

Future directions in trauma-informed care

The intent of this book was to provide an understanding of how research from the field of neuroscience related to psychological trauma can influence direct practice with survivors of trauma. The application of neuroscience knowledge to direct practice has some intrinsic barriers; access to research is often limited and the process of obtaining, and translating, scientific findings into language that mental health providers can understand, is labor intensive. The research focus of this book was to provide a condensed overview of trauma across populations, and to incorporate relevant neuroscience information with related treatment options. In this chapter, we summarize our findings, provide data on trends in trauma-informed care, cultural considerations for portability of treatment, and present a rubric for determining treatment choices.

There are numerous governmental, and non-governmental, entities that promote trauma-informed care in settings for the homeless, victims of crime, mental health clients, and child-welfare agencies (NCDVTMH, 2012; NCSTN, n.d.; NCTIC, n.d.; US Department of Health and Human Services, n.d.). Many of these agencies provide solid principles that should assist in the creation of trauma-informed service organizations. Creating a trauma-informed milieu is not an easy task, no matter how clearly defined the guidelines are. Despite efforts by policy makers in the UK, many mental health services do not demonstrate a trauma informed approach to care (Rose, *et al.*, 2012). Bloom (2007) states that organizations that work with troubled clients face enormous stress-related issues with funding, regulatory pressures, and political environments; over time, these high-stress organizations can become punitive toward clients, hierarchal, and coercive. In order for organizations to develop a trauma-informed culture, they must understand the current paradigms that exist within their organizations. According to Harris and Fallot (2001), trauma-informed care does not

necessarily mean that an agency provides trauma treatment. Instead, a trauma-informed approach to services creates an environment where clients feel safe and welcomed. They argue that agencies see trauma survivors regularly, but unless trauma treatment is a focus of the client's visit, clients are rarely asked about their trauma history. Additionally, trauma-informed means that we understand the far-reaching impact trauma has on behavior, cognition, and emotion, but within the context of the whole person. Trauma-informed means that we treat people, not only symptoms.

As we have discussed throughout this book, the neurobiological underpinnings of trauma-related mental dysfunction begins within the fear circuitry in the brain. When over-activated on a continuous basis, the initial purpose of this system, safety, can become distorted and contribute to anxiety, depression, cognitive alterations, and impulsivity (Foa and Kozak, 1986; Perry, 2006). In both children and adults, supportive relationships appear to help mitigate the overactive fear system (Stalker, *et al.*, 2005; Radan, 2007), but relationships can also suffer as a result of trauma.

Normal procedures in service delivery settings can feel threatening to trauma survivors, cause them to feel unsafe, and trigger trauma cues (Elliot, *et al.*, 2005). How they are treated when they enter a service agency, the tone of voice of a receptionist, or the questions they are asked can cause fear and anxiety, both of which contribute to clients refusing to return for assistance. There is evidence of some progress in changing service delivery in relation to trauma-informed care. In a recent study in the US, 66 percent of over 10,000 substance-abuse treatment centers reported that they included trauma-related interventions in their agencies (Capezza and Najavits, 2012).

Children in "care" are the clients unquestionably most vulnerable to re-traumatization by a system designed to protect them. Sexual abuse, physical abuse, neglect, and family violence are the reasons children find themselves in the custody of government-run agencies and child-welfare systems. These systems include courts, child-welfare agencies, and mental health agencies, and many children are placed in multiple foster-care settings and frequently have to change schools and lose their peer groups (Hummer, *et al.*, 2010). Except in very rare circumstances, all of the personnel in this system are strangers to these children. Despite the good intentions of child welfare, this process can result in "system generated trauma" that can be equally damaging to a child (Ryan, *et al.*, 2006). Any residential setting where a child is placed following a traumatic event should provide a place of safety from the child's perspective (Bloom, *et al.*, 2003).

