interested in trauma while working in the VA system, and while treating Vietnam combat trauma, which resulted in a focus on abnormal events in adulthood” (p. 71). In contrast, he recommends focusing on attachment trauma: “the betrayal of trust is often more hurtful than the abusive event itself” (p. 71).

However, there is no place in the DSM, as of yet, for a conceptualization of a disorder of this type. There is reactive attachment disorder, which focuses on either too little or too indiscriminate socialization, and locates the cause of this disturbance in pathogenic parenting (American Psychiatric Association, 2000). However, while this disorder does account for the impact of neglect on later functioning, focusing on one narrow diagnosis, in Ross’s mind, misses the point, and pigeonholes what he considers the cause of most mental illness into a narrow and relatively obscure category. As he illustrates, the descriptions of conduct disorder, oppositional defiant disorder, and reactive attachment disorder are markedly similar; in effect, they are closely related variants of each other. What we need, then, is a theory that organizes all these related disorders under one umbrella.

The DSM-V group is considering a new diagnosis called posttraumatic stress disorder in preschool children, but the emphasis of this diagnosis remains on perceived threats to safety, and

does not take into account the developmental issues raised above by van der Kolk or the attachment issues raised by Ross (American Psychiatric Association, 2010). The mainstream mental health community continues to maintain a myopic focus on discrete symptoms and ignore the potentially deep and lasting impact of childhood trauma. Ross's (2007) alternative model centralizes trauma as the underlying cause of many of the psychiatric problems we see in patients today, including mood disorders, anxiety disorders, personality disorders, psychosis, substance-use disorders, and dissociative disorders. He writes that psychiatry today is dominated by a reductionist spirit, one in which "all serious and fundamental causality has been endogenous and unidirectional. It is a cystic fibrosis model of mental illness" (p. 364). Mental illnesses are seen as arising primarily through genetic processes, and hardly at all because of environmental factors. Because of this dominant view, the "psychosocial environment is...fundamentally irrelevant" (p. 364).

Alternatively, in Ross's model "the genome has no meaning or function in the absence of the environment. Without an environment, DNA is a biologically inert molecule" (pp. 364-65). Ross argues that the environment is the key factor in the etiology of mental disorder, with the power to turn genes on and off: "chronic childhood trauma is to psychiatry as germs are to general medicine" (p. 63). He extrapolates from this statement that the key to repairing the brain is found not in genetic engineering, psychopharmacology, or surgery—which together form the nexus of psychiatric and medical prestige in the present time. Rather, brain self-repair will be facilitated by psychotherapists who, in talk therapy sessions, will effect "measurable normalization of hippocampal function on brain scan and this will be accompanied by hippocampal cellular regeneration at the microstructural level" (p. 366). By leading their clients down the slow fear pathway, mentioned earlier in this chapter, therapists will facilitate the

formation of new connections within the hippocampus that organize the previously disintegrated traumatic memories. Schore (2003b) writes that in order to achieve this healing mechanism, therapists have to open themselves to transferential communications of traumatically dissociated affect. This activity takes place in the right hemisphere of the brain, which Schore connects to Kohut's formulation of what happens in the therapeutic exchange:

The therapist must shift from a left to right hemispheric dominant state of evenly hovering attention, an empathic state in which, according to Kohut, "the deeper layers of the analyst's psyche are open to the stimuli which emanate from the patient's communications while the intellectual activities of the higher levels of cognition are temporarily largely but selectively suspended." (Schore, 2003b, p. 143)

The empathic state which conducts the healing is one of openness and connection to the deeper areas of the psyche—the right brain, and not the left.

Ross's claims of trauma's central role in the etiology of mental disorder have not been proven; in fact, he states in his introduction that at present the model is simply that, a model, and that "it could be wrong...Only after a body of data has accumulated will the theory be either proven or rejected" (iii-iv). However, recognized experts in the field claim similar import for the role of childhood trauma in causing mental illness. Graham, Heim, Goodman, Miller, & Nemeroff (1999) point out that "major depression has been shown to be a frequent sequelae of maltreatment and abuse in childhood" (p. 545). Moskowitz (2011), after reviewing studies by Arseneault et al. (2011) and Scott, Chant, Andrews, Martin, & McGrath (2007) states that "psychotic symptoms in particular appear to be strongly linked to trauma, both adult trauma and childhood interpersonal traumas" (p. 353).

Herman, Perry, and van der Kolk (1989) interviewed 55 subjects who were part of an ongoing longitudinal study of borderline personality disorder in comparison to the closely related diagnoses of schizotypal personality disorder, antisocial personality disorder, and bipolar II mood disorder. The authors found strong support for their hypothesis that childhood abuse has a major formative role in the development of borderline personality disorder: of 21 individuals diagnosed as having borderline personality disorder, 17 reported major childhood trauma, including physical or sexual abuse, or witnessing domestic violence. Abuse histories were less common in those individuals with no borderline diagnosis.

The study under consideration has a small sample size, and its methodology—based on subjects reporting their own abuse histories—is far from perfect. Moreover, correlation is not causation. Clearly more and better-designed studies are needed. But in their conclusion, the authors point to the implications of their study:

It might be possible to conceptualize a range of adaptations to childhood trauma, or trauma spectrum disorders, with multiple personality disorder representing an extreme adaptation to severe chronic abuse, borderline personality disorder representing an intermediate form of adaptation to chronic abuse, and some forms of somatoform, panic, and anxiety disorders representing dissociated somatic reexperiencing of more circumscribed traumatic events. (p. 494)

The authors thus locate dissociative, personality, somatoform, and anxiety disorders all within a new diagnosis: “trauma spectrum disorder.” Van der Hart, Nijenhuis, & Steele (2006, quoted in Moskowitz, 2011) similarly propose a structural dissociation model that groups together mental disorders linked to trauma and characterized by dissociation.

Similarly, Schore's analysis centralizes a history of childhood abuse—which he links to hyperarousal—in borderline personalities, and a history of childhood neglect—linked to hypoarousal—in antisocial personalities (Schore, 2003a). Borderline personalities “exhibit an inability to self-regulate and lack of the capacity to form stable self- and object representations” (Schore, 2003b, p. 24). Narcissistic personalities, on the other hand, “although developmentally more advanced, also exhibit insecure attachments” (Schore, 2003b, p. 24). In addition to the aforementioned overactivity of limbic function that can arise from childhood abuse, Schore (2009b) adds that “emotional and social deprivation interfere with the normal development of the synaptic architecture and lead to neurological scars which underlie subsequent behavioral and cognitive deficits” (p. 130).

Through the process of allostasis, the HPA axis adapts to protect the body from internal and external stressors, helping the body return to homeostasis. However, heightened allostatic load and multiple stressors can result in “chronic overactivity of the HPA axis” and “deleterious effects on the individual” (Graham, et al., 1999, p. 559). As the authors point out, “early adverse experiences result in an increased sensitivity to the effects of stress later in life and render an individual vulnerable to stress-related psychiatric disorders” (p. 557).

Interventions for Childhood Trauma

There are a range of treatments currently employed to treat childhood trauma, a range so vast that it far outstrips the scope of the present study. These treatments include pharmacotherapy, play therapy, sandtray therapy, psychodrama, cognitive-behavioral interventions, mindfulness-informed therapies, art therapy, music therapy, wilderness therapy, attachment-based therapies, sensorimotor and somatic interventions (including yoga-based therapies), eye movement desensitization and reprocessing (EMDR), prolonged exposure therapy

(PE), conjoint interventions that focus on the parent-child relationship, and psychodynamic approaches. There are also modalities that incorporate several of these interventions together. Clinicians work with children individually, in groups, and with their families, and in treatment facilities that are grounded in a therapeutic milieu philosophy. An in-depth analysis of the many different treatment modalities available to treat childhood trauma does not yet exist. There is a need for this in the field. However, an overview of many of these interventions is available in a report prepared by the National Child Traumatic Stress Network (de Arellano, Ko, Danielson, & Sprague, 2008). The report outlines 22 different trauma-focused interventions for youth populations, and provides information on the clinical and research evidence surrounding the use of each intervention with diverse cultural groups. This report illustrates some of the scope of treatment options available today to treat childhood trauma. Another source of information is a webpage prepared by the California Evidence-Based Clearinghouse for Child Welfare (2012), which links to detailed information on 14 different interventions, and provides a scientific rating for each, based on clinical and research evidence.

In the succeeding chapters of this paper I focus on a perceived tension between two schools of therapy for traumatized children: researchers and clinicians who argue for cognitive and behavioral techniques, and those who argue for treatments built on fostering positive attachment experiences. In the spectrum of clinical approaches, some interventions incorporate aspects of each of these two models; I will proceed, however, by first examining the theoretical bases and representative treatment modalities of each, and then offering discussion on the benefits and drawbacks of each, in hopes of providing guidance on the best way to work with this population. I will also present published empirical and research evidence of each treatment modality.

I have chosen to analyze and compare these two approaches for several reasons. Concomitant with the emphasis on evidence-based practices, cognitive-behavioral techniques have grown in importance in the field. Coady and Lehmann (2008) argue that “it is clear that the implicit assumption of the empirically supported treatment movement is that specific ingredients (i.e., therapeutic techniques and their underlying theory) are the important curative factors in psychotherapy” (pp. 16-17). The authors contend that, on the contrary, the relationship between the therapist and the client is the most important factor in treatment outcome, independent of the modality. Lambert, Bregin, and Garfield (2004) point to decades of research that confirm equal outcomes, regardless of technique, and find that “the success of treatment appears to be largely dependent on the client and the therapist, not on the use of ‘proven’ empirically based treatments” (quoted in Coady and Lehmann, 2008, p. 17). I choose to interrogate cognitive-behavioral techniques because of their arguably outsize importance in the field. Are these techniques deserving of the title “best practice”? What are the implications for mental health treatment of the newfound centrality of these techniques? I will describe the underlying theoretical base and development of cognitive-behavioral therapy before analyzing in depth Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT), an intervention which has grown in importance in the field and is one of only two interventions rated by the California Evidence-Based Clearinghouse for Child Welfare (2012) as well-supported by research evidence.

Similarly, attachment-informed techniques are being given much attention in the field because of the implications of current neurobiological research that reveal what many psychoanalytic and child development thinkers have known intuitively all along: that the attachment relationship between a child and his or her caregivers is essential for healthy growth. Much of this research has been identified in this chapter (e.g., Schore, 2010 and Perry, 2006). I

will present further neurobiological underpinnings of attachment-based therapies before analyzing in depth Bruce Perry's Neurosequential Model of Therapeutics (NMT) and Pat Ogden's Sensorimotor Psychotherapy.

I will compare these two schools of thought and practice in hopes of recommending best practices for the treatment of traumatized children.

Conclusion

In this chapter I reviewed the literature on the effects of traumatic stress on the brain, and introduced the psychoanalytic and child development literature on attachment. I highlighted recent neurobiological findings that update this literature and establish the importance of healthy attachment for proper brain development. I then moved to a discussion of the diagnosis of childhood trauma, focusing on models that centralize childhood trauma as the cause of much of the spectrum of mental illness we see today. Finally, I introduced the range of treatment methods that are available today for the treatment of children who have experienced trauma. In the succeeding chapters of this paper I will focus on cognitive-behavioral approaches and attachment-based techniques in greater depth.

CHAPTER III

Cognitive-Behavioral Treatments for Childhood Trauma

In recent decades cognitive-behavioral therapy (CBT) has grown in importance in the field of mental health care, to the point that it is now one of the most prevalent and influential therapeutic modalities practiced (Hall & Iqbal, 2010). Hollon & DiGiuseppe (2011) declare that “today, CBT forms the most popular theoretical orientation among psychologists” (p. 204). They go on to write that “CBT will probably dominate the field for a while” (p. 233). CBT’s place of prominence within the mental health field is the reason I have chosen to examine it in this study, which is focused on providing recommendations for the best treatment for children who have survived traumatic experiences. Are cognitive-behavioral techniques deserving of the title “best practice”? The techniques associated with CBT have been shown to be effective in reducing the symptoms of many disorders, including mild-to-moderate depression and a variety of anxiety disorders in adults, and PTSD in children. (Deblinger, Thakkar-Kolar, & Ryan, 2006; Høifødt, Strøm, Kolstrup, Eisemann, & Waterloo, 2011). While the evidence supporting the effectiveness of CBT is clear, some specialists question the centrality often accorded to these techniques within the field of mental health care (Messer, 2001; Pilgrim, 2011; Coady and Lehmann, 2008).

Given CBT’s importance in the field and the concerns of these specialists, an important part of the present study—which is focused on recommending the best and most appropriate treatments for survivors of childhood trauma—will be to analyze cognitive-behavioral techniques with a specific focus on CBT with children. In this chapter I will describe the

underlying theoretical base and development of cognitive-behavioral therapy, tracing its emergence as a coherent body of techniques out of the behavioral tradition. I will then examine challenges to the philosophical assumptions underlying the modality and attempt to reveal its drawbacks. Next I will present Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT), a CBT-based approach to working with children who have experienced trauma, which is one of only two interventions rated by the California Evidence-Based Clearinghouse for Child Welfare (2012) as well-supported by research evidence, and which has been called “the intervention of choice” for the treatment of children who have experienced trauma (Cary & McMillen, 2012, p. 756). As I outline the elements of this therapeutic technique, I will present case examples from the literature. Finally, I will present published empirical and research evidence concerning this modality.

Origins and Evolution of Cognitive-Behavioral Therapy

The origins of cognitive-behavioral therapy can be traced to the Enlightenment, a cultural movement in 18th-century Europe in which reason and scientific study of the natural world were celebrated. Fishman, Rego, & Muller (2011) emphasize four main principles of the British empiricists which epitomize this worldview:

- (a) that knowledge comes from experience with the world rather than introspective rumination or divine inspiration; (b) that scientific procedures have to be based on systematic observation rather than opinion; (c) that the mind of the child is a blank slate (tabula rasa) on which experience writes, so that the adult mental life is primarily a recording and unfolding of the previous environmental and experiential history of the person; and (d) that consciousness is best viewed in terms of “mental chemistry” in which

thoughts can be broken down into basic elements connected through various laws—such as continuity, similarity, and contrast—into more complex ideas. (p. 103)

As shall be shown below, CBT is clearly carrying on the tradition of the Enlightenment.

However, the immediate predecessor of CBT was behavioral therapy. In fact, CBT is now known—somewhat paradoxically—as a “second-wave” cognitive-behavioral technique, with pure behaviorism constituting the first wave (Pilgrim, 2011). I shall, then, begin this overview of the development of CBT with a discussion of behaviorism.

The Emergence of Behavioral Psychology

John B. Watson, in an address at Columbia University in 1913, gave birth to behavioral psychology. He declared that “psychology as the behaviorist views it is a purely objective, experimental branch of natural science. Its theoretical goal is the prediction and control of behavior” (Watson, 1994, p. 248). He went on to say that psychology “can dispense with consciousness in a psychological sense” (p. 253). Watson sought to distance himself—and his new school of behavioral psychology—from the introspection and speculation of the psychoanalytic tradition of Freud and of the other schools of psychology that were then predominant (structural, systematic, and functional, among others) (Cautin, 2011). In his view, psychology should be a purely scientific pursuit; as such, it should be based upon only observable phenomena. Since one could not see into another’s mind—which was characterized by behaviorists as an impenetrable “black box” (Pilgrim, 2011, p. 123)—the class of phenomena he proposed was behavior, which was immediately observable. In order to become a science, psychology would have to become materialistic rather than mentalistic, mechanistic rather than anthropomorphic, deterministic rather than embracing a view of humans as having a free will, and objective as opposed to subjective (Fishman et al., 2011). In a notorious experiment, Watson

conditioned the fear of a white rat in an 11-month-old boy, “Little Albert” (Cautin, 2011).

Watson was able to demonstrate that Albert’s learned aversion to the white rat generalized to other, similar-looking objects, including a white rabbit and a Santa Claus mask, thus establishing the principle of stimulus generalization.

