ANA M. GOMEZ

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EMDR THERAPY AND ADJUNCT APPROACHES WITH CHILDREN

COMPLEX TRAUMA, ATTACHMENT, AND DISSOCIATION

EMDR Therapy and Adjunct Approaches With Children

Ana M. Gomez, MC, LPC is a psychotherapist in private practice, a researcher, and a national and international speaker. She has presented extensively nationally and internationally, on the use of EMDR therapy and other adjunct approaches with children and adolescents with complex trauma, attachment injuries, and dissociation. She received her professional degree in psychology with a specialization in clinical psychology from the Catholic University of Colombia, and her master's degree in counseling psychology from Arizona State University. Ana has served as a practicum supervisor at the Educational Psychology Department at Northern Arizona University. She was the recipient of the 2011 distinguished service award from the Arizona Association for Play Therapy. She is a facilitator for the EMDR Institute, a specialty presenter on EMDR therapy with children, and an EMDR-HAP trainer. Ana is the author of several book chapters on the use of EMDR therapy with children, *The Thoughts Kit for Kids* and *Dark, Bad Day…Go Away*, a book for children about trauma and EMDR, which has been translated into four languages.

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Complex Trauma, Attachment, and Dissociation

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SPRINGER PUBLISHING COMPANY
NEW YORK

Springer Publishing Company, LLC
11 West 42nd Street
New York, NY 10036
www.springerpub.com

Acquisitions Editor: Sheri W. Sussman
Production Editor: Joseph Stubenrauch
Composition: Newgen Imaging

ISBN: 978–0-8261–0697-1
E-book ISBN: 978–0-8261–0698-8

12 13 14 15/ 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Gomez, Ana M.
EMDR therapy and adjunct approaches with children : complex trauma, attachment, and dissociation / Ana M. Gomez.
p. ; cm.
Includes bibliographical references and index.
ISBN 978-0-8261-0697-1—ISBN 978-0-8261-0698-8 (e-book)
I. Title.
[DNLM: 1. Child. 2. Eye Movement Desensitization Reprocessing—methods. 3. Dissociative Disorders—therapy. 4. Object Attachment. 5. Stress, Psychological—therapy. WS 350.6]

618.92'8523—dc23

2012006987

Printed in the United States of America by Bradford and Bigelow Printing

To my mother Elizabeth and my father Pedro
And to my husband and life partner Jim

Contents

Contributors

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Foreword

It is an honor to be invited to write the Foreword for this book by Ana Gomez, who is well known to the eye movement desensitization and reprocessing (EMDR) community for her many contributions, including her dramatic DVD demonstrating EMDR treatment with a young client, her dynamic advanced EMDR workshops, and her presentations at conferences around the world. Within the pages of this book, Gomez artfully brings together her many years of lecturing, clinical experience, EMDR skills, and creative strategies. The primary intention of this book is to inform the reader about developmentally appropriate strategies and protocols to assist in treating children with complex trauma, including dissociative symptoms, attachment issues, and inappropriate social behaviors. However, it is my belief that the contents are relevant to the understanding and implementation of EMDR with clients of all ages and diverse backgrounds.

The relational aspect is a key ingredient when providing treatment to children and families; however, sometimes it can be extremely challenging to create a therapeutically positive and trusting relationship with highly reactive and traumatized children. Most often, children do not elect to be in therapy and are resistant to input from teachers, parents, principals, therapists, and so on. According to Perry, "Recognizing the power of relationships and relational cues is essential to effective therapeutic work and, indeed, to effective parenting, caregiving, teaching, and just about any other human endeavor" (Perry & Szalavitz, 2006). Most child therapists are adept at establishing rapport with children; however, the standardized EMDR treatment protocols require specific modifications when applied to young clients. How does the clinician explain EMDR to a child and the caregiver and get consensus from both to engage in the process? This book is filled with valuable resources for establishing a therapeutic bond and helping children and their caregivers to build a stable and trusting relationship not only with the therapist but also with one another. In addition, joyful, concrete, "hands-on" activities are included to engage even the most oppositional child and naïve parent. Most importantly, client-centered treatment is emphasized, and Gomez is sensitive to and mindful of the cultural background, religious beliefs, and values of her clients.