In a study of Florida's out-of-home mental health treatment programs for children, Hummer, *et al.* (2010) evaluated the degree that trauma-informed care was being implemented in three statewide inpatient psychiatric programs (SIPP), two therapeutic group care (TGC) settings, and two therapeutic foster care (TFC) homes that had been identified as already using trauma-informed approaches to care. Their findings revealed inconsistencies especially in regard to power; generally, power resided in the hands of the staff, and while three facilities had activities, such as "house council" that included input from the youth, the researchers could not determine if there was any change as a result of the input from administrators. Additionally, while all settings identified mechanisms to prepare children for transitions into other settings, they noted that external uncertainties and the unpredictable nature of placement availability made this difficult. From a neurobiological perspective, these findings are problematic. Feeling safe occurs with a certain degree of predictability and sense of control. In children, the sense of control is often obtained by trust in adult caregivers, and the feeling that caregivers are looking out for the child's best interest.

According to Perry and Hambrick (2008), attempts to create therapeutic treatment settings for children who have experienced trauma are poorly conceptualized and unrealistic without a clear understanding of the basic principles of brain development. Research from the Child Trauma Academy (Perry, 2006; Perry and Hambrick, 2008) promotes moving from a purely medical model of treatment to neurobiological and developmentally sensitive models of treating child trauma survivors. This approach has been coined the Neurosequential Model of Therapeutics (NMT). Early childhood adversity can result in a child remaining in a persistent state of fear because primitive reactions to threat, over time, become entrenched in the developing brain. According to the NMT approach, assessment of fear and adaptive reactions from a developmental perspective is fundamental in treating trauma in children. A second consideration from the NMT perspective is to assess the impact trauma has had on the child's relationships and vulnerability factors related to resilience. Additional assessment includes issues related to self-regulation and cognitive functioning. According to Perry (2006, 2009), the findings of this assessment should determine the intervention that is developmentally most appropriate for each child.

Approaches to treating the adult population of trauma survivors demonstrate additional inconsistencies in defining and treating trauma. Within the mental health and neuroscience community, existing information related to PTSD is conflicting. Following a traumatic event, many people experience emotional numbing, dissociation, sleep difficulties, avoidance

behaviors, and hypervigilance. However, 75 to 90 percent of trauma survivors do not go on to develop PTSD (Sadock and Sadock, 2007). Future research is needed to help us understand the variances in responses to trauma among survivors. The age-old nature vs. nurture question lingers regarding resilience to trauma.

In an attempt to determine if there were bio-behavioral markers of PTSD, Zoladz and Diamond (2013) conducted a comprehensive review of existing PTSD research. Their findings indicate that genetic/epigenetic factors may provide promising indicators of PTSD risk factors. There is strong evidence of increased amygdala activity during fear conditioning, and PTSD symptoms may provide a reliable bio-behavioral marker, as does reduced prefrontal cortex (PFC) size and function indicate a bio-behavioral marker. The question remains regarding the possibility of pre-existing conditions related to volumes in the hippocampus, the amygdala, and the prefrontal cortex or whether these anomalies are results of prolonged exposure to trauma. Animal studies indicate that chronic stress suppresses PFC synaptic plasticity. Reduced PFC functioning contributes to inadequate fear extinction, reduced executive functioning, and memory consolidation. Chronic stress adversely affects hippocampal plasticity and memory. Zoladz and Diamond summarize their research findings by noting that lack of consensus on many aspects of PTSD suggests that different subtypes of PTSD have different biological profiles. The complex interplay between developmental, genetic, endocrine, and neurobiological irregularities found in persons with PTSD indicate that a simplistic diagnostic view of this disorder may need to be re-examined.

Culture and trauma-informed care

The global issue of trauma and the variances of available resources offer us the opportunity to explore how we may better offer trauma-recovery services that are cost-efficient and realistic across cultures. If developing trauma-informed practice standards is primarily to broaden our understanding of challenging behaviors and emotions of trauma survivors, it stands to reason that adding further pathology to the issue only serves to compound the problem. Understanding “normal” responses to trauma helps move us away from seeing trauma from a pathology perspective and move toward a more holistic approach to healing.