Watson’s work was based largely on the research of the Russian physiologist Ivan Pavlov, who studied the gastric function of dogs. Pavlov’s experiments were designed to establish the functional relationships between environmental events and behavior, and they featured highly controlled laboratory experiments. His theory of classical conditioning postulates that “humans develop their behaviors by a set of stimulus-response associations” (Ho, n.d.). Fishman, Rego, & Muller (2011) outline his findings:

Pavlov demonstrated that dogs could learn to salivate at the ringing of a bell through a process of contiguous associations between the bell and direct access to food. Thus, a previously neutral stimulus (the bell) could become a conditioned stimulus because of its association with an inherently positive, “unconditioned” stimulus (the meat powder).

(p. 104)

Pavlov focused on an observable cause and effect relationship between stimulus and response. He also focused on neurosis: he trapped dogs in his laboratory and overwhelmed them with confusing stimuli, bringing about a miserable, catatonic state (Pilgrim, 2011). Later theorists looked to these results and considered that if this behavior could be conditioned, perhaps it could be de-conditioned as well.

Another important development around this time were Thorndike’s studies on human and animal learning, in which cats learned to escape from a puzzle box in order to obtain scraps of

food, or simply escape, as rewards. In his book *Animal Intelligence*, Thorndike (1911) explains the law of effect that these experiments established:

Of several responses made to the same situation, those which are accompanied or closely followed by satisfaction of the animal will, other things being equal, be more firmly connected with the situation, so that, when it recurs, they will be more likely to recur; those which are accompanied or closely followed by discomfort to the animal will, other things being equal, have their connections with that situation weakened, so that, when it recurs, they will be less likely to occur. (pp. 244-245)

Whereas Pavlov's classical conditioning had been concerned with reflexive behaviors that are elicited by antecedent conditions, Thorndike's principle of operant conditioning concerns voluntary behaviors which are reinforced by their effect on the environment.

Skinner built on Thorndike's research into operant conditioning. He "repeatedly demonstrated the power of positive reinforcement, negative reinforcement, punishment, and stimulus control in modifying animal behavior" (Sommers-Flanagan & Sommers-Flanagan, 2012). He extended his line of thinking to human social and clinical problems, coining the term "behavior therapy" in 1953 to explain the use of operant conditioning procedures with psychotic patients (Sommers-Flanagan & Sommers-Flanagan, 2012). For Skinner, "feelings are the products of one's experiences and they are the by-products of reinforcement...Skinner emphasized this point by stating that we do not cry because we are sad, but because something has happened" (Sapp, 2004, p. 67). He accounted for behavior solely in terms of natural contingencies like survival, reinforcement, and social evolution. While Watson thought that it was impossible to study private events, Skinner argued that everything an organism performs—including thoughts and emotions—is a behavior. This all-encompassing view has been termed

radical behaviorism, and set the stage for the cognitive revolution in behavioral psychology.

Before we get to that, however, it is important to discuss how behavioral therapy is practiced in the consulting room.

Independent of Skinner, Hans Eysenck also used the term “behavior therapy” (Fishman et al., 2011). At the Maudsley Hospital in London in the 1950’s, he and his team grounded their assessments and interventions in the idea that “psychopathological behavior was learned like any other behavior and that it could be unlearned (i.e. changed or eliminated) by using the proper learning principles” (Fishman et al., 2011). Around the same time, Joseph Wolpe, a South African psychologist, was engaged in similar work. He developed a technique now called systematic desensitization, in which “the anxious patient is first trained in progressive muscle relaxation exercises and then gradually exposed imaginally or in vivo to feared stimuli while simultaneously relaxing” (Wolpe & Plaud, 1997, p. 969). By teaching new behaviors and encouraging the patient to perform them precisely when the avoided stimulus is present (either as an image in the client’s mind or in a real life situation), the therapist hopes to bring about a different outcome for the patient. Instead of stimulus generalization, or the extension or generalization of a conditioned fear response to new objects or settings occurring, the hope is for *counterconditioning*: a conditioned negative emotional response to certain stimuli is replaced with a conditioned positive emotional response.

A different but related therapeutic technique involves the concept of *extinction*: “the gradual elimination of a conditioned response....when a conditioned stimulus is repeatedly presented without a previously associated unconditioned stimulus” (Sommers-Flanagan & Sommers-Flanagan, 2012, p. 231). For example, in the case of Little Albert mentioned above, if

he were repeatedly exposed to a white rat (the conditioned stimulus) *without* the frightening metal clanging (the unconditioned stimulus), he might have lost his conditioned response of fear.

From Behaviorism to Cognitive-Behavioral Therapy

As discussed above, Skinner's inclusion of thoughts and emotions within the realm of observable phenomena for behaviorism set the stage for cognitive-behavioral therapy. While CBT represented a marked shift for behavioral therapy—and met with much resistance in the field—it is important to mention that most advocates of cognitive techniques augment them with behavioral interventions (Hollon & DiGiuseppe, 2011). Moreover, some (e.g. Ullman, 1970) have argued that CBT fits within the larger field of behavioral therapy because of the precise way it defined the cognitions that it targeted and the techniques used in the psychotherapy. Cognitive interventions also share with behavioral approaches a strong emphasis on empirical support for the techniques it suggests.

Two individuals are generally credited with founding cognitive-behavioral therapy: Albert Ellis, who called his technique Rational Emotive Behavioral Therapy (REBT), and Aaron Beck, who called his method simply Cognitive Therapy (Hollon & DiGiuseppe, 2011). Both Ellis and Beck received their initial training in psychoanalysis, but each became disillusioned with the length and outcomes of this treatment approach. Their two models, which share many similarities and some differences, centralize the importance of illogical, irrational, or incorrect thoughts in causing emotional disturbance. Both therapies incorporate directive methods to focus on the client's thinking in the present, rather than focusing on the past. Both emphasize the social influence of the therapist to change maladaptive ways of thinking and acting, and posit that what people think influences how they behave (Pilgrim, 2011). Hollon & DiGiuseppe (2011) introduce CBT by emphasizing this focus on beliefs and mental processes:

Cognitive theories of disorder emphasize the role of maladaptive beliefs and information processing. It logically follows that cognitive theories of change involve the notion that correcting these erroneous beliefs and information processing errors can ameliorate negative affect and facilitate adaptive behavior. (p. 203)

Because it is a therapy that focuses on faulty thinking and processing as the cause of mental distress, CBT defines the role of the therapist as a consultant who helps the client to review his or her thinking habits and, if necessary, formulate new, more adaptive beliefs.

Early in his career Beck set out to confirm Freud's ascription of depressive symptoms to anger turned inward. But he found something different instead: the affective states of his patients were "wholly consistent with [their] waking verbalizations and conscious ruminations" (Hollon & DiGiuseppe, 2011, p. 221). Accordingly, Beck proposed that depression, rather than being caused by unconscious drives and defenses against them, was caused by negative self-beliefs and faulty information processing. Psychoanalysis had located the cause of mental distress in the unconscious mind, and dictated that efforts to address these unconscious desires and fears would be resisted by the patient's defenses. Behavioral conceptions of mental problems located their cause in external stimuli and the patient's unconscious reactions to them. The CBT of Ellis and Beck offered a third way, one that navigated between the approaches of the other two methods, which were the two most prominent at the time, and argued for the importance of conscious thoughts on emotional states.

Beck's approach emphasized the standardization of treatment methods and the publishing of treatment manuals for easy dissemination of technique. Cognitive Therapy was the subject of the first controlled trial to show that a psychotherapy technique was at least as effective as medications (Rush, Beck, Kovaks, & Hollon, 1977, quoted in Hollon & DiGiuseppe, 2011, p.

222). Patients in this trial were not only as likely to respond to Cognitive Therapy as they were to medications, they were also significantly more likely to remain well after treatment.

Beck encouraged behavioral experiments, in which patients would test their beliefs, and using the empirical method, see for themselves if they were valid, adaptive, and helpful. The webpage of the Beck Institute for CBT defines the core elements of Beck's cognitive approach:

The basic question to ask when a patient is reporting a distressing situation, emotion, or dysfunctional behavior is: "What is going through your mind right now?" Once we help patients identify their dysfunctional thinking, we help them gain more adaptive and accurate perspectives, especially by helping them examine the validity and usefulness of their thoughts. We also help them design behavioral experiments to test the accuracy of their predictions. (Beck Institute for Cognitive Behavior Therapy, n.d.)

Beck's therapy included some terminology specific to his approach. He used the word *schema* (borrowed from Piaget) to describe "organized knowledge systems that bias the way information is processed in the direction of maintaining existing beliefs" (Hollon & DiGiuseppe, 2011, p. 222). In effect, a patient's deeply ingrained habits of thought predisposed him or her to perpetuate them; the goal of the treatment was to help patients extricate themselves from "schema-driven processing" (Hollon & DiGiuseppe, 2011, p. 222). And Beck focused on what he termed the *negative triad*: negative views about the self, the world, and the future. Beck's model also emphasizes *Socratic questioning*, in which the therapist "encourages the patient to start raising questions about the accuracy and validity of his or her thinking" (Friedman, Thase, & Wright, 2008, p. 1925). Beck advocated focusing only on current life situations if a patient was suffering from a so-called "uncomplicated depression." However, if the depression was superimposed on an underlying personality disorder, emphasis should also be placed on the

patient's childhood relationships and on the therapist-patient relationship—forming what Beck called the *three-legged stool* (Hollon & DiGiuseppe, 2011, p. 225).

Albert Ellis was influenced by the stoic philosopher Epictetus's dictum that "men are not disturbed by things, but by the view which they take of them" (Hollon & DiGiuseppe, 2011, p. 212). He "focused on the irrationality of his patient's beliefs and used logic and persuasion to help them see the error of their thinking and to adopt more rational philosophies" (p. 210). A central technique of Albert Ellis's REBT that helps clients understand their behaviors of thought and the results of these behaviors employs the acronym ABC. Using this model, the therapist helps the client identify an *activating event*, the *beliefs* or thoughts about that event, and the emotional *consequences* of these beliefs (Hollon & DiGiuseppe, 2011). This model focuses on helping clients realize that the negative emotional consequences, which they might typically identify with the activating event, are actually due to their own irrational beliefs about the event. Ellis considered rigidity to be at the core of mental distress, and associated flexibility with mental health (217). And rather than focus on a patient's automatic thoughts themselves (as Beck had proposed), Ellis recommended challenging the rigidly held tacit, non-conscious beliefs underlying the automatic thoughts (p. 217). These underlying beliefs have been termed by later theorists as "stuck points" (Resick, Monson, & Chard, 2010, p. 40). For example, a person who was abused early in life might develop the stuck point "no one can be trusted" (p. 134).

Ellis identified 11 irrational beliefs, which he later distilled down to four major categories: "demands (i.e. shoulds, oughts, and musts), awfulizing and catastrophizing statements, low frustration-tolerance beliefs (e.g., I can't stand it; It's too hard), and global evaluations of human worth" (Hollon & DiGiuseppe, 2011, p. 218). He theorized that all problematic beliefs could be grouped within these four groups. Late in his life, Ellis changed his

theory again, and posited that demands were the underlying cause of all emotional disturbance, with the other three categories arising out of what he termed *demandingness*: “When people are disturbed, they think that what they want must be, and they fail to distinguish between what they desire and what is” (p. 212).

More recent formulations of CBT have turned back to behavioral theory and emphasized the role of behaviors in causing symptoms. In their manual of CBT for depression, Wenzel, Brown, and Karlin (2011) write that “there is no one cause for mental health problems. Instead, the interplay between stressful life situations, dysfunctional or unhelpful thoughts, highly charged emotions, and maladaptive behaviors causes and exacerbates patient’s symptoms” (p. 7). The authors conceptualize a cycle involving these four events that results in the emotional state of the patient. They argue that there are two points of the cycle in which the patient can make changes: their thoughts and their behaviors. These two categories are mutually reinforcing: “thoughts impact behaviors, and behaviors (or lack thereof) impact thoughts!” (p. 16). Because of their impact on one another, both thoughts and behaviors also have an impact on the patient’s emotional state. As a result, a cognitive-behavioral approach often involves both “identifying and modifying problematic cognitions” (p. 13) and identifying, planning, and carrying out “pleasant activities or activities that provide...a sense of mastery or accomplishment” (p. 79).

Critiques of Cognitive-Behavioral Therapy

Advocates of cognitive-behavioral techniques argue that it has gained prominence within the mental health field because it has been shown to be an effective time-limited intervention. There is much evidence to support this claim (starting with the study by Rush, Beck, Kovaks, & Hollon in 1977, quoted in Hollon & DiGiuseppe, 2011, p. 222). However, critics of the prominence of CBT have offered other reasons for its standing within the field. Messer (2001)

argues that one reason for the predominance of CBT is the relative ease with which its manualized therapies and focus on specific symptoms fit into research protocol requirements, in contrast to techniques that are more free-form.

Moreover, as CBT has had an empirical stance from its creation, there have been many more empirical studies of CBT than of other treatments, which historically have not shared this stance. Wethington et al. (2008) compared CBT, play therapy, art therapy, psychodynamic therapy, pharmacotherapy, and psychological debriefing in the treatment of children and adolescents who had experienced traumatic incidents. They found strong evidence for the support of only one technique: CBT. But that was not because the other treatments were shown to be ineffective; indeed, all but one of the other techniques were supported by one or two studies. However, the authors simply could not find enough evidence to reach the level of strong support, which included the use of treatment manuals to improve therapist fidelity. The important point is not that CBT is the only effective treatment, but rather that it is the only treatment that has been empirically verified by the standards of the empirically supported treatment movement.

Shedler (2010), however, points to no less than eight meta-analyses of outcome studies of psychodynamic therapy that establish that modality's efficacy, with effect sizes similar to or greater than the effect sizes seen in meta-analyses of CBT. Moreover, Shedler (2010) reports "the recurring finding that the benefits of psychodynamic therapy not only endure but increase with time...In contrast, the benefits of other (nonpsychodynamic) empirically supported therapies tend to decay over time for the most common disorders (e.g., depression, generalized anxiety)" (pp. 101-102). While Shedler's study does not focus on the treatment of children with post-traumatic symptoms, it does establish the efficacy of psychodynamic therapy in general.

Clearly more empirical studies of all forms of treatment are needed, given the importance of meeting this criterion in the present era.

However, some researchers highlight evidence that calls into question the move in mental health to a reliance on specific modalities. Lambert, Bregin, and Garfield (2004) point to decades of research that confirms equal outcomes, regardless of technique, and correlates success of treatment with the quality of relationship between client and therapist, not with the use of “‘proven’ empirically based treatments” (quoted in Coady and Lehmann, 2008, p. 17). Shedler (2010), after analyzing a series of studies that compared the efficacy of different forms of psychotherapy (including Rosenzweig, 1936; Luborsky, Singer, and Luborsky, 1975; Lambert & Ogles, 2004; Wampold, Minami, Binaki, & Callen Tierney, 2002; Cuijpers et al., 2008; and Leichsenring, 2001), states that “outcomes for different therapies were surprisingly equivalent, and no form of psychotherapy proved superior to any other” (p. 105).

Moreover, as Pilgrim (2011) argues, “the case for the mass availability of CBT assumes that our psychological functioning should be dominated by rational rather than by non-rational features” (p. 124). Hall & Iqbal (2010) discuss the conditions that gave rise to the movement:

It took the economic conditions and materialism of the 1980’s for [CBT] to flourish. CBT does not challenge capitalism or recognize the ways in which the latter contributes to human misery. By focusing on the individual and locating the source of misery in structures of the individual mind, capitalism was redeemed. With its time-limited and scientific empirical stance, it fitted in well with the dominant discourse of the time. The triumph of CBT is not merely the triumph of human rationality and the scientific project. It is the triumph of a particular type of capitalism and scientific empiricism and a treatment that has espoused and encouraged these values. (pp. 6-7)

It is partly because cognitive-behavioral techniques do not challenge the economic conditions of our era, and in fact fit well within the same, that they have flourished.

Pilgrim (2011) differentiates public from private forms of healing from the painful events of life:

Whilst sociologists and other critical thinkers might understand misery in society as a *public issue* open to contestation from different social groups about its nature, causation, and solution, CBT renders it a *private trouble* to be solved by therapeutic means. (p. 120)

Time-limited therapies like CBT emerge from a rationalist framework and “can be promoted on a production line” (Pilgrim, 2011, page 130). It is because they mirror the scientific, rationalist framework of the culture at large, and because they limit costs to health management organizations, that cognitive-behavioral techniques have begun to dominate the field in recent years. Advocates of these techniques are able to deny “that solutions probably lie elsewhere, such as in the reduction of social inequalities and the fostering of social capital.....Mental illness, not social inequality and poverty, is the main problem to solve” (Pilgrim, 2011, p. 130).