Knowing how to prepare and when a client is ready for EMDR treatment can be a challenge and significantly more difficult when working with highly traumatized children and adolescents. In Chapter 3, "Phase Two: Preparation," Gomez introduces the work of Perry, Panksepp, Porges, Siegel, and Schore as foundational theories of brain physiology to support the comprehensive treatment protocols she has developed to prepare the avoidant, dysregulated child and to give caregivers opportunities to positively interact with their children. Throughout the book, the importance of attunement, emotional resonance, and mindfulness is underscored. According to Dworkin (2005), "The concept of attunement embodies both alignment and resonance. Attunement occurs when one person tunes in to

another; that is, a person nonverbally perceives and feels the other's experience. When this occurs, the other person feels 'felt.' Attunement is very close to empathy. It creates an attachment bond between the two people involved. In practice, attunement is what happens when the clinician really 'gets' what the client is feeling in the moment and the client realizes it. Attunement is a requirement for successful EMDR" (Dworkin, 2005). To explain the steps of the EMDR methodology, to prepare the child for possible negative affect, and to help the child construct a safe place while simultaneously establishing attunement, developmentally appropriate metaphors and interactive activities are described in detail and illustrated with heartwarming case examples.

Often I have encountered clinicians who are confounded by how to introduce and implement EMDR treatment with children and adolescents. Some clinicians feel that many of the steps of the standard protocol should be eliminated with the rationale that children do not have the cognitive ability to engage in the full process. My experience applying EMDR with children is that they can do all the steps successfully if modifications appropriate to the child's age and developmental level are incorporated. This book methodically takes the reader through the standard EMDR protocol inclusive of all eight phases, engaging the child's participation in each phase through playful activities and creative, often, nonverbal exercises. In addition, Gomez adheres to the adaptive information processing (AIP) model as the theoretical basis for case conceptualization and treatment planning with young clients. The AIP model as described by Shapiro (2001), "Regards most pathologies as derived from earlier life experiences that set in motion a continued pattern of affect, behavior, cognitions, and consequent identity structures. The pathological structure is inherent within the static, insufficiently processed information stored at the time of the disturbing event. In a wide variety of cases . . . pathology is viewed as configured by the impact of earlier experiences that are held in the nervous system in state-specific form" (Shapiro, 2001). Gomez embraces Shapiro's theory by introducing the concept of AIP and the basics of the EMDR steps to children through concrete language and innovative, nonthreatening activities that appeal to their imagination, cognitive ability, and right-brain functioning while simultaneously building a trusting relationship. Throughout the book, employing playfulness and creating safety are the underlining elements utilized to help children understand and become involved in the process of healing.

Bravos to those practitioners who are compassionate about treating children and have the placidity to work with highly dysfunctional families. The child specialists I have met over the years are creative, inventive, and enthusiastic individuals. Most of these clinicians are eclectic in their approach to guiding children and family members to positive outcomes and stable relationships, relying on a myriad of techniques and methodologies. In this book, Gomez ingeniously illustrates how she builds rapport and engages family members in the therapeutic process through poignant case examples; in addition, she describes in detail how she integrates music, art, sandtray, and play therapies with EMDR as well as the therapeutic approaches of sensorimotor psychotherapy, theraplay, and internal family systems (see Chapters 11–13).