The word trauma is rooted in the ancient Greek language meaning “wound.” If we understand trauma, we know that wounds hurt, and can leave scars. This is also true with psychological trauma. Our struggle is to

find methods that foster healing and minimize scarring. This should be the primary goal of any intervention. Many of the treatment modalities identified in this book as trauma-informed have very sophisticated guidelines and treatment protocols. However, it is important to recognize the high level of education and skill that proponents of these treatment methods rely upon. In the research and practice models we reviewed, those who delivered treatment were referred to as practitioners, clinicians, therapists, or psychotherapists. This outlook on specialization is widespread in many so-called “Western” countries. In the US, most state laws prohibit providing independent “psychotherapy” services without at least a master’s degree and a clinical license. The motivation behind legislative mandates in professional regulation is an attempt to protect vulnerable members of the public from people who, without proper training, can cause serious harm. We have no quarrel with that intent. However, a broader understanding of trauma-informed care may mean we need to take a step back and look at this issue from a broader perspective. None of the research reviewed used the term *practitioner*; we made that adjustment in the narrative of this text to keep from stumbling over discipline-specific language and losing the intent of the treatment. Without the help of psychiatrists, psychologists, social workers, and counselors, people all over the world recover from trauma. In the remotest regions of the hinterlands, trauma occurs, and in those same regions, people heal, how?

While this is a very important question, we do not have the answer to it. The lack of research from non-Western cultures inhibits our understanding of what we would consider “alternative” methods for healing. This puts us in danger of ethnocentric approaches to care. A search for alternative methods to help people recover from catastrophic events should be an ongoing quest and in no way denigrates the current, highly effective, treatment methods that help provide significant relief from the destructive, and distressing, symptoms of trauma. However, Miller (2007) recommends that twenty-first century trauma psychology should include perspectives that bridge similarities and differences among countries and cultures.

When we explore current trauma-informed treatment approaches, it is likely that some of the *constructs* that contribute to success may occur in numerous other settings. The feeling of safety, conceptualized in a variety of culturally specific ways, would have the same neurobiological effect as one would get from formal treatment. The brain is not interested in the method, only the result. Broadening our understanding of the neurobiological underpinnings that may explain successful treatment can help us begin to

move away from a narrow pathology-based view of trauma and assist to broaden concepts to other regions and populations.

A powerful example of a culturally specific trauma perspective is demonstrated in a study of female survivors of the No Gun Ri massacre during the Korean War (Choi, S., 2011). In the early stages of the Korean War, hundreds of unarmed civilian refugees huddled under the railroad bridge near the village of No Gun Ri and were killed by American troops. Until the early 1990s, the South Korean government prohibited any stories that implicated US or South Korean troops in the killing of civilians. By collecting oral history from survivors, Choi noted that these women began to feel empowered to retell their own story, thus shifting their relationship with the story to a historical perspective. Within the constructs of Confucian ideas of motherhood, three types of stories emerged, the dedicated mother, the disappeared mother, and the survived mother. This contrasts with hero-oriented patriarchal views of war that dominate the existing South Korean culture and lend voice to the women's individual trauma stories. At first glance, there are components of this process that are comparable to Narrative Therapy, but there is a dearth in this sort of comparative research.

One of the challenges of comparative research is lack of consensus on definitions and meanings of events, development, and rights across cultures. In a cross-cultural study of children's perspectives on self-determination and their rights, Cherney and Shing (2008) examined the responses of 12-year-olds from a collectivistic culture (Chinese-Malaysian), an individualistic culture (the United States), and a Western European culture (Switzerland). While most of their findings appeared to be culture-normed, they found some universal findings; most notably that the majority of the 100 children surveyed felt personal autonomy and human rights were basic rights. This perspective did not appear to be influenced by culture. Findings such as these help us understand commonalities that exist across cultures. These commonalities can help provide a foundation for cultural portability. It may very well be that data obtained from the social sciences provide valuable insight into treatment development from a cross-cultural perspective.