McWilliams (2005) outlines the striking ways in which psychotherapy, as it has been practiced over the past century, has been at odds with the “radically individualistic, consumeristic, technocratic mass culture we inhabit” (p. 139). She argues that “with every individual with whom we engage in a deeply therapeutic way, therapists quietly challenge many of the more facile and potentially destructive assumptions of the larger society” (p. 139).

Tolleson (2011) goes further when she states that at its best psychotherapy can be “a form of revolution whereby what has been unconscious (unformulated, repudiated) becomes part of a critical consciousness of the social world and one’s place in it” (p. 6). However, in recent years, “the pragmatic, rationalistic, conventional, logical-positivist, scientific sensibility that has

historically been maintained in American universities seems to be reasserting its dominance in ways that many therapists find disturbing” (McWilliams, 2005, p. 141). Because of the references to the pragmatic, logical-positivist, and scientific traditions, she seems to be referring here to CBT.

Borrowing Gramsci’s theory of cultural hegemony, Garrett (2009) shows how the class logic of the dominant psychological schools maintains the status quo of the oppressive capitalist system: “intellectuals...play a crucial role in helping to maintain or challenge a given economic and social order. That is to say, they (including social work educators and social workers) are key actors operating within civil society, enmeshed in the exercise of hegemony” (p. 468). Therapists reproduce and maintain the societal norms—what often seem as common sense—inherent in a radically capitalist system. These bourgeois norms include a valuing of consumerism and quick fixes, and a corresponding denial of personal empowerment in the face of an increasingly authoritarian state and culture. One of CBT’s critics has equated it with “a final flourish of arrogant modernism; lacking in self-doubt and dogmatically obsessed with one form of information or knowledge (‘evidence-based practice’)” (Pilgrim, 2011, p. 130). The implication is that maintaining a myopic focus on evidence-based practices and seeing CBT as a panacea obfuscates other forms of knowledge that might challenge the more unjust and harmful aspects of our society.

Trauma-Focused Cognitive Behavior Therapy

Trauma-Focused Cognitive Behavior Therapy (TF-CBT) is an approach to treating children who have experienced trauma that is theoretically grounded in the CBT tradition. According to Cohen, Mannarino, and Deblinger (2006), TF-CBT is “an empirically supported treatment model designed to assist children, adolescents, and their parents in the aftermath of

traumatic experiences” (p. 32). TF-CBT’s main theoretical orientations are CBT and trauma-sensitive interventions; however these authors also name “attachment, developmental neurobiology, family, empowerment, and humanistic theoretical models” as influences on their model (p. 32). The therapist serves not only as a coach, role model, and educator regarding maladaptive thoughts, but also “provides a safe, therapeutic environment for children, adolescents, and parents to share their innermost thoughts and feelings and to overcome the stigma, shame, and self-blame associated with many types of traumatic experiences” (Cohen, Mannarino, & Deblinger, 2010, p. 297).

In TF-CBT, the therapist uses both cognitive and behavioral techniques. Behavioral techniques include teaching skills to manage stress and improve affective, behavioral, and cognitive regulation, and utilizing gradual exposure to facilitate the mastering of the trauma story and avoidance behavior. Cognitive techniques include employing cognitive restructuring techniques to help the client contextualize the traumatic experience. These techniques are used with both the child and his or her parents, in parallel sessions. However, TF-CBT includes other aspects, the sequence of which is summarized by the acronym PRACTICE: Psychoeducation and Parenting skills, Relaxation techniques, Affective expression and modulation, Cognitive coping and processing, Trauma narrative, In vivo mastery, Conjoint child-parent sessions, and Enhancing future safety. (Cohen et al., 2006).

The intervention begins with psychoeducation, which may also be reintroduced at any point later in the treatment (Cohen et al., 2010). In this stage of treatment, information is given concerning the nature of the traumatic experiences, such as the prevalence of these types of events, their causes, and common reactions of children and parents. This process serves to normalize the child’s experience such that it can be discussed directly, rather than in an avoidant

fashion (i.e. saying “the sexual abuse” rather than “the thing that happened to you”). In this way, gradual exposure to the trauma is started even in the early psychoeducation sessions.

Because children often respond to traumatization with aggression, angry outbursts, and other negative behaviors, a TF-CBT therapist takes time early in treatment to teach parenting skills such as the use of praise to reinforce positive behaviors, selective inattention and effective time-out procedures to discourage negative behaviors, and contingency reinforcement schedules (behavior charts) to both encourage positive behaviors and discourage negative ones (Cohen et al., 2006). Contingency reinforcement charts should target only one behavior at a time, and offer the child the opportunity to earn a star for each day the behavior is positive, with a mutually agreed upon reward (e.g., “You will get to go to a movie on Friday if you have at least 4 stars for the week”).

The next stage of the intervention is teaching the child and parent(s) stress management skills such as controlled breathing, progressive muscle relaxation, mindfulness, or yoga (Cohen et al., 2006). These activities are helpful in learning how to self-soothe, and they are also fun (Cohen et al., 2010). The therapist encourages the child and parents to develop a relaxation plan with different activities for different settings; activities can include things like music, dance, sports, and drawing. The goal is to help both the child and the parent develop their capacity to self-soothe.

In the next stage, a variety of techniques—including games, photographs of faces, and art—are used to encourage the child to express his or her emotions. Many children who have experienced trauma have learned to suppress their feelings, or to only express certain feelings such as anger (Cohen et al., 2010). The goal of this stage of treatment is twofold: to encourage expression of emotion, and to teach ways to regulate disruptive emotions. Affect regulation skills

that are taught can vary from “problem solving, negotiating, social skills, role-playing, seeking social support, thought interruption, positive imagery” to “ensuring safety in the moment” (Cohen et al., 2010, p. 301). At this stage the parents express their own feelings about what has happened to their children and practice assisting their children in both affective expression and affect regulation skills.

In the next stage of the treatment, called cognitive coping, the connection of thoughts, emotions, and behaviors is introduced. Children and caregivers are encouraged to explore their thoughts in order to begin challenging “cognitions that are either inaccurate or unhelpful” and coming up with alternative thoughts (Cohen et al., 2006, p. 107). This process begins with examples that are not related to the trauma, so that the child and parent(s) can learn this new skill. For example, a therapist might describe a hypothetical situation as follows: “Your mother blames you for something your little brother did” (p. 109). The therapist would then ask the child what he or she would think in that situation. The child might answer “she’s not being fair” and report feeling “hurt and mad. (p. 109).” The therapist would then encourage the child to try to come up with an alternative thought, offering suggestions if the child struggles. The new thought in the situation outlined above might be “mom won’t be mad at me once she knows the truth,” and the associated new feeling is “hopeful” (p. 110).

After the cognitive coping skills have been introduced and practiced, the child is assisted in creating a trauma narrative. This narrative often takes the form of a written book. Cohen et al. (2006) describe the framework that the book often takes:

Chapter 1: “Who I am”; Chapter 2: “before the traumatic event started, including my relationship with the person who perpetrated the trauma”; Chapter 3: “the first traumatic event”. The narrative should include “the worst time”, “hot spots” (i.e. trauma reminders

or triggers, and, for a final chapter, “how I have changed, what I have learned, and what I would tell other children who have gone through this.” (p. 302)

The narrative is written over the course of several sessions in “carefully calibrated increments” (Cohen et al., 2006, p. 119), and then it is read aloud during subsequent sessions. During these sessions the therapist asks the child to include more detail about what happened, as well as how they were feeling, what they were thinking, and their bodily sensations during the traumatic event. A form of imaginal exposure therapy, the process of writing the narrative, reading it aloud, and then discussing it with the therapist provides the child with many opportunities to approach the traumatic memories in a supportive environment such that he or she can begin to process and become desensitized to them. The therapist works on identifying dysfunctional thoughts related to the trauma and offering more helpful cognitions, which can then be added to the narrative. In the sessions with the parents during this stage of the therapy, the therapist typically shares the content of the trauma narrative (with child consent). Often children are afraid that the narrative will upset their parents, or think that they will be blamed for what happened (Cohen et al., 2010).

Once the child has created the trauma narrative and spoken at length about it, the work returns to cognitive coping, this time focusing specifically on the child’s trauma-related thoughts. Sometimes a therapist will read aloud the trauma narrative in session, stopping to explore each thought in the story to see if it involves a cognitive error. Cohen et al. (2006) show how a therapist worked with a child whose brother committed suicide by hanging himself:

THERAPIST: Can you see any thoughts in this paragraph that are not accurate or helpful?

CHILD: I guess that it was my fault. I know it wasn't exactly my fault. I just felt that way...

THERAPIST: Saying it was your fault was a thought; the feeling you had was...?

CHILD: Guilty, I guess. I felt guilty 'cause I didn't know he was going to hang himself.

THERAPIST: How could you have known?

CHILD: I don't know, I just should have, I guess.

THERAPIST: Please, help me understand. Are you saying there were signs, or warnings, or something obvious that your brother did or said that clearly told you he was planning to hurt himself, and you just ignored it? Is that what you mean?

CHILD: No, no, nothing like that. I mean, he was unhappy a lot, but he never said he would do that.

THERAPIST: So as far as you know, there were no obvious signs that this would happen, that he would do this?

CHILD: No, but I still should have known. I mean, he was my *brother*, and we were really close.

THERAPIST: So just because you were his sister, you should have always, every minute, been able to read his mind? Even when he didn't give you any hints about what he was thinking?

CHILD: Well, not read his mind. But doesn't being close mean you understand people really well?

THERAPIST: Let's think about that a minute. Was he close to anyone else besides you? Did he have a best friend or something?

(pp. 137-138)

The child goes on to talk about his brother's girlfriend and his mom; when the therapist asks whether either of them knew what his brother was going to do, he answers no. The therapist then asks about whether anyone else in his brother's life, such as his therapist or doctor, had any idea, and the answer was similar: he had never told anyone. In this exchange, we see how the process of Socratic questioning uncovers and challenges the child's inaccurate thoughts. In the parallel sessions with the caregiver(s), if the therapist has identified cognitive errors regarding the traumatic event or the child's or caregiver's response to the traumatic event, he or she can help the caregiver identify and challenge them in a similar manner (Cohen et al., 2006).

In the next component of the therapy, the clinician helps the child practice in vivo exposure techniques to desensitize him- or herself to feared trauma cues in situations that are no longer dangerous. Cohen et al. (2006) discuss a child who is unwilling to enter the bedroom of her new home because she was abused in the bedroom of her old home:

This bedroom also reminds her of her sexual abuse...[the] fear has generalized to an inherently innocuous cue (a bedroom where nothing bad has happened to her) that is disrupting the child's ability to regain a normal developmental trajectory (being able to sleep alone in her own room). (p. 148)

With in vivo therapy, a client engages in the activity that elicits the stress response and, ideally, gradually learns that the activity is actually safe as the symptoms decrease. It is important, in the words of Cohen et al. (2006), "not to overwhelm or flood the child" during the in vivo work, but rather to help him or her gradually get used to the situation "so that each step is tolerable" (p. 148).

The next phase of the therapy involves conjoint parent-child sessions, in which the therapist meets with the child for 15 minutes, with the parent for 15 minutes, and with both for

20 minutes (Cohen et al., 2006). Before these sessions, the child should have completed writing the trauma narrative and be comfortable reading it aloud and discussing it with the therapist, and the parent should have heard the therapist read the narrative, be able to emotionally tolerate it, and be able to make supportive statements when practicing his or her response in individual sessions with the therapist (Cohen et al., 2006). The child is also encouraged to compose a list of things he or she wants to discuss with or ask the parent. In the conjoint session, the child reads the narrative aloud, to the parent and therapist; when the child is finished, both praise the child for the courage it took to do so. Then the child is given the opportunity to raise his or her questions or concerns, after which the parent is given the same opportunity. These sessions provide the opportunity to discuss such issues as healthy sexuality, healthy relationships, safety planning, or other concerns (Cohen et al., 2006).

The final phase of the therapy is focused on enhancing future safety and development. Because many traumatized children feel exceedingly vulnerable, teaching skills such as standard fire safety precautions, wearing seatbelts, and how to cross the street can enhance feelings of safety (Cohen et al., 2006). Moreover, by role playing how he or she might respond to a real threat in the future, the child learns and practices assertive responses to threatening situations. Cohen et al. (2006) emphasize, however, that it is important to praise the child for his or her previous response to the traumatic experience. Even if the response did not prevent the trauma, at some point the child did muster the courage to tell someone, whether it was a police officer, a child protection worker, or a therapist. This step reduces the likelihood that the child will feel guilty for their response. The authors then delineate six important concepts to integrate into this aspect of the treatment:

(1) communicating feelings and desires clearly and openly, (2) paying attention to “gut” feelings, (3) identifying people and places that provide safety, (4) learning body ownership rules (rules about “ok” and “not ok” touches), (5) learning the difference between secrets and surprises, (6) asking for help until someone provides the help needed. (p. 162)

The focus of this final step of the treatment is building skills that enable the child to protect him- or herself in future situations.

As can be seen by the above steps, TF-CBT is an approach that employs many different techniques, depending on the stage of the treatment. It includes psychoeducation, parenting coaching, relaxation training, emotional expression and regulation, cognitive restructuring, in vivo and imaginal exposure, conjoint parent-child therapy, and safety skills training. In the next section I will analyze published empirical studies concerning TF-CBT.

Empirical Support for TF-CBT

As noted above, the cognitive-behavioral movement in psychotherapy is grounded in an empirical approach to the development of treatments. As such, there exist many empirical studies on the efficacy of TF-CBT (e.g., Cary & McMillen, 2012; Cohen, Mannarino, & Knudsen, 2005; Deblinger, Steer, & Lippmann, 1999; Wethington et al., 2008). In this section, I will highlight the results from two randomized controlled trials before presenting the conclusions of a systematic review of TF-CBT.

Cohen, Mannarino, and Knudsen (2005) examined 82 sexually abused children, aged 8-15, who were randomly assigned to either a TF-CBT group or a non-directive supportive therapy group. Both groups met for 12 sessions; the authors examined symptomology for 12 months post-treatment with a battery of measures that focused on symptoms associated with depression,

anxiety, PTSD, anger, and sexual problems. They found significant effects in favor of TF-CBT, concluding that “the results of this study indicate that TF-CBT was superior to a prototypical supportive, empowerment therapy in producing durable improvement in depressive, anxiety, and sexual concern symptoms over the course of a year following treatment” (p. 142).

Another study, by Cohen, Deblinger, and Mannarino (2004, quoted in Stovall-McClough, 2004) compared TF-CBT to Child Centered Therapy, a non-directive parent-child therapy for children who have been sexually abused, and found significant improvement for the TF-CBT group compared to the Child Centered Therapy one. At least twice as many subjects in the Child Centered Therapy group had PTSD after treatment compared to the TF-CBT group.

Cary & McMillen (2012) examined 10 studies by conducting three separate meta-analyses: the first included three studies that evaluated the branded version of TF-CBT; the second included five studies that shared five out of five components with TF-CBT; and the third included 10 studies that shared at least four out of five of these components. The authors found TF-CBT to be an effective intervention: “the pooled estimates strongly suggest that TF-CBT is more effective than attention control, standard community care and waitlist control conditions at reducing symptoms of PTSD in youth, both immediately and 12 months after the termination of treatment” (Cary & McMillen, 2012, p. 756).

Conclusion

In this chapter I have presented an overview of cognitive-behavioral therapy, tracing the technique’s development from its origins in behaviorism to its focus on the relationship among stressful life events, thoughts, feelings, and behaviors. I then reviewed some of the critiques of CBT, focusing on challenges to the philosophical assumptions of the movement as well as explanations for CBT’s predominance in the field. Finally, I summarized the elements of

Trauma-Focused CBT, offering case material along the way, as well as presenting empirical studies concerning this modality. In the next chapter I will discuss interventions informed by attachment theory and recent developments in neurobiology. These fields of thought engender a different—and potentially complementary—perspective on the treatment of survivors of childhood trauma than the one discussed in this chapter.