"Traumatized children tend to have overactive stress responses and . . . these can make them aggressive, impulsive, and needy. These children are difficult, they

are easy to upset and hard to calm, they may overreact to the slightest novelty or change, and they often don't know how to think before they act. Before they can make any kind of lasting change at all in their behavior, they need to feel safe and loved. Troubled children are in some kind of pain—and pain makes people irritable, anxious, and aggressive. Only patient, loving, consistent care works; there are no short-term miracle cures" (Perry & Szalavitz, 2006). Honoring the pain of the child while helping him or her feel accomplished and normalized (see Chapter 9) is one of the important tenets of this book. According to Gomez, this goal can be accomplished through "the use of play—the natural language of children." She employs laughter, colorful metaphors, and age-appropriate cognitive interweaves, musical instruments, fine and large muscle activities, and humor to help children and their caregivers explore alternative behaviors and build relationships based on love, safety, and trust.

"A child's sense of self is engendered by accumulated interactions with his parents and provides the core filter which other life experiences are viewed. It is vital to remember that interpersonal interactions are the product of inner worlds converging….The problematic relationship is simply another symptom of a wounded inner world" (Shapiro, Kaslow, & Maxfield, 2007). As much as the title of this book indicates, the contents are specific to the integration of EMDR with children, I encourage all therapists who encounter clients with problematic relationships, complex trauma, attachment issues, and dissociative symptoms to read *EMDR Therapy and Adjunct Approaches With Children: Complex Trauma, Attachment, and Dissociation*. Many of the activities and protocols can be adapted to the adult perspective and give the adult client an opportunity to tap into his playful and creative right brain. Reading this book is a pleasant, effortless journey well worth the time.

Robbie Dunton, MS
EMDR Institute Coordinator

Preface

This book was inspired by the journey of the many children, adolescents, and adults who have allowed me to witness their pain, courage, and strength, as well as the incredible moments of healing they experienced during our therapeutic work. Many parts of this book also contain elements of my own journey to find integration and completeness within myself. Through my own therapeutic work with eye movement desensitization and reprocessing (EMDR) and other adjunct approaches, as I visit the many corners of myself, I have been able to mindfully experience how healing takes place within. Dr. Francine Shapiro has helped us understand that what keeps us apart are the wounds that remain written in memory and that continue to influence how we write the stories of our present and future. The belief of not being enough, the lack of self-acceptance, the shame, and the unsettled pain perpetuate for many; an existence of judgment, separateness, and suffering that is then passed on to the new generations.

Through the many years of clinical work with severely traumatized individuals, I have been moved and inspired by their stories to investigate, try, and even create new ways to assist them and be an active participant of their healing journeys through the use of EMDR therapy and other adjunct approaches. The main goal of this book is to provide tangible and doable strategies that make EMDR therapy developmentally appropriate and effective with children who hold the greatest wounds, and as a result, their treatment requires greater levels of complexity. It contains useful, practical, and in-depth information about the use of EMDR therapy with children with complex trauma, which is an area that has not been addressed before in the EMDR literature. This book is not intended to provide information on the basic EMDR procedures, but instead to provide to the EMDR clinician advanced tools to treat children with complex trauma, attachment wounds, and dissociative tendencies.

It is my belief and clinical experience that EMDR therapy is best used when the EMDR clinician possesses excellent knowledge of the procedures and technical aspects of EMDR therapy, and at the same time, the EMDR clinician has done his or her own therapeutic work to achieve some level of integration and assimilation of his or her own memory systems. When the first aspect is present, in the absence of the second, we may have good EMDR technicians who are able to follow procedures, but have difficulty resonating and attuning with their clients at a deeper, more profound level. The capacity to mentalize (Fonagy & Target, 1997) and the skills that are part of mindsight (Siegel, 2010), are not only important for parents and caregivers but also for clinicians working with wounded children. Without resolution and integration of our own maladaptive memory systems, our capacity to "hold the other in mind" (Fonagy & Target, 1997) may be limited. On the other hand, the second aspect without the first may result in EMDR clinicians that, despite their capacity to mentalize, resonate, and attune with their clients, lack

the skills to use EMDR theory and procedures appropriately and effectively. All of these aspects may affect the overall therapeutic gains that clients with complex trauma histories may achieve during EMDR therapy.

Despite the