F.E.A.R.: A rubric to understand trauma

Our research on how neuroscience influences practice has identified some recurring themes that arise from both the neuroscience literature and the treatment literature. In bodies of research from these two fields, residual symptoms, in both children and adults, related to trauma exposure fall into

four distinct areas: difficulty in obtaining a state of calm (fear extinction); controlling emotions; attentional bias and cognitive distortions; and long-term relational issues. These areas of posttrauma dysfunction, we believe, should provide a foundation for understanding the types of symptoms that, from a neurobiological perspective, can be expected when working with survivors of trauma. Ironically, the acronym for fear extinction, emotion regulation, attentional bias and cognitive distortions, and relational issues is F.E.A.R. Figure 10.1 provides a diagram of the F.E.A.R. rubric.

Each of the components of F.E.A.R. describe specific functions of the brain may be at risk for adaptive dysfunction after trauma. We say adaptive dysfunction because under normal stress conditions, these same systems would not only be useful, they would be lifesaving. However, as we have already discussed, overuse of this fear-response system creates neurobiological adaptations that cause long-term distress in human functioning. We would encourage the use of F.E.A.R. as a rubric for understanding trauma symptoms and for choosing an intervention; F.E.A.R. is not a treatment model. F.E.A.R. offers an easily remembered mnemonic to understand why clients with a trauma history may behave the way they do. Table 10.1 provides examples of relative neuroscience research related to the F.E.A.R. domains.

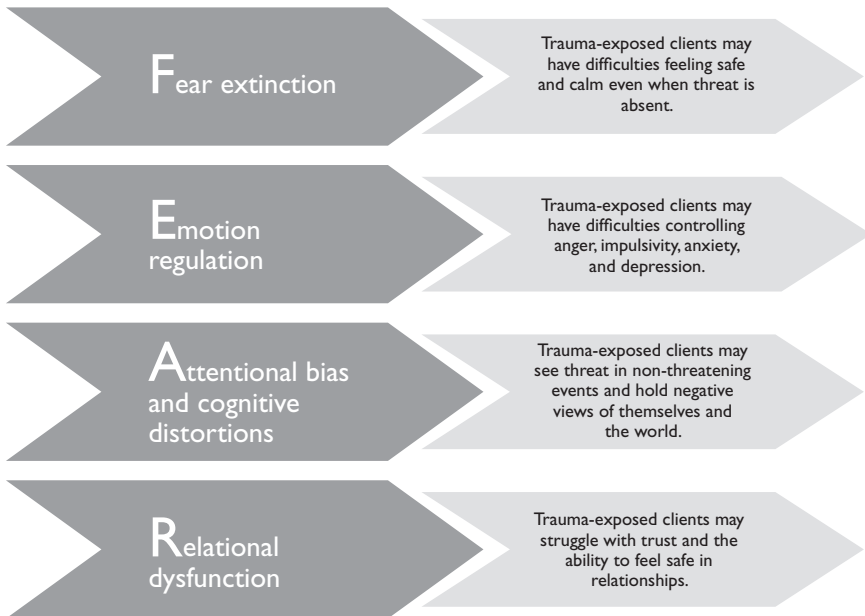


Figure 10.1 F.E.A.R.: A rubric for understanding trauma

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Table 10.1 The neuroscience behind F.E.A.R.