CHAPTER III

Attachment-Based Treatments for Childhood Trauma

In recent years there has been great enthusiasm among many in the mental health professions for attachment theory (Wei, 2008). Mary Wylie and Lynn Turner (2011) state that “during the last 15 to 20 years, attachment theory has exerted more influence in the field of psychotherapy than just about any other model, approach, or movement” (p. 1). The authors go on to illustrate the extent to which attachment theory has penetrated the field:

Though not a clinical methodology, it has justified a whole range of therapeutic perspectives and practices. Among them are a particular sensitivity to the role of traumatic or neglectful ties with early caregivers; the fundamental importance of affect regulation to successful therapy; the importance of establishing relationships with clients characterized by close, intense, emotional, and physical attunement; and the ultimate goal of recreating in therapy an attachment experience that makes up, at least to some degree, for what the client missed the first time around. (p. 1)

According to the authors, attachment theory frames the entire therapeutic encounter, from the essential activities of affect regulation and attunement performed by the therapist, to the goal of helping the client form a new style of attachment relationship, if this is what is indicated in a particular case.

Couples therapist Sue Johnson (Johnson & Simon, 2012) describes attachment theory as offering “an end goal...a destination, an image of health.” She argues that attachment theory

“unifies self and system... We know that if you’re securely attached to at least one person in your life....you are much less likely to develop a mental illness like depression, you are more resilient, you feel better about yourself, you have a positive sense of self, you’re able to deal with emotions better....you can see things from different points of view.” According to Johnson, attachment is a key, foundational aspect of mental health: we need to be able to experience attachment with others in order to find our own true selves.

In Chapter II, I have already reviewed the theoretical underpinnings of attachment theory, and I have discussed recent neurobiological findings that support and expand the theories first proposed by Mary Ainsworth and John Bowlby. In light of the impact attachment theory is currently having on the field, it is essential in this study—a discussion and analysis of best practices for the treatment of children who have experienced traumatic abuse or neglect—to critically analyze attachment-informed interventions for children. Moreover, attachment theory differs profoundly from the theories upon which cognitive-behavioral practices rest, and there is a perceived tension in the field between these two influential camps (see, e. g., Johnson & Simon, 2012). There exists a need for an elucidation of attachment-informed techniques, such that the unique aspects of this approach can be known.

In this chapter, I will briefly discuss so-called “attachment therapy”—notorious treatments that incorporate holding, binding, and other violent techniques—in order to dispel any illusion that this paper advocates such an approach. I will then present the neurobiological underpinnings of attachment-based approaches, focusing in particular on the Neurosequential Model of Therapeutics developed by Bruce Perry. Next, I will move to a discussion of Pat Ogden’s Sensorimotor Psychotherapy, which, I will argue, puts into practice many of Perry’s ideas and is in the vanguard of attachment-informed techniques that incorporate neurobiological

findings regarding trauma. Finally, I will provide a case example from the literature as well as an empirical study examining the efficacy of Sensorimotor Psychotherapy.

Attachment-Informed Treatment, not “Attachment Therapy”

In the opinion of some authors, the phrase “attachment therapy” has acquired a rather infamous reputation because of the violent and abusive treatments developed and recommended by some therapists (Chaffin et al., 2006; Haugaard & Hazan, 2004; Hanson & Spratt, 2000). These so-called interventions are defined by therapists who employ them to include “scheduled holding, binding, rib cage stimulation (e.g., tickling, pinching, knuckling), and/or licking” (Chaffin et al., 2006, p. 79). According to these techniques, children “may be held down, may have several adults lie on top of them, or their faces may be held so they can be forced to engage in prolonged eye contact. Sessions may last from 3 to 5 hours, with some sessions reportedly lasting longer” (p. 79). While these techniques have been discredited in mainstream child welfare and psychological circles, they continue to be employed by some therapists who practice largely outside the scientific and professional community. The proponents of these techniques appear to believe in their efficacy and necessity. They view holding techniques “as a way of releasing a child’s inner rage, thereby allowing him or her to attach successfully to his or her parents” (Haugaard & Hazan, 2004, p. 158).

In what amounts to a powerful reminder of the power of theory in shaping practice, Chaffin et al. (2006) describe the importance of the theoretical understanding of children’s attachment problems in shaping treatment. The authors write that traditional attachment theory “holds that caregiver qualities such as environmental stability, parental sensitivity, and responsiveness to children’s physical and emotional needs, consistency, and a safe and predictable environment support the development of healthy attachment” (p. 77). An approach to

therapy for maltreated children that stems from traditional attachment theory would thus emphasize providing “a stable environment and taking a calm, sensitive, nonintrusive, nonthreatening, patient, predictable, and nurturing approach toward children” (Chaffin et al., 2006, p. 77). Hanson & Spratt (2000) appear to concur when they write that “inclusion of a supportive caregiver is important as a precondition to treatment and to serve as an important alliance in the treatment process” (p. 143). In later sections of this chapter, I will propose an approach that is in line with this theoretical approach.

In contrast to traditional attachment theory, proponents of the controversial attachment techniques outlined above employ a theory of attachment that posits that young children who have endured adversity (abuse, neglect, or other hardship) often harbor an intense internal rage:

Suppressed or unconscious rage is theorized to prevent the child from forming bonds with caregivers and leads to behavior problems when the rage erupts into unchecked aggression. The children are described as failing to develop a conscience and as not trusting others...Proponents believe that traditional therapies fail to help children with attachment problems because the prerequisite of establishing a trusting relationship with the child is impossible to accomplish with these children. In contrast to traditional theories, the controversial treatments hold that children with attachment problems actively avoid forming genuine relationships, and consequently relationship-based interventions are unlikely to be effective. (Chaffin et al., 2006, p. 78)

A central motif in this conceptualization is the child’s resistance to attachment and the perceived need to break down this resistance. Hence the techniques recommended are intended to overpower the child and establish dominance, and indeed to provoke rage (Hanson & Spratt, 2000). Whereas traditional attachment theory is concerned with creating a safe, predictable, and

nurturing environment, this alternative conceptualization is focused on asserting parental control, demonstrating to the child the lack of his or her own control, and tapping the sea of rage within these children: “a central feature of many of these therapies is the use of psychological, physical, or aggressive means to provoke the child to catharsis, ventilation of rage, or other sorts of acute emotional discharge” (Chaffin et al., 2006, p. 79).

In addition to the alternative theoretical base espoused by the proponents of the controversial treatments, they also embrace novel symptom lists with regard to so-called attachment disorders—disorders that are not recognized in the DSM-IV-TR, apart from Reactive Attachment Disorder (RAD) (American Psychiatric Association, 2000). Reber (1996, quoted in Chaffin et al., 2006), in presenting common symptoms of attachment disorders, includes some of the DSM-IV-TR symptoms for RAD (e.g., indiscriminate affection towards strangers, superficial relationships, and absence of affection towards parents), but also includes a long list of nonspecific problems:

Destructive behaviors; developmental lags; refusal to make eye contact; cruelty to animals and siblings; lack of cause and effect thinking; preoccupation with fire, blood, and gore; poor peer relationships; stealing; lying; lack of a conscience; persistent nonsense questions or incessant chatter; poor impulse control; abnormal speech patterns; fighting for control over everything; and hoarding or gorging on food. (Chaffin et al., 2006, pp. 82-83).

This list far exceeds the diagnostic criteria for RAD, and indeed even more general attachment problems. According to Chaffin et al., “these types of lists are so nonspecific that high rates of false-positive diagnoses are virtually certain” (p. 83).

While it has been pointed out that the therapists who employ these techniques are well-intentioned (Chaffin et al., 2006), the point here is that the interventions which they employ are often harmful and lack empirical support. Simply being well-intentioned is not enough; it is essential to follow up these intentions with sound practice. To that end, the remainder of this chapter will be devoted to a therapeutic approach to working with children who have survived traumatic experiences that is grounded in accepted attachment theory as well as recent neurobiological research, and which I will argue represents a sound practice approach.

The Neurosequential Model of Therapeutics

Bruce Perry, clinician and researcher, has developed an approach to working with children who have experienced trauma that he calls the Neurosequential Model of Therapeutics (NMT). Rather than being a specific technique or intervention, NMT is a “developmentally sensitive, neurobiologically informed approach to clinical work” (Perry & Hambrick, 2008). NMT enables a clinician to match a particular therapeutic intervention with the developmental stage of the child, with special emphasis on the brain region and neural networks mediating the problems in functioning (Perry & Hambrick, 2008). The approach centralizes a thorough assessment of both the child’s history and her or his present functioning.

We have already seen, in Chapter II, that the brain develops sequentially, with the least complex areas—including the brainstem, which regulates heart rate, respiration, and body temperature—developing first, and the more complex cortical areas, necessary for abstract thought, not being fully developed until adulthood. We have also seen that in the first two years of life, there is an overproduction of brain cells and synapses, and that a process of pruning takes place at this stage. In essence, if brain cells are not used, they are lost (Perry, 2009). NMT proposes that a thorough review of a child’s history is essential because, according to Perry and

Hambrick (2008), “early developmental trauma and neglect have disproportionate influence on brain organization and later brain functioning” (p. 40). According to Perry (2009), “while experience may alter the behavior of an adult, experience literally provides the organizing framework for an infant and child” (p. 245). Early childhood “is the time when the brain makes the majority of its ‘primary’ associations and the core neural networks organize as a reflection of early experience” (Perry & Hambrick, 2008, p. 40). Adverse experiences during this stage of life have the potential to greatly impact subsequent development. The key message of this foundational aspect of NMT is that “dysfunctional symptoms and functional assets in children are both related to the nature, timing, pattern, and duration of their developmental experiences” (Perry & Hambrick, 2008, p. 40). It is essential, therefore, for clinicians to know as much as possible about these developmental experiences.

The core NMT assessment seeks to uncover an individual’s developmental history, with particular focus on the timing, nature, and severity of developmental challenges, resulting in an estimate of “developmental load” (Perry, 2009, p. 249). A related area of this assessment is a child’s relational history, which provides insight into his or her attachment style. The relational milieu can be protective and mediate some of the effects of trauma or neglect, while relational instability can exacerbate the effects of these developmental insults. This assessment results in an estimate of which neural circuits and brain functions were likely affected by the developmental insults. Perry (2009) provides as an example the following hypothetical case:

Intrauterine insults such as alcohol use or perinatal caregiving disruptions (such as an impaired, inattentive primary caregiver) will predictably alter the norepinephrine, serotonin, and dopamine systems of the brainstem and diencephalon that are rapidly organizing during these times in life. These early life disruptions, in turn, will result in a

cascade of regulatory functions impacting a wide distribution of other brain areas and functions that these important neural systems innervate. (p. 249)

It is crucial to accurately assess a child's developmental history because early childhood insults such as inattentive caregiving can have a profound impact on many areas of the child's brain.

The next stage of the assessment is an analysis of the child's present functional status, which Perry suggests is best established through a process involving professionals from several different disciplines, with the group being facilitated by an expert in child development, clinical traumatology, and developmental neurosciences (Perry, 2009). By analyzing an individual's behavior, the team comes up with a working functional brain map, which estimates which areas of the neural system are implicated in functional problems and strengths. There is an awareness that this is an oversimplification, because almost all brain functions are mediated throughout the neural system, but this mapping provides useful knowledge about which area of the brain is the "final common mediator of the function," and enables the team to outline the child's unique strengths and vulnerabilities (Perry, 2009, p. 251). The process results in a visual representation of developmental status across several domains. According to Perry and Hambrick (2008), "a ten-year-old child, for example, may have the speech and language capability of an eight-year-old, the social skills of a five-year-old, and the self-regulation skills of a two-year-old" (p. 40). The map is useful in discussing developmental and trauma history with clients as well as caregivers, educators, and mental health staff; moreover it helps the treatment team determine the most appropriate interventions, creating a "developmentally sensitive sequence to the enrichment, educational, and therapeutic work" (Perry & Hambrick, 2008, p. 41). Additionally, the functional brain map is useful in tracking progress in treatment, by comparing a present map with ones from previous assessments. Perry (2009) writes that improvement tracked by the

assessments “is a powerful reinforcement for tired parents and hard-working frontline staff who feel their efforts are for naught” (p. 250).

The last stage of the NMT process is the proposal of treatment recommendations based on the assessment of developmental and relational history and current functional status.

According to Perry (2009), “while many deficits may be present, *the sequence in which these are addressed is important*. The more the therapeutic process can replicate the normal sequential process of development, the more effective the interventions are” (pp. 251-2, emphasis in original). It is crucial to start with the lowest problems in functioning and to “move sequentially up the brain as improvements are seen” (Perry, 2009, p. 252).

Treatment should focus on the area of the brain that is the source of the dysregulation, not simply on the area that expresses some of the more obvious symptoms (such as the cortical and limbic systems, which regulate, respectively, cognition and relational interactions, and which are the areas of the brain that would express guilt and shame, for example) (Perry, 2009) . In cases of early abuse or neglect, the source of the dysregulation will typically be the brain stem and diencephalon, which are associated with self-regulation, attention, arousal, and impulsivity. Hence the intervention indicated would target that area of the brain, and would include “any variety of patterned, repetitive somatosensory activities such as music, movement, yoga (breathing), and drumming or therapeutic massage” (Perry, 2009, p. 252). These activities provide the affected neural areas with the patterned, repeated neural stimulation that is necessary for reorganization. According to Perry (2009), “the most effective intervention process would be to first address and improve self-regulation, anxiety, and impulsivity before the cognitive problems become the focus of therapy” (p. 252).

A crucial aspect of this approach of facilitating repetitive experiences that allow for a traumatized or neglected child to regain functioning, is that it is not time-limited: indeed, according to Perry and Hambrick (2008), “it is long, frequent, and requires a global understanding of development” (p. 42). Once there is improvement in self-regulation, the work can move to relational problems, associated with the limbic system in the brain, using play or art therapies. And when these relational skills have improved, interventions that focus on the cortical areas of the brain, such as cognitive-behavioral or psychodynamic therapy, can be employed (Perry, 2009). Furthermore, NMT is careful to include recommendations for other interventions typically outside the scope of mental health care, such as issues with speech, motor functioning, learning, and socialization.

A key feature of NMT clinical recommendations is the importance placed upon the child’s relational surround. According to Perry (2009), “the relational environment of the child is the major mediator of therapeutic experiences” (p. 252). Using a simple relational health metric, clinicians gauge the number and quality of relational supports capable of providing a nurturing, safe, and attuned environment; in many cases co-therapeutic services, in which the caregiver and child attend a session together, are recommended. In Perry’s (2009) words, “Children with relational stability and multiple positive, healthy adults in their lives improve; children with multiple transitions, chaotic and unpredictable family relationships, and relational poverty do not improve even when provided with the best ‘evidence-based’ therapies” (p. 252).

The Neurosequential Model of Therapeutics helps clinicians assess a child’s history and present functioning, with particular focus on how developmental insults and inadequate caregiving can affect later functioning. Clinicians are able to develop a neurobiologically-informed, attachment-focused formulation of the client with whom they are working, which

enables them to select an intervention that targets the area of the brain that is likely the source of the dysregulation. Successful treatment with traumatized children often requires the initial regulation of the brainstem's dysregulated stress response systems. Only after these systems are more regulated can a sequence of developmentally appropriate enrichment and therapeutic activities be successfully provided to help the children heal (Perry, 2006). In the next section, I will introduce Sensorimotor Psychotherapy, a modality that is similar in approach to NMT, but that provides a more nuanced framework and expanded treatment recommendations.

Sensorimotor Psychotherapy

As seen above, one of the main implications of Perry's neurosequential model is that successful treatment of children who have experienced trauma must include interventions that promote regulation of the brainstem. Pat Ogden's Sensorimotor Psychotherapy (SP) takes a similar approach, but presents a more integrated and thorough approach to working with this population. Ogden, who has extensive training in the Hakomi method of body-centered psychotherapy pioneered by Ron Kurtz (Ogden, Minton, & Pain, 2006), articulates the necessity of working with the body to access areas of the brain that are otherwise unresolved by therapy (Ogden & Minton, 2000). Moreover, SP centralizes attachment theory in its conception of childhood trauma and the helping relationship, at the same time as it places importance on working with both thoughts and emotions in treatment. It provides a synthesis of the field's dominant form of therapy—talk therapy—with techniques focused on bodily sensations, integrating cognitive, emotion-focused, and sensorimotor interventions. And rather than arguing, as Perry (2009) does, that clinicians should employ sensorimotor techniques prior to cognitive and emotion-focused ones, SP provides a template for integrating the three modes of intervention in all stages of the treatment.

As discussed in Chapter II, MacLean's (1990) triune brain model outlines three major areas of the brain: the brainstem, the limbic system, and the cortex. Ogden, Pain, and Fisher (2006) employ this model and expand on it when they introduce the theoretic approach of SP:

First to develop in the human infant is the reptilian brain (comprised of the brain stem and cerebellum), which governs arousal, homeostasis of the organism, reproductive drives, sensation and instinctual movement impulses, the heart of sensorimotor experience. The 'second' brain is the "paleomammalian brain" or "limbic brain," found in all mammals, which anatomically surrounds the reptilian brain and serves to regulate somatosensory experience, emotion, memory, some social behavior, and learning. Last to develop phylogenetically is the neocortex, which enables cognitive information processing, self-awareness, executive functioning, and conceptual thinking. This hierarchical organization results in two distinctly different directions of information processing: from the "top-down" or the "bottom-up," and the interplay between them holds significant implications for the treatment of trauma. (pp. 5-6)

A central feature of SP is its differentiation of lower brain functions (processing of motions and sensations) from limbic and cortical ones (processing of emotions and thoughts). Corresponding to this distinction in function is a distinction in the *quality* of processing. According to Ogden and Minton (2000):

Sensorimotor processing is in many ways foundational to the others and includes the features of a simpler, more primitive form of information processing than do its more evolved counterparts. With its seat in the lower, older brain structures, sensorimotor processing relies on a relatively higher number of fixed sequences of steps in the way it does its work. (p. 152)

Sensorimotor processing involves more repetitive, stereotyped sequences of actions than either limbic or cortical processing. These actions include involuntary reflexes (the knee jerk reaction, for example) as well as fixed motor patterns (walking or running). In the more evolved emotional and cognitive realms, there is less rigidity and fixed sequences, and more complexity.

The cortical areas of adult, non-traumatized people often act as a “control center” that is able to dominate subcortical limbic activity (Schore, 1994). A well-functioning adult is able to follow a plan and, in Ogden and Minton’s (2000) words, “override feelings of fatigue, hunger, or physical discomfort. It's as though we hover just above our somatic and sensory experience, knowing it's there, but not allowing it to be the primary determinant of our actions" (p. 153). The authors label this process as an example of “top-down” functioning (p. 153). In contrast, young children often engage in the bottom-up activities dominated by the emotional and sensorimotor systems: infants are “hard-wired to be governed by somatic and emotional states...and are unregulated by cognition or cortical control” (Ogden & Minton, 2000, p. 153). Similarly, survivors of trauma often lack the capacity to regulate these functions, and “experience themselves as being at the mercy of their sensations, physical reactions, and emotions” (Ogden & Minton, 2000, p. 153).

However, even when top-down processing does allow for an individual to manage sensorimotor processes, according to Ogden and Minton (2000), it “may not effectuate their full assimilation...The traumatic experience and arousal from the sensorimotor and emotional levels may be redirected through top-down management, but the processing, digestion and assimilation of sensorimotor reactions to the trauma may not have occurred” (p. 154). In order for this processing and digestion to occur, an individual “must identify and experience these reactions *physically*” (p. 154, emphasis in original). It is necessary to attend to the experience at the

sensation level, not just the emotional and cognitive ones. Top-down techniques (e.g., mindful tracking of sensations) are used to create an appropriate environment in which the bottom-up processes (the sensations themselves, as well as movements and impulses) arise and change at the bodily level (Ogden, Minton, & Pain, 2006). Clients are asked to “temporarily disregard emotions and thoughts that arise, until the bodily sensations and impulses resolve to a point of rest and stabilization in the body” (Ogden & Minton, 2000, p. 155). As the authors state, “optimal functioning of the higher levels is somewhat dependent upon the adequate functioning of the lower levels” (Ogden & Minton, p. 154). However, once stabilization of the sensorimotor processes is achieved, clients can be encouraged to begin “holistic processing—the synergistic functioning of cognitive, emotional and sensorimotor levels of processing” (Ogden & Minton, 2000, p. 154). Ogden, Minton, & Pain (2006) illustrate this process:

Integrating bottom-up and top-down interventions requires the client to prioritize sensory and motor experiences and observe their interplay with emotional and cognitive levels of information processing. Clients learn to notice how thought and emotion affect the body and also how different physical sensations and movement affect upper levels of information processing. By using the body (rather than only cognition or emotion) as a primary entry point and avenue of exploration of traumatic experience, the effects of trauma on the body and on procedural learning are addressed directly. (pp. 166-67)

We saw above how sensorimotor processing is used for stabilization; here we see how it can be used in a dynamic fashion, in tandem with cognitive and emotional processing, to treat the effects of trauma directly. By learning not only how thoughts and emotions affect their bodies, but also how sensations and motions affect their thoughts and emotions, clients are able to move towards integration of previously dissociated trauma symptoms.

Ogden and her colleagues have developed a sophisticated technique for performing SP. Their phenomenology centralizes the role that sensations play in consciousness; accordingly, their interventions include a systematic methodology for using the different sensations in the body. Ogden, Minton, & Pain (2006) distinguish between the core and the periphery of the body in what they call “an oversimplification for the purpose of mapping somatic resources” (p. 221). The authors are building on the work of Schore (2005), who highlights the importance of the quality of the early attachment relationship on an individual’s later ability to self-regulate:

Security of attachment relates to a physiologic coding of an expectation that during times of stress, homeostatic disruptions will be set right. These interactive representations encode strategies of affect regulation and contain coping mechanisms for maintaining basic regulation and positive affect in the face of environmental challenge. The infant’s ability to develop more complex selfregulatory coping capacities, to regulate stressful alterations of psychobiological state either interactively or autonomously, emerges out of its experiences with the social environment. (Schore, 2005, p. 209)

Regulation of the psychobiological state is achieved either interactively or autonomously, and the degree to which one can do so depends on an individual’s prior attachment experiences. The model that Ogden and her colleagues present expands this explanation to incorporate bodily processes into the capacity to self-regulate.

According to the SP schema, “the physical core of the body comprises the pelvis, spine, ribcage” (Ogden, Minton, & Pain, 2006, p.221); it is this part of the body that is related to the capacity to self-regulate. Awareness of the core of the body confers “a sense of stability, connection with the self, and an internal locus of control” (p.223). The physical periphery of the body, on the other hand, entails the arms and legs, and awareness of “actions of the extremities”

gives rise to regulation of interpersonal relationships (Ogden, Minton, & Pain, 2006, p. 223). By focusing on sensations in different parts of the body, the authors provide an avenue to work on either self-regulation or interpersonal skills:

Generally speaking, somatic resources that involve awareness and movement of the core of the body (centering, grounding, breath, alignment) provide a sense of internal physical and psychological stability and therefore support autoregulation. Somatic resources that develop awareness and movement of the periphery (pushing away, reaching, locomotion) tend to facilitate social skills and interactions with the world at large and support the capacity for interactive regulation. (Ogden, Minton, & Pain, 2006, p. 222)

Accordingly, SP assessment and interventions involve working with both the core and the periphery of the body, which itself is seen as an ever-present counterpart to consciousness (thoughts and emotions). By observing the way that clients inhabit their physical bodies, clinicians assess “for the presence or absence of a variety of physical capacities depending on the phase of treatment” (Ogden, Minton, & Pain, 2006, p. 190).

In phase one, the clinician assesses bodily abilities that promote stabilization—such as an aligned spine or full, deep, breaths. If these are missing, they can then be taught to the client (Ogden, Minton, & Pain, 2006). In phase two, the clinician assesses “potential mobilizing defensive responses that were not executed at the time of the trauma, such as tension in the shoulders, arms, or hands (possibly indicating an incomplete ‘fight’ response) or tension in the legs (possibly indicating a truncated ‘flight’ response)” (Ogden, Minton, & Pain, 2006, p. 190). If necessary, the clinician encourages the client to perform actions with the extremities that “‘complete’ failed defensive actions—to execute ‘acts of triumph’—through reactivating a ‘sliver’ of memory” (Ogden, Minton, & Pain, 2006, p. 248). The authors point to the pioneering

French psychologist Pierre Janet, a contemporary of Freud's and like Freud a student of hysteria, who in 1919 wrote that "traumatized patients are continuing the action, or rather the attempt at action, which began when the thing happened and they exhaust themselves in these everlasting recommencements" (quoted in Ogden, Minton, & Pain, 2006, p. xx). SP is a technique focused on helping clients identify and work through these stunted actions. As Peter Levine, a pioneer in somatic approaches to trauma, wrote in 2005, "when the implicit memory is activated and completed somatically, an explicit narrative can be constructed; not the other way around" (quoted in Ogden, Minton, & Pain, 2006, p. 248). In phase two the client is encouraged to work at the edge of her or his "window of tolerance" (p. 243)—but not past that edge—in order to integrate the traumatic memory based in the body.

The third and final phase of treatment consists of assessing the client for physical manifestations of cognitive distortions that might have arisen, and if appropriate, "to challenge and restructure those beliefs and their somatic counterparts" (Ogden, Minton, & Pain, 2006, p. 271). It is in this phase that cognitions become the focus of the work, although they are always addressed alongside bodily processes. Ogden, Minton, and Pain (2006) note that often "beliefs change on their own in phases one and two as the client's body reorganizes and becomes...more aligned or grounded" (p. 263). However, sometimes cognitive distortions, or "stuck points", in the language of Resick, Monson, and Chard (2010, p. 40), persist, and at this point they can be challenged directly.

Another focus of phase three treatment is on fostering "competence and creativity to meet life's ongoing challenges" (Ogden, Minton, & Pain, 2006, p. 207). The clinician elicits this dynamic energy by encouraging clients to engage in particularly challenging actions. The action will likely correspond to one of the nondefensive action systems that the authors delineate:

attachment, exploration, energy regulation, caregiving, sociability, play, and sexuality (Ogden, Minton, & Pain, 2006). The authors are sure to note the centrality of the attachment system: “because of its role in ensuring survival and providing the necessary biopsychosocial regulation for optimal brain development, the attachment system provides the foundation for all other systems” (Ogden, Minton, & Pain, 2006, p. 111).

The clinician assigns particular actions to be performed, depending on the needs of the client. These can be as simple as any one of a variety of arm movements: “reaching out...grasping motions, holding on, letting go, boundary motions of pushing, hitting, circular motions that define one’s personal boundary, expressive movements of opening the arms widely in gestures of embrace or expansion, movements of self touch, such as hugging oneself” (Ogden, Minton, & Pain, 2006, p. 282). Or the action can be to simply practice noticing and relaxing the core of the body. Whatever the action, the clinician encourages the client to move towards completing it—an experience which typically brings satisfaction and joy.

In phase three the work is also centered on helping clients develop “boundaries that are flexible, resilient, and ever-changing, depending upon the client’s internal state and relational interactions” (Ogden, Minton, & Pain, 2006, p. 286). Boundaries are determined by one’s felt sense of preferences and desires, “as well as on the felt sense of safety” (p. 286). Clinicians key in to the client’s bodily processes, and help clients learn how to listen to their own bodies and “experience, often for the first time, a felt sense of personal boundary, rights, and ability to discern appropriate preferences. This felt sense is palpable, and its barometer is the body” (p. 287). Rather than being overboundaried—isolated and prone to angry outbursts—or underboundaried—permissive and unable to adequately protect themselves—clients learn to

develop appropriate boundaries that maintain their own integrity at the same time as they allow for real connection to others.

At the end of all of the steps delineated above, the work ideally culminates in a newfound sense of identity. This is attained through both bodily and mental processes:

A new capacity for positive states allows integration of a new somatic and linguistic sense of self. The systems of defense that served the client in the past become integrated with the other action systems that foster a normal life environment. The ability to self-regulate and self-soothe makes possible the risk of attempting social reconnection and engaging in all the action systems of daily life, including the cultivation of an expanded sense of pleasure. (Ogden, Minton, & Pain, 2006, p. 299)

After clients connect to their bodily states and work through the traumatic memories through somatic, cognitive, and emotional processes, they are encouraged to activate the action systems of a healthy life.

Ogden, Minton, and Pain (2006) present the case of Sam, who came to therapy because of his wife's complaints about his "intimacy issues" (p. 276). When treatment started, his "posture and arm movements were tense; his spine was stiff, reflecting tension in both core and periphery, and he had a habitual gesture of putting his bent arms out in front of him with palms facing outward" (p. 276). He was abrasive and intimidating to his wife; he had been raised by an alcoholic father who was alternatively abusive or absent. During therapy, he was observed making "movements of defense, including putting his hands up in front of his body, backing away from the therapist when standing, and bracing and pulling back when seated" (Ogden, Minton, & Pain, 2006, p. 277). While Sam stated that he wanted to improve his relationship with

his wife, his therapist observed these defensive postures subconsciously increasing when he was discussing his relationship with her.

In treatment, his therapist gently pointed out these unconscious movements, and Sam was encouraged to perform them “voluntarily and mindfully” (Ogden, Minton, & Pain, 2006, p. 277). He soon realized that he was disconnected to his stated desire for intimacy with his wife, and upon further exploration reported a childhood memory of fear of his father, never knowing if he would be violent or kind. Sam’s therapist encouraged him to maintain awareness of his core as he experienced the need to connect to others, and to experiment with gentle movements and breathing softly as he did so (Ogden, Minton, & Pain, 2006). Sam was also encouraged to practice making reaching movements with his arms, but making sure to initiate the movement from his core. While Sam said “the gesture felt unfamiliar and that he felt more vulnerable because he didn’t expect a response to his reaching” (p. 277), verbalizing his beliefs related to his childhood trauma in the context of the therapeutic relationship helped Sam relax his spine and musculature and to soften his aversion to intimacy. While Sam’s “vulnerability increased as he executed these relational movements from a more relaxed physical core”, he also stated that it felt “good” (Ogden, Minton, & Pain, 2006, p. 278).

Empirical Support for Sensorimotor Psychotherapy

Though there is a paucity of outcomes research on Sensorimotor Psychotherapy, there is one study by Langmuir, Kirsh, and Classen (n.d.) which is currently in press. The authors studied the effects of a group intervention based on principles of SP for adult women who were survivors of childhood trauma. Five of the women had experienced emotional, physical, and sexual abuse as children, four had experienced physical and emotional abuse, and one had experienced

emotional abuse. All of the women were assessed immediately before the treatment, immediately post-treatment, and at six months post-treatment (Langmuir et al., n.d.).

The group included 20 weekly sessions, of one hour and 45 minutes each. Each session began with a brief mindfulness exercise, after which there was a group exercise in which each participant named three sensations they were currently experiencing. Session content varied, but included exercises to maintain focus on the awareness of sensations and provided opportunities for the participants to offer each other support and feedback. As the sessions progressed, various topics were reviewed, including the three types of processing (cognitive, emotional, and sensorimotor), utilizing somatic resources—“breath, posture, containment, and movement” (Langmuir et al., n.d., p. 12)—for autoregulation, and appropriate boundaries.

As can be seen, the group followed many of the features of SP introduced above. The authors used the Scale of Body Connection (SBC) to assess body awareness, the Somatic Dissociation Questionnaire (SDC) and the Dissociative Experiences Scale (DES) to assess dissociation, and the Soothing Receptivity Scale (SRS) to assess receptivity to being soothed. The authors also used the Inventory of Interpersonal Problems (IIP) to assess the level of self-reported interpersonal problems. The authors reported a significant main effect on the SBC, a trend for an effect on the SDC, a significant main effect on the DES, a significant improvement of the overall SRS score, and no effect on the IIP. The results showed, in the words of the authors, “a significant improvement in body awareness, dissociation, and receptivity to being soothed” (Langmuir et al., n.d., p. 14).