F ear extinction	Rogan, <i>et al.</i> , 1997; Derryberry and Reed, 2002; Pine and Cohen, 2002; Izutsu, <i>et al.</i> , 2004; Corcoran, 2005; Anda, <i>et al.</i> , 2006; Perry, 2006; Briere, <i>et al.</i> , 2008; Grillon, 2008; Liston, <i>et al.</i> , 2009; Rodrigues, <i>et al.</i> , 2009; Graham and Milad, 2011; Juster, <i>et al.</i> , 2011; Kim, <i>et al.</i> , 2011; Sehlmeier, <i>et al.</i> , 2011; Linnman, <i>et al.</i> , 2012; McEwen, <i>et al.</i> , 2012
E motion regulation	Dias, <i>et al.</i> , 1996; Rogan, <i>et al.</i> , 1997; Brown, <i>et al.</i> , 1999; Pine and Cohen, 2002; Haller and Miles, 2004; Izutsu, <i>et al.</i> , 2004; Anda, <i>et al.</i> , 2006; Luecken, <i>et al.</i> , 2006; Perry, 2006; Banks, <i>et al.</i> , 2007; Briere and Rickards, 2007; Briere, <i>et al.</i> , 2008; Goldin, <i>et al.</i> , 2009; Liston, <i>et al.</i> , 2009; Rodrigues, <i>et al.</i> , 2009; Rao, <i>et al.</i> , 2010; Graham and Milad, 2011; Juster, <i>et al.</i> , 2011; Kim, <i>et al.</i> , 2011; McEwen, <i>et al.</i> , 2012; Nickerson, <i>et al.</i> , 2012
A ttentional bias and cognitive distortions	Dias, <i>et al.</i> , 1996; Pine and Cohen, 2002; Branscombe, <i>et al.</i> , 2003; Haller and Miles, 2004; Izutsu, <i>et al.</i> , 2004; Anda, <i>et al.</i> , 2006; Luecken, <i>et al.</i> , 2006; Perry, 2006; Bar-Haim, <i>et al.</i> , 2007; Briere and Rickards, 2007; Briere, <i>et al.</i> , 2008; Cisler, <i>et al.</i> , 2009; Goldin, <i>et al.</i> , 2009; Liston, McEwen, and Casey, 2009; Rodrigues, <i>et al.</i> , 2009; Hayes, <i>et al.</i> , 2010; El Khoury-Malhame, <i>et al.</i> , 2011; Hedges and Woon, 2011; Juster, <i>et al.</i> , 2011; McEwen, <i>et al.</i> , 2012; Blair, <i>et al.</i> , 2013
R elational problems	Roche, <i>et al.</i> , 1999; Muller, <i>et al.</i> , 2000; Pine and Cohen, 2002; Haller and Miles, 2004; Anda, <i>et al.</i> , 2006; Luecken, <i>et al.</i> , 2006; Perry, 2006; Alexander, 2009; Briere and Rickards, 2007; Briere, <i>et al.</i> , 2008; Pierrehumbert, <i>et al.</i> , 2010; Juster, <i>et al.</i> , 2011

Each of the domains of F.E.A.R. has been identified as problematic in all of the populations discussed in this text. Any trauma survivor who exhibits posttrauma adverse symptoms may struggle with regulation in these domains. However, those who experienced trauma during important developmental stages in childhood may experience more challenges in recovery than those who experienced trauma as adults. These populations (children and adult survivors of childhood trauma) were subjected to over-activation of the fear circuitry within the brain during times when important neural connections were being established.

The attempt of this book was to provide an overview of neuroscience research related to trauma and how these findings may be applied to practice with trauma survivors. Trauma-informed care is still an emerging concept. While the concept is becoming normed in the US, it is not clear that the practice of trauma-informed care is by any means universal. There are efforts in that direction, but as we noted earlier, the US model is largely dependent upon specialists trained in mental health.

There may be lessons to learn about trauma recovery away from sophisticated treatment models. Do trauma survivors in remote villages across the world recover from the ill effects of trauma? If so, then how? The answers to these questions are largely unknown due to a gap in research available to examine. While the US models provided here demonstrate hope for trauma survivors, they are time-consuming and costly. If we could better understand why these treatments work, we may be able to develop adaptable interventions. Determining what neural structures improve by intervention should guide future research; and for that work, we will continue to rely on our colleagues in the neuroscience fields.

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