The authors acknowledge the clear limitations of their study, foremost among these being the small sample size and the lack of a control group. As a result, there is no way of knowing whether the changes seen in the subjects were due to, in the words of the authors, “treatment; the

assessment process, which in itself may have raised somatic awareness; the passage of time; group support; attention; regression to the mean; or some other variable” (Langmuir et al., n.d., p. 15). Moreover, the study only measured the abovementioned variables of body awareness, dissociation, and receptivity to being soothed; other symptoms of psychological trauma were not assessed.

Conclusion

In this chapter I have provided an overview of notorious treatments with the name “attachment therapy” before moving to a discussion of recently developed approaches that are grounded in both attachment theory and recent developments in neurobiology. I outlined Bruce Perry’s Neurosequential Model of Therapeutics (NMT), an innovative approach to assessment and treatment selection that brings into focus the effects of relational trauma on the developing brain. Then I discussed Pat Ogden’s Sensorimotor Psychotherapy (SP), a nuanced approach that brings together bodywork and traditional talk therapy in its approach to working with childhood trauma, and presented an empirical study concerning this modality. Attachment theory is foundational to this approach that integrates cognitive and somatic theory in its model of traumatic stress response and recovery. In the next chapter I will provide discussion of the strengths and weaknesses of the various techniques discussed in this paper before offering suggestions for social work practice with survivors of childhood trauma.

CHAPTER V

Discussion & Conclusion

Many children in U.S. society experience abuse or neglect (Copeland, Keeler, Angold, & Costello, 2007; Costello, Erkanli, Fairbank, & Angold, 2002; Pynoos & Fairbank, 2003). These adverse childhood experiences have been shown to negatively affect physical and mental health into adulthood (Anda, 2006; Goodman, 2010; Schore, 2003a), not just for the person concerned, but also for his or her offspring (Hesse, Main, Abrams, and Rifkin, 2003). Therefore, the treatment of these individuals is an important topic. It is also a complex one: as has been presented in this paper, there exist within the field quite distinct perspectives on how best to help these individuals recover. While it can be assumed that most therapists sincerely want to help, it is also clear that many clinicians feel allegiance to one certain technique, and adopt a myopic view with regard to treatment choices (Coady & Lehmann, 2008).

It need not be so: we can critically analyze our practice, relying on evidence from empirical studies, findings in related fields like neurobiology, and our own clinical experience, to incorporate the best aspects of *all* the techniques available. To that end, in this chapter I will discuss the strengths and weaknesses of each of the two approaches I have presented, considering first Trauma-Focused CBT, which arises from the cognitive and behavioral traditions, and then the Neurosequential Model of Therapeutics and Sensorimotor Psychotherapy, which are both grounded in an attachment perspective and incorporate newer findings from neurobiology. I will then seek to articulate the best and most effective treatment

choices for this population and focus on the study's implications for clinical social work. Finally, I will consider the limitations of this study and offer suggestions for future areas of research.

Strengths & Weaknesses of the Treatments

Trauma-Focused CBT has many strengths. It has been shown in many research studies to be an effective treatment for children who have experienced trauma (e.g., Cary & McMillen, 2012; Cohen, Mannarino, & Knudsen, 2005; Deblinger, Steer, & Lippmann, 1999; Wethington et al., 2008). Due to its straightforward treatment protocol, it is also easily replicable, and can be disseminated to clinicians in remote locations relatively easily. The technique does not rely on assessments by highly trained specialists, but rather involves assessment and treatment by the treating clinician.

Another strength is that it includes the caregivers in the treatment, centralizing the importance of the parent-child relationship for recovery. TF-CBT also focuses on creating a consistent, reliable framework in which the recovering child can grow and develop. Cohen et al. (2006) state that “maintaining normal routines and consistency in rules and expectations in the face of stress promotes adaptive functioning in children as well as adults” (p. 67). Additionally, TF-CBT emphasizes the importance of stress management techniques like mindfulness, progressive muscle relaxation, controlled breathing or yoga early in the treatment, and it pays some heed to the importance of being aware of bodily sensations.

At its core, TF-CBT presents a schedule of activities that systematically integrates cognitive and behavioral practice models. Like other forms of CBT, it has been criticized for being a reductionist one-size-fits-all approach (Pilgrim, 2011) that is predominant today chiefly because of its proponents' research agenda, which matches the research-focused paradigm of the present era. In Chapter III I have discussed this and other criticisms of CBT. Here I will offer

some additional points on the topic of comparing CBT to other treatment modalities. Shedler (2010) reviewed several studies comparing CBT to psychodynamic therapy. In one study (Ablon & Jones, 1998), a group of internationally recognized experts created descriptive prototypes of “ideally conducted psychodynamic therapy and CBT” (p. 103). The experts were then asked to use these prototypes to analyze archival treatment records, which came from three studies: one on cognitive therapy and two on brief psychodynamic therapy. They used both prototypes to analyze all of the sessions, no matter which technique the therapists believed they were practicing. According to Shedler (2010), “therapist adherence to the psychodynamic prototype predicted successful outcome in both psychodynamic and cognitive therapy. Therapist adherence to the CBT prototype showed little or no relation to outcome in either form of therapy” (p. 104).

Shedler (2010) reviewed another study (Castonguay, Goldfried, Wiser, Raue & Hayes, 1996) that used different methods and that also found that “psychodynamic methods predicted successful outcome in cognitive therapy” (p. 104). Investigators in this study examined randomly selected therapy sessions among 64 outpatients engaged in cognitive therapy, and assessed three variables: the working alliance, therapist implementation of the cognitive treatment model, and what the authors describe as “experiencing,” and define as a process in which “the client focuses directly on emotions and thoughts about self, engages in an exploration of his or her inner experience, and gains awareness of previously implicit feelings and meanings” (quoted in Shedler, 2010, p. 104). Shedler (2010) states that this last variable “beautifully captures the essence of psychoanalytic process” (p. 104). The authors found that both working alliance and “experiencing” predicted patient improvement on all outcome measures, and that therapist adherence to the cognitive treatment model predicted poorer outcomes. Interestingly, the findings from this same study had been reported as evidence for the efficacy of cognitive

therapy. It appears, however, that whatever gains the patients experienced in these sessions were not due to the cognitive aspects of the therapy, but rather to the relationship with the therapist and the newfound sense of self-understanding that arose from this relationship.

Researchers often find what they are looking for: if they already have in mind what the mechanism of change is, then they will set about proving it. However, that mechanism is not always the aspect of the treatment that actually brings about the change. Shedler (2010) shows that it is the quality of the treatment relationship itself that predicts successful outcomes. It could be argued that attachment-based therapies, because they centralize the relationship with the caregiver(s) and the therapist, bring into focus what actually mediates positive change.

Moreover, Scaer (2005, quoted in Schore & Schore, 2008) highlights the bodily processes that help form the client-therapist relationship:

Many features of social interaction are nonverbal, consisting of subtle variations of facial expression that set the tone for the content of the interaction. Body postures and movement patterns of the therapist...also may reflect emotions such as disapproval, support, humor, and fear. Tone and volume of voice, patterns and speed of verbal communication, and eye contact also contain elements of subliminal communication and contribute to the unconscious establishment of a safe, healing environment. (p. 13)

The use of the body, then, is essential in forming the framework within which healing can take place.

What's more, Schore and Schore (2008) describe how open-ended conversation—the bread and butter of psychodynamic therapy—activates the area of the brain that is always in contact with the body:

These nonverbal affective and thereby mind/body communications are expressions of the right brain, which is centrally involved in the analysis of direct kinesthetic information received by the subject from his own body, an essential implicit process. This hemisphere, and not the linguistic, analytic left, contains the most comprehensive and integrated map of the body state available to the brain. (p. 15)

We have seen throughout this paper that the lower areas of the brain—specifically the brainstem and limbic system—mediate dysfunction stemming from early relational trauma. We have also seen—in Chapter II—how the limbic system has direct pathways to the right cortex, and that both are central to attachment. Here we have evidence that the right cortex is the area of the brain that is in touch with sensations of the body.

Moreover, van der Kolk (2002a) reveals how trauma can affect the areas of the brain that are responsible for rational thinking:

When people are frightened or aroused, the frontal areas of the brain, which are responsible for the analysis of experience and associating it with other areas of knowledge, are deactivated...In addition, high levels of arousal also interfere with the adequate functioning of the brain region necessary to put one's feelings into words: Broca's area...Thus, traumatized people are ill-equipped to talk about their traumas in rational or analytical fashion. (p. 385)

For many who have endured traumatic experiences, high levels of arousal have resulted in brains that are not very good at rational, linguistic processing. It is essential with these patients, then, to work with the sensory component of experience, and working with the right brain—i.e., from an attachment perspective—is part and parcel of that work.

The aforementioned study sheds light on the aspects of cognitive therapy that are specifically focused on maladaptive beliefs and information processing. In the following passage, the focus is on imaginal exposure. In reviewing his own history of using exposure therapies with patients with PTSD, van der Kolk (2002) discusses the limitations of an approach that focuses on the retelling of the trauma narrative without adequate preparation:

Experience shows that many traumatized people, when attempting to put their trauma into words, respond physically, as if they were traumatized all over again, rather than gaining relief. Reliving the trauma without being firmly anchored in the present often leaves people with PTSD more traumatized than they were before. Recalling the trauma can be so painful that many people with PTSD choose not to expose themselves to situations in which they are asked to do so. (2002, p. 387)

The perspective here is that techniques like TF-CBT that focus on the trauma story often have the effect of retriggering the patient, and do not actually provide relief. While this critique flies in the face of the empirical research cited above that establishes the effectiveness of cognitive-behavioral techniques, it is worth considering van der Kolk's premise. The key point is that people who are not firmly anchored in the present are at risk of more harm. As van der Kolk (2002b) says elsewhere, "Talking and insight may help people regain a sense of mastery, but they are unlikely to change people's sensate experiences that form the engines of continuous traumatic reliving" p. (80). Ogden, Pain, and Fisher (2006) appear to concur when they write that "talk therapy has limited direct impact on maladaptive procedural action tendencies as they occur in the present moment" (p. 167). Finally, Siegel (2006) makes a similar point when he states that "focusing primarily on word-based thinking and narratives can keep therapy at the surface level and trauma may remain unresolved" (p. xiv).

It is a weakness of TF-CBT that although the technique includes a component focused on stress management, this element of the treatment is presented as secondary to the chief mechanism of action: cognitive restructuring and imaginal and in vivo exposure. As we have seen, especially in the work of Perry (2009), early relational trauma often effects dysregulation of the brainstem and limbic areas, which causes problems in the ability to control affect, arousal, impulsivity, and attention. These lower areas of the brain are the ones that mediate the problems in functioning, not the cortex, so the most appropriate interventions are those that incorporate repetitive sensory processes, such as yoga, drumming, massage, and music. TF-CBT's recommendation that sensory-focused interventions be included is heartening: it shows that the field is opening to them. However, for these activities to result in therapeutic gains they need to be undertaken for quite a long time, not simply the first few sessions. Perry (2006) states that "it is easier to change beliefs than feelings" (p. 43). The lower areas take many repetitions to change than the higher ones. However, the "current medical model does not allow for sufficient repetitive, patterned experiences for brainstem-related neural systems to reorganize" (Perry, 2006 p. 43). As Perry states elsewhere:

One hour of therapy a week is insufficient to alter the accumulated impact of years of chaos, threat, loss, and humiliation. Inadequate "targeting" of our therapeutic activities to brain areas that are not the source of the symptoms and insufficient "repetitions" combine to make conventional mental health services for maltreated children ineffective. (2009, p. 244)

Because body-based activities stimulate the area of the brain that mediates the problems in functioning, they are not just stress management techniques that are an add-on to the therapy:

they are an integral and central part of the treatment process, a necessary component for therapeutic gains to be achieved.

In the same vein, in TF-CBT there is passing attention given to prompting the client to try to remember the sensations he or she was feeling during the traumatic incident. It is a weakness of the approach that it does not focus on present-moment sensations during treatment. As van der Kolk (2002b) states, focusing on the body is central when helping those who have experienced trauma recover:

The origin of one's emotional states is the state of the body's chemical profile, the state of one's viscera, and the contraction of the striated muscles of the face, throat, trunk, and limbs. Applying these lessons from modern neuroscience has made us realize that effective treatment of PTSD needs to involve promoting awareness, rather than avoidance of internal somatic states...Mindfulness, awareness of one's inner experience, a "felt sense" is necessary if one is to respond according to the current requirements for managing one's life, rather than reacting to certain somatic sensations as a return of the traumatic past. (p. 389)

Other techniques such as Sensorimotor Psychotherapy do centralize the sensory component. Ogden et al. (2006) state the rationale for their approach: "Because the physical and mental tendencies of procedural learning manifest in present-moment time, in-the-moment trauma-related emotional reactions, thoughts, images, body sensations, and movements that emerge spontaneously in the therapy hour become the focal point of exploration and change" (p. 167). Trauma reminders—triggers—can take the form of thoughts or images, but they can also be sensations or movements. It is a major strength of SP that it focuses on all these aspects of experience. It is important to note that SP places emphasis on cognitive techniques—not to the

exclusion of the sensory component of client's lived experiences, however. SP provides a synthesis of cognitive ways of working, in which the cortex is activated, with interventions that centralize body awareness and body movement, which activate the brainstem and limbic system. Employing attachment theory as the frame, SP combines top-down and bottom-up interventions to leverage the power of all three levels of the brain.

Another strength of SP is its focus on the action systems of a healthy life, which I have delineated in Chapter IV, and its proposal that therapists employ interventions that help clients “begin, implement, and complete actions in a manner that increases satisfaction and joy” (Ogden et al., 2006, p. 296). According to van der Kolk (2002), “to overcome a traumatic experience, people require physical experiences that directly contradict the helplessness and the inevitability of defeat associated with the trauma” (p. 388).

A weakness of SP is that there is not yet much empirical support for the intervention, aside from anecdotal reports. I have discussed one study that shows the intervention's effectiveness, but more are needed. Another weakness of SP is that it is not manualized. However, given Shedler's (2010) finding that fidelity to a treatment protocol does not correspond with successful outcome, this fact might not be a weakness. But given the focus in the present era on manualized treatments, the lack of a manual does hinder the technique's dissemination.

Implications for Clinical Social Work

The focus in SP on the body's role in the state of the mind may appear new. In fact, however, it signifies a coming home to a view of therapeutic care that has existed for over a century. Bessel van der Kolk (2002a) describes how three pillars of Western psychology and psychotherapy—Pierre Janet, Sigmund Freud, and William James—all described the importance of the sensory component of experience in healing trauma. According to van der Kolk (2002a),

in 1889 Janet proposed that a traumatic event is often “not organized as a coherent, integrated part of one’s self but as disconnected emotions, visual perceptions, or kinesthetic sensations that are reinstated when people are exposed to sensations or emotions that remind them of those events” (p. 60). A few years later, in 1893, Freud and his mentor Joseph Breuer “postulated that when people find an adequate physical expression to alleviate their emotional distress...they eventually can leave the trauma behind” (van der Kolk, 2002a, p. 61). It is important to note that in Freud’s mature theory he repudiated the impact of trauma on maladaptive functioning, focusing instead on internal conflicts (Herman, 1997). However, early in his career Freud was a proponent of trauma’s role in the etiology of hysteria. Finally, William James in 1894 “formulated the James-Lang theory of consciousness, which held that changing emotions are the result of perceiving changes in bodily states” (van der Kolk, 2002a, p. 68). Each of these influential thinkers recognized—in the late 19th century, no less—the role of the physical body and internal sensory states in both the genesis of post-traumatic symptoms and the recovery from them.

In the present era, we are witnessing a groundswell of enthusiasm by many in the mental health community for integration of Dharma, or the teachings of the Buddha, in our interventions (see, e.g., Germer, Siegel, & Fulton, 2005; Bien, 2006; Epstein, 2007). When we read the words of (Goenka, n.d.), a meditation teacher in the tradition of the Burmese master Sayagyi U Ba Khin, we get a glimpse of an enlightened perspective on embodied existence:

This mental-physical phenomenon is like a coin with two sides. On one side are the thoughts and emotions arising in the mind, on the other side are the respiration and sensations in the body. Any thoughts or emotions, any mental impurities that arise manifest themselves in the breath and the sensations of that moment. Thus, by observing

the respiration or the sensations, we are in fact observing mental impurities. Instead of running away from the problem, we are facing reality as it is. As a result, we discover that these impurities lose their strength; they no longer overpower us as they did in the past. If we persist, they eventually disappear altogether and we begin to live a peaceful and happy life, a life increasingly free of negativities.

Mental life is always mirrored by physical, sensory reality, which one must acknowledge if one is to come to terms with a traumatic past. We find a close corollary to this sentiment in the words of Ogden, Pain, and Fisher (2006), who focus on bringing their clients' attention to the sensory aspects of their experience in order to integrate top-down and bottom-up processing: "The act of mindful exploration facilitates dual processing. Clients do not get caught up in their trauma-related beliefs or arousal but, rather, study the evocation of titrated components of internal experience, especially the body's responses" (p. 169). It is precisely through this focused analysis on titrated aspects of their bodily experience that individuals are able to process what had they had previously repressed because it was so painful.

Both NMT's focus on the body in the stabilization phase and SP's focus on sensations in treatment go farther than TF-CBT, which is more narrowly focused on correcting maladaptive thoughts, even though it does mention using body-focused stress reduction techniques in the early stages of treatment and paying some attention to sensations during the trauma processing stage. TF-CBT might then be better suited for survivors of one incident of trauma, and it may be less effective for those recovering from prolonged trauma, which has been shown to result in symptoms related to self-regulatory capacity outside of traditional conceptualizations of PTSD (see Chapter II for discussion of alternative diagnoses of trauma).

Given the implications of research on the power of affective right brain communication, best practices should include a focus on creating a positive and lasting attachment bond. In the wake of trauma, a child's autonomic nervous system can become dysregulated. This same system, however, is highly influenced by the attachment relationship, which mediates the child's internal homeostatic state. Schore and Schore (2008) eloquently state the rationale for an attachment-based approach to treatment:

An attachment-based clinical approach highlights the unconscious nonverbal affective more than the conscious verbal cognitive factors as the essential change process of psychotherapy. Thus, at the most fundamental level, the intersubjective work of psychotherapy is not defined by what the therapist does for the patient, or says to the patient (left brain focus). Rather, the key mechanism is how to be with the patient, especially during affectively stressful moments (right brain focus). (p. 17)

Moreover, in light of the findings from this study, best practices will incorporate sensorimotor activities as a central component of the stabilization phase. However, because of the centrality of the body in maintaining post-traumatic symptoms, these techniques should not be used only in this phase, but should be utilized throughout treatment.

Social work purports to be a profession that "meets clients where they are," is "client-centered" and has a "person-in-environment" approach. Theories and practice models that deal with trauma's effects on neurobiological development go a long way to helping social work achieve these goals. Schore and Schore (2008) state that this new body of knowledge expands and deepens clinical social work's commitment to client care:

Attachment intersubjectivity allows psychic structure to be built and shaped into a unique human being. Our task as therapists is to understand and facilitate this

developmental process with our clients. As clinical social workers we do this in the wider context of the culture and society. Regulation theory enhances and deepens the field's bio-psycho-social-cultural perspective. (p. 17)

Attachment theory and the neurodevelopmental perspective augment our understanding of the biological and psychological effects of traumatic insults that occur in society.

Attachment theory differs profoundly from the theories upon which cognitive-behavioral practices rest, and the treatment approaches at first glance appear dichotomous. In practice, however, there need not be such a dichotomy. The best cognitive-behavioral therapists wittingly or unwittingly incorporate attachment-informed practices in their techniques; similarly, attachment-informed therapy, at its best, incorporates aspects commonly grouped under the heading CBT. We have seen how Sensorimotor Psychotherapy integrates cognitive interventions with sensory ones; we have also seen how TF-CBT includes some somatic elements. Wachtel (2011) argues for just such an integrative perspective when he states that “therapeutic work could be improved by integrating the different elements of the various competing approaches” (p. 26). He points to the similarities between Bowlby's idea of internal working models—the underlying idea of attachment theory—and Piaget's concept of schemas—which Beck employed as a foundational concept in cognitive therapy (Wachtel, 2011). These two schools of thought are outgrowths of similar perspectives, and have more in common than is typically realized. Behavioral activation, a prototypical behavioral intervention, involves using one's body in new and active ways—a sensory technique to be sure, which corresponds with SP's emphasis on helping clients reengage the action systems in their lives. Moreover, we see in TF-CBT's emphasis on safety skills a corollary of the defensive actions performed in SP (although in SP the body-component makes these defensive actions therapeutic in themselves).

Both cognitive-behavioral and attachment-based interventions have important features that can complement the other. Chaffin et al. (2006), in reviewing data of studies of interventions designed to improve early child attachment, state that one of the keys to effectiveness in these interventions was “maintaining a focused, goal-directed, behavioral approach targeted at increasing sensitive parental behaviors and including fathers and mothers in the intervention” (p. 78). Here we see a behavioral approach used to leverage the attachment relationship in the family. And the neurobiological and sensory perspective offered by attachment-based interventions highlights the pervasive effects of trauma on all areas of the brain, not only the cortex, and makes clear the need for interventions that access the deeper areas, in addition to the cortical ones.

Limitations of This Study & Future Areas of Research

This study has several limitations. Because it is a theoretical thesis that lacks an empirical data set of its own, there is no way to independently evaluate the efficacy of the techniques in question. Moreover, while I have experience in clinical work with children and adults who experienced childhood trauma, working with both attachment-based and CBT interventions, I do not have experience working with the specific interventions outlined herein, i.e. NMT, SP, or TF-CBT. This study has been an exploratory one, and I have strived to outline certain interventions based on their prevalence in the field or their inclusion of key somatic components. It is clear, however, that in order to gain true expertise on their utility one must begin to use them. I hope to practice with each of these techniques in my career.

In an encouraging recent development, the U.S. Department of Veteran’s Affairs has started offering, in multiple locations, a sensory-based intervention for veterans with PTSD called Integrative Restoration, which is based on the ancient meditative practice of yoga nidra

(Burch, 2012). If interventions like this one, which centralizes the role of the body in recovering from post-traumatic symptoms, are to become more widely available, there must be more high quality empirical studies of their effectiveness.

References

- Allen, J. G. (2001). *Traumatic relationships and serious mental disorders*. (p. xxiv, 460). Wiley.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)*. Text (Vol. 1, p. 943). American Psychiatric Association. doi:10.1176/appi.books.9780890423349
- American Psychiatric Association. (2010). Posttraumatic Stress Disorder. *DSM-5 Development*. Retrieved December 23, 2011, from <http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=165>
- Anda, R. (2006). *The health and social impact of growing up with adverse childhood experiences: The human and economic costs of the status quo*. *Social Problems* (pp. 1-20). Retrieved from http://www.acestudy.org/files/Review_of_ACE_Study_with_references_summary_table_2_.pdf
- Atwood, N. (1997). Attachment as a context for development: Challenges and issues. *Quality contexts for children's development*. Retrieved from <http://www.thelizlibrary.org/liz/attachment.html>
- Bach-y-Rita, G. (1974). Habitual violence and self-mutilation. *The American Journal of Psychiatry*, 131(9), 1018-1020.
- Basham, K. (2008). Trauma theories. In J. Berzoff, L. Flanagan, & P. Hertz (Eds.), *Inside out and outside in: Psychodynamic clinical theory and psychopathology in contemporary multicultural contexts* (2nd ed., pp. 411-441). New York, NY US: Jason Aronson.
- Beck institute for cognitive behavior therapy. (n.d.). Retrieved April 12, 2012, from <http://www.beckinstitute.org/>

- Bell, S., & Ainsworth, M. (1972). Infant crying and maternal responsiveness. *Child development*, (43), 1171-1190.
- Belsky, J., & Nezworski, T. (1988). *Clinical implications of attachment*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bien, T. (2006). *Mindful therapy*. Somerville, MA: Wisdom Publications.
- Bretherton, I., & Waters, E. (1985). Growing points of attachment theory and research: Monograph of the society for research in child development, 50(1 & 2).
- Burch, A. (2012, March 18). For veterans, yoga can offer peace. *The Miami Herald*. Retrieved from [http://www.irest.us/sites/default/files/Miami Herald Yoga 4 Vets.pdf](http://www.irest.us/sites/default/files/Miami%20Herald%20Yoga%204%20Vets.pdf)
- Burgess, A. W., Hartman, C. R., & McCormack, A. (1987). Abused to abuser: antecedents of socially deviant behaviors. *The American Journal of Psychiatry*, 144(11), 1431-1436. Retrieved from http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=3674224
- Cary, C. E., & McMillen, J. C. (2012). The data behind the dissemination: A systematic review of trauma-focused cognitive behavioral therapy for use with children and youth. *Children and Youth Services Review*, 34(4), 748-757. Elsevier Ltd. doi:10.1016/j.chldyouth.2012.01.003
- Cautin, R. (2011). A century of psychotherapy, 1860-1960. In J. Norcross, G. Vandenbos, & D. Freedheim (Eds.), *History of Psychotherapy* (2nd ed., pp. 3-38). Washington, DC: American Psychological Association.
- Chaffin, M., Hanson, R., Saunders, B. E., Nichols, T., Barnett, D., Zeanah, C., Berliner, L., et al. (2006). Report of the APSAC task force on attachment therapy, reactive attachment

disorder, and attachment problems. *Child maltreatment*, 11(1), 76-89.

doi:10.1177/1077559505283699

Cicchetti, D. (2002). How a child builds a brain: Insights from normality and psychopathology.

In W. Hartup & R. Weinberg (Eds.), *Minnesota symposia on child psychology: Child psychology in retrospect and prospect. Vol. 32* (pp. 23-71). Mahwah, NJ: Lawrence Erlbaum Associates.

Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., & Petkova,

E. (2009). A Developmental Approach to Complex PTSD : Childhood and Adult

Cumulative Trauma as Predictors of Symptom Complexity. *Journal of traumatic stress*, 22(5), 399-408. doi:10.1002/jts.

Coady, N., & Lehmann, P. (2008). An overview of and rationale for a generalist-eclectic

approach to direct social work practice. In N. Coady & P. Lehmann (Eds.), *Theoretical perspectives for direct social work practice* (pp. 3-39). New York, NY US: Springer.

Cohen, J., Mannarino, A., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. New York, NY US: Guilford Press.

Cohen, J., Mannarino, A. P., & Deblinger, E. (2010). Trauma-focused cognitive-behavioral

therapy for traumatized children. In J. R. Weisz & A. E. Kazdin (Eds.), (pp. 295-311).

New York, NY US: Guilford Press. Retrieved from

<http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-09488-019&site=ehost-live>

Cohen, J., Mannarino, A. P., & Knudsen, K. (2005). Treating sexually abused children: 1 year

follow-up of a randomized controlled trial. *Child abuse & neglect*, 29(2), 135-45.

doi:10.1016/j.chiabu.2004.12.005

- Copeland, W. E., Keeler, G., Angold, A., & Costello, E. J. (2007). Traumatic events and posttraumatic stress in childhood. *Archives of General Psychiatry*, 64(5), 577-584. doi:10.1001/archpsyc.64.5.577
- Costello, E. J., Erkanli, A., Fairbank, J. A., & Angold, A. (2002). The prevalence of potentially traumatic events in childhood and adolescence. *Journal of Traumatic Stress*, 15(2), 99-112. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12013070>
- Cozolino, L. (2010). *The neuroscience of psychotherapy: Healing the social brain* (2nd ed.). New York, NY US: W. W. Norton & Company.
- Davison, N., & Neale, J. (2001). *Abnormal psychology* (8th ed.). Hoboken, NJ US: John Wiley & Sons Inc.
- Deblinger, E, Steer, R. a, & Lippmann, J. (1999). Two-year follow-up study of cognitive behavioral therapy for sexually abused children suffering post-traumatic stress symptoms. *Child abuse & neglect*, 23(12), 1371-8. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10626618>
- Deblinger, Esther, Thakkar-Kolar, R., & Ryan, E. (2006). Trauma in childhood. In V. Follette & J. Ruzek (Eds.), *Cognitive-behavioral therapies for trauma* (2nd ed., pp. 405-432). New York, NY US: Guilford Press.
- Draganski, B., Gaser, C., Busch, V., Schuierer, G., Bogdahn, U., & May, A. (2004). Neuroplasticity: changes in grey matter induced by training. *Nature*, 427(6972), 311-2. Nature Publishing Group. doi:10.1038/427311a
- Duncan, P., Zorowitz, R., Bates, B., Choi, J., Glasber, J., Graham, G., Katz, R., et al. (2005). AHA/ASA-Endorsed Practice Guidelines: Management of adult stroke rehabilitation care. *Stroke*, 36, e100-e143. doi:10.1161/01.STR.0000180861.54180.FF

- Epstein, M. (2007). *Psychotherapy without a self*. New Haven: Yale University Press.
- Fishman, D., Rego, S., & Muller, K. (2011). Behavioral theories of psychotherapy. In J. Norcross, G. Vandenbos, & D. Freedheim (Eds.), *History of Psychotherapy* (2nd ed., pp. 101-140). Washington, DC: American Psychological Association.
- Flanagan, L. (2008a). Object relations theory. In J. Berzoff, L. Flanagan, & P. Hertz (Eds.), *Inside out and outside in: Psychodynamic clinical theory and psychopathology in contemporary multicultural contexts* (2nd ed., pp. 121-160). New York, NY US: Jason Aronson.
- Flanagan, L. (2008b). The theory of self psychology. In J. Berzoff, L. Flanagan, & P. Hertz (Eds.), *Inside out and outside in: Psychodynamic clinical theory and psychopathology in contemporary multicultural contexts* (2nd ed., pp. 158-185). New York, NY US: Jason Aronson.
- Fleming, J. B. (1979). *Stopping Wife Abuse*. Garden City, NJ: Anchor Books.
- Freud, S. (1896). The aetiology of hysteria. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud, volume III (1893-1899): Early psychoanalytic publications* (Vol. III, pp. 187-221). Psychoanalytic Electronic Publishing.
- Friedman, E., Thase, M., & Wright, J. (2008). Cognitive and behavioral therapies. In A. Tasman, J. Kay, J. Lieberman, M. First, & M. Maj (Eds.), *Psychiatry* (pp. 1920-1947). John Wiley & Sons, Ltd.
- Garrett, P. M. (2009). The “Whalebone” in the (Social Work) “Corset”? Notes on Antonio Gramsci and Social Work Educators. *Social Work Education*, 28(5), 461-475.
doi:10.1080/02615470802256402
- Gelles, R. J. (1972). *The Violent Home*. Beverly Hills, CA: Sage Publications.

- Germer, C., Siegel, R., & Fulton, P. (Eds.). (2005). *Mindfulness and psychotherapy*. New York: Guilford Press.
- Goenka, S. N. (n.d.). The art of living: Vipassana meditation. Retrieved May 28, 2012, from <http://www.dhamma.org/en/art.shtml>
- Goodman, A. (2010). Dr. Gabor Maté: When the body says no: Understanding the stress-disease connection. Retrieved from http://www.democracynow.org/2010/2/15/dr_gabor_mat_when_the_body
- Graham, Y., Heim, C., Goodman, S., Miller, A., & Nemeroff, C. (1999). The effects of neonatal stress on brain development: Implications for psychopathology. *Development and Psychopathology*, 11, 545-565.
- Grolnick, S. (1990). *The work & play of Winnicott*. Northvale, NJ: Jason Aronson.
- Hall, K., & Iqbal, F. (2010). *The problem with cognitive behavioural therapy*. London, UK: Karnac Books.
- Hanson, R. F., & Spratt, E. G. (2000). Reactive Attachment Disorder: What We Know about the Disorder and Implications for Treatment. *Child Maltreatment*, 5(2), 137-145.
doi:10.1177/1077559500005002005
- Haugaard, J. J., & Hazan, C. (2004). Recognizing and treating uncommon behavioral and emotional disorders in children and adolescents who have been severely maltreated: reactive attachment disorder. *Child maltreatment*, 9(2), 154-60.
doi:10.1177/1077559504264316
- Heide, K. M., & Solomon, E. P. (2006). Biology, childhood trauma, and murder: rethinking justice. *International journal of law and psychiatry*, 29(3), 220-33.
doi:10.1016/j.ijlp.2005.10.001

- Herman, J. L. (1997). *Trauma and recovery: The aftermath of violence-- from domestic abuse to political terror* (2nd ed.). New York, NY US: Basic Books.
- Herman, J., Perry, C., & van der Kolk, B. (1989). Childhood trauma in borderline personality disorder. *American Journal of Preventive Medicine*, (April), 490-495.
- Hesse, E., Main, M., Abrams, K. Y., and Rifkin, A. (2003). Unresolved states regarding loss or abuse can have “second generation” effects: Disorganization, role inversion, and frightening ideation in the offspring of traumatized, non-maltreating parents. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain*. New York, NY US: W. W. Norton & Company.
- Hilberman, E., & Munson, M. (1978). Sixty battered women. *Victimology*, (2), 460-471.
- Ho, W. (n.d.). Behaviorism: A psychological perspective. Retrieved April 1, 2012, from <http://www.personal.psu.edu/wxh139/bahavior.htm>
- Hollon, S., & DiGiuseppe, R. (2011). Cognitive theories of psychotherapy. In J. Norcross, G. Vandenbos, & D. Freedheim (Eds.), *History of Psychotherapy* (2nd ed., pp. 203-241). Washington, DC: American Psychological Association.
- Huston, J. (1946). *Let there be light*. National Film Preservation Foundation. Retrieved from <http://www.filmpreservation.org/preserved-films/screening-room/let-there-be-light-1946>
- Høifødt, R. S., Strøm, C., Kolstrup, N., Eisemann, M., & Waterloo, K. (2011). Effectiveness of cognitive behavioural therapy in primary health care: a review. *Family practice*, 28(5), 489-504. doi:10.1093/fampra/cmr017
- Johnson, S., & Simon, R. (2012). Attachment patterns in couples relationships. *Psychotherapy Networker*. Retrieved April 22, 2012, from <http://www.icpre.com/Presentations/PN/Attachment/Johnson.html>

- Kaiser, E. M., Gillette, C. S., & Spinazzola, J. (2010). A Controlled Pilot-Outcome Study of Sensory Integration (SI) in the Treatment of Complex Adaptation to Traumatic Stress. *Journal of Aggression, Maltreatment & Trauma*, 19(7), 699-720.
doi:10.1080/10926771.2010.515162
- Kirouac, S. (2009). *The impact of childhood trauma and brain development: A literature review and supporting handouts*. Athabasca University. Retrieved from <http://library.athabascau.ca/drr/download.php?filename=gcap/SamanthaKirouacProject.pdf>
- Langmuir, J., Kirsh, S., & Classen, C. (n.d.). A pilot study of body-oriented group therapy: Adapting Sensorimotor Psychotherapy for the group treatment of trauma. *Psychological trauma: Theory, research, practice, and policy* (Vol. 2, pp. 1-19).
- LeDoux, J. E. (1994). Emotion, memory and the brain. *Scientific American*, 270(6), 50-7. New York: Munn & Co. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/8023118>
- Ludy-Dobson, C., & Perry, B. D. (2010). The role of healthy relational interactions in buffering the impact of childhood trauma. *Working with children to heal interpersonal trauma: The power of play* (pp. 26-43). New York, NY US: Guilford Press. Retrieved from <http://search.ebscohost.com.libproxy.smith.edu:2048/login.aspx?direct=true&db=psyh&AN=2010-17991-003&site=ehost-live>
- MacLean, P. D. (1990). *The triune brain in evolution: Role in paleocerebral functions*. *Cognitive and Behavioral Neurology* (Vol. 5, p. 68). Springer Us. Retrieved from <http://books.google.it/books?hl=en&lr=&id=4PmLFmNdHL0C&oi=fnd&pg=PT36&dq=The+triune+brain+in+evolution&ots=y6k8En2R3c&sig=6-Unl8FfEpYli2m55CmNCnl3n8#v=onepage&q=&f=false>

- Main, M. (1995). Discourse, prediction, and recent studies in attachment. In Shapiro & Emde (Eds.), *Research in psychoanalysis: Process, development, outcome* (pp. 209-44). New York, NY US: International Universities Press.
- McWilliams, N. (2005). Preserving our humanity as therapists. *Psychotherapy: Theory, Research, Practice, Training*, 42(2), 139-151.
- Messer, S. (2001). Empirically supported treatments: What's a nonbehaviorist to do? In B. Slife, R. Williams, & S. Barlow (Eds.), *Critical issues in psychotherapy: Translating new ideas into practice* (pp. 3-25). Thousand Oaks, CA: Sage Publications.
- Moskowitz, A. (2011). Schizophrenia, trauma, dissociation, and scientific revolutions. *Journal of trauma & dissociation : the official journal of the International Society for the Study of Dissociation (ISSD)*, 12(4), 347-57. doi:10.1080/15299732.2011.573770
- Ogden, P., & Minton, K. (2000). Sensorimotor Psychotherapy: One Method for Processing Traumatic Memory. *Traumatology*, 6(3), 149-173. doi:10.1177/153476560000600302
- Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body*. New York, NY US: W. W. Norton & Company.
- Ogden, P., Pain, C., & Fisher, J. (2006). A sensorimotor approach to the treatment of trauma and dissociation. *The Psychiatric clinics of North America*, 29(1), 263-79, xi-xii. doi:10.1016/j.psc.2005.10.012
- Perry, B. (1997). Incubated in terror: Neurodevelopmental factors in the "cycle of violence." In J. Osofsky (Ed.), *Children, youth and violence: The search for solutions* (pp. 124-148). New York, NY US: Guilford Press.

- Perry, B. (2006). Applying principles of neurodevelopment to clinical work with maltreated and traumatized children. In N. Boyd-Webb (Ed.), *Working with traumatized youth in child welfare* (pp. 27-52). New York, NY US: Guilford Press.
- Perry, B., Pollard, R., Blakley, T., Baker, W., & Vigilante, D. (1995). Childhood trauma, the neurobiology of adaptation, and “use-dependent” development of the brain: How “states” become “traits.” *Infant Mental Health Journal*, 16, 271–291. CLINICAL PSYCHOLOGY PUBLISHING COMPANY INC. Retrieved from http://www.healing-arts.org/tir/perry_childhood_trauma_the_neurobiology_of_adaptation_states.pdf
- Perry, B. & Hambrick, E. (2008). The Neurosequential Model of Therapeutics. *Reclaiming children and youth*, 17(3).
- Perry, B. (2009). Examining Child Maltreatment Through a Neurodevelopmental Lens: Clinical Applications of the Neurosequential Model of Therapeutics. *Journal of Loss and Trauma*, 14(4), 240-255. doi:10.1080/15325020903004350
- Pilgrim, D. (2011). The hegemony of cognitive-behaviour therapy in modern mental health care. *Health sociology review*, 20(2), 120-132.
- Porges, S. (2009). Reciprocal influences between body and brain in the perception and expression affect: A polyvagal perspective. In D. Fosha, D. Siegel, & M. Solomon (Eds.), *The healing power of emotion: Affective neuroscience, development, and clinical practice* (pp. 27-54). New York, NY US: W. W. Norton & Company.
- Porges, S., Doussard-roosevelt, J., & Maiti, A. (1994). Vagal tone and the physiological regulation of emotion. *Monographs of the Society for Research in Child Development*, 59(2), 167-186.

- Preston, J., O'Neal, J., & Talaga, M. (2010). *Handbook of Clinical Psychopharmacology for Therapists* (6th ed.). Oakland, CA: New Harbinger.
- Pynoos, R. & Fairbank, J. (2003). The state of child trauma in America, 2 years out. *Brown University Child and Adolescent Behavior Letter* *University Child and Adolescent Behavior Letter*, 19, 1-7.
- Resick, P. A., Monson, C. M., & Chard, K. M. (2010). *Cognitive processing therapy: Veteran/military version*. Washington, DC: Department of Veterans' Affairs.
- Ross, C. (2007). *The Trauma Model: A Solution to the Problem of Comorbidity in Psychiatry*. Manitou Communications Inc.
- Sapp, M. (2004). *Cognitive-behavioral theories of counseling*. Springfield, IL: Charles C. Thomas.
- Schore, A. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, NJ: Earlbaum.
- Schore, A. (2010). Relational trauma and the developing right brain: The neurobiology of broken attachment bonds. In T. Baradon (Ed.), *Relational trauma in infancy: Psychoanalytic, attachment and neuropsychological contributions to parent-infant psychotherapy* (pp. 19-47). New York, NY US: Routledge.
- Schore, A. (2003a). Early relational trauma, disorganized attachment, and the development of a predisposition to violence. In M. F. Solomon & D. J. Siegel (Eds.), *Healing trauma: Attachment, mind, body, and brain*. New York, NY US: W. W. Norton & Company.
- Schore, A. (2003b). *Affect regulation and the repair of the self*. New York, NY US: W. W. Norton & Company.

- Schore, A. (2005). Attachment, Affect Regulation, and the Developing Right Brain: Linking Developmental Neuroscience to Pediatrics. *Pediatrics in Review*, 26(6), 204-217.
- Schore, A. (2009). Relational trauma and the developing right brain: an interface of psychoanalytic self psychology and neuroscience. *Annals of the New York Academy of Sciences*, 1159, 189-203. doi:10.1111/j.1749-6632.2009.04474.x
- Schore, J., & Schore, A. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. *Clinical Social Work Journal*, 36(1), 9-20. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-04674-003&site=ehost-live>
- Shaw, J. A. (2010). A review of current research on the incidence and prevalence of interpersonal childhood trauma. In E. Gil (Ed.), *Working with children to heal interpersonal trauma: The power of play* (pp. 12-25). New York, NY US: The Guilford Press.
- Shedler, J. (2010). The efficacy of psychodynamic psychotherapy. *The American psychologist*, 65(2), 98-109. doi:10.1037/a0018378
- Shilkret, R., & Shilkret, C. (2008). Attachment Theory. In J. Berzoff, L. Flanagan, & P. Hertz (Eds.), *Inside out and outside in: Psychodynamic clinical theory and psychopathology in contemporary multicultural contexts* (2nd ed., pp. 189-203). New York, NY US: Jason Aronson.
- Sibley-schwartz, L. (2011). *Clinical use of music as an adjunct to evidence-based treatment for treating posttraumatic stress disorder*. Smith College School for Social Work.
- Siegel, D. J. (2006). Series editor's foreword. *Trauma and the body* (pp. xiii-xvi). New York: W. W. Norton & Company.

- Sommers-Flanagan, J., & Sommers-Flanagan, R. (2012). *Counseling and psychotherapy theories in context and practice: Skills, strategies, and techniques* (2nd ed.). Hoboken, NJ: John Wiley & Sons Inc.
- Stien, P., & Kendall, J. (2003). *Psychological trauma and the developing brain: Neurologically based interventions for troubled children*. New York, NY US: Routledge.
- Stovall-McClough, C. (2004). Trauma focused cognitive behavioural therapy reduces PTSD more effectively than child centred therapy in children who have been sexually abused. *Evidence-Based Mental Health*, 7(4), 113-113. doi:10.1136/ebmh.7.4.113
- Strauss, M. A. (1977). Sociological perspective on the prevention of wife-beating. In M. Roy (Ed.), *Battered women: A psychosociological study of domestic violence*. New York, NY US: Van Nostrand Reinhold.
- Stuber, M. L., Meeske, K. a, Krull, K. R., Leisenring, W., Stratton, K., Kazak, A. E., Huber, M., et al. (2010). Prevalence and predictors of posttraumatic stress disorder in adult survivors of childhood cancer. *Pediatrics*, 125(5), e1124-34. doi:10.1542/peds.2009-2308
- Tolleson, J. (2011). Psychoanalysis as revolutionary practice. *American association for psychoanalysis in clinical social work: Newsletter*, 4-8.
- Ullman, L. (1970). On cognitions and behavior therapy. *Behavior therapy*, 1, 201-204.
- Van Der Kolk, B. A. (1994). The Body Keeps the Score: Memory and the Evolving Psychobiology of Posttraumatic Stress. *Harvard Review of Psychiatry*, 1(5), 253-265. Informa Healthcare. doi:10.3109/10673229409017088
- Van Der Kolk, B. A. (2005). Developmental Trauma Disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401-408. SLACK. Retrieved from <http://www.slackinc.com/>

- Wachtel, P. (2011). *Therapeutic communication: Knowing what to say when*. New York: Guilford Press.
- Watson, J. (1994). Psychology as the behaviorist views it. *Psychological review*, 101(2), 248-253. Retrieved from <http://psycnet.apa.org/journals/rev/20/2/158/>
- Wei, M. (2008). The implications of attachment theory in counseling and psychotherapy. *Division of psychotherapy: Division 29 of the American Psychological Association*. Retrieved from <http://www.divisionofpsychotherapy.org/wei-2008/>
- Welfare, T. C. evidence-based clearinghouse for child. (2012). Trauma treatment (child & adolescent). Retrieved March 17, 2012, from <http://www.cebc4cw.org/topic/trauma-treatment-for-children/>
- Wenzel, A., Brown, G., & Karlin, B. (2011). *Cognitive behavioral therapy for depression in veterans and military servicemembers: Therapist manual*. Washington, DC: U.S. Department of Veterans Affairs.
- Wethington, H. R., Hahn, R. A., Fuqua-Whitley, D. S., Sipe, T. A., Crosby, A. E., Johnson, R. L., Liberman, A. M., et al. (2008). The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: A systematic review. *American Journal of Preventive Medicine*, 35(3), 287-313.
- Whealin, J., & Slone, L. (2007). Complex PTSD. *National Center for PTSD, Professional Section*. Retrieved from <http://www.ptsd.va.gov/professional/pages/complex-ptsd.asp>
- Wolpe, J., & Plaud, J. (1997). Pavlov's contributions to behavior therapy: The obvious and the not so obvious. *American Psychologist*, 52(9), 966-972.

- Wylie, M., & Turner, L. (2011, March). The attuned therapist: Does attachment theory really matter? *Psychotherapy Networker*. Washington, DC. Retrieved from <http://drdansiegel.com/uploads/The-attuned-therapist.pdf>
- Zagorsky, J., Schlesinger, M., and Sege, R. (2010). *What Happens to Child Maltreatment When Unemployment Goes up?* Retrieved from <http://www.ts-si.org/workplace/27020-unemployment-rate-and-child-maltreatment>
- Ziabreva, I., Poeggel, G., Schnabel, R., & Braun, K. (2003). Separation-induced receptor changes in the hippocampus and amygdala of *Octodon degus*: Influence of maternal vocalization. *Journal of Neuroscience*, 23, 5329-5336.
- Ziegler, D. (2002). *Traumatic experience and the brain: A handbook for understanding and treating those traumatized as children*. Jasper, OR: Acacia Publishing Inc.
- de Arellano, M., Ko, S., Danielson, C., & Sprague, C. (2008). *Trauma-informed interventions: Clinical and research evidence and culture-specific information project. Substance Abuse*. Los Angeles, CA & Durham, NC. Retrieved from http://www.nctsn.org/nctsn_assets/pdfs/CCG_Book.pdf
- van der Kolk, B. (1989). The compulsion to repeat the trauma: Re-enactment, revictimization, and masochism. *Psychiatric Clinics of North America*, 12(2), 389-411. Retrieved from <http://www.cirp.org/library/psych/vanderkolk/#n20>
- van der Kolk, B. (2002a). Posttraumatic therapy in the age of neuroscience. *Psychoanalytic dialogues*, 12(3), 381-392. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/10481881209348674>
- van der Kolk, B. (2002b). Beyond the talking cure: Somatic experience and subcortical imprints in the treatment of trauma. In F. Shapiro (Ed.), *EMDR as an integrative psychotherapy*

approach: Experts of diverse orientations explore the paradigm prism (pp. 57-83).

Washington, DC: American Psychological Association.

van der Kolk, B. (2006). Foreword. *Trauma and the body* (pp. xvii-xxvi). New York: W. W. Norton & Company.

van der Kolk, B., & Saporta, J. (1991). The biological response to psychic trauma: Mechanisms and treatment of intrusion and numbing. *Anxiety Research*, 4, 199-212. Retrieved from <http://www.cirp.org/library/psych/vanderkolk2/>

van der Kolk, B., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of traumatic stress*, 18(5), 389-99. doi:10.1002/jts.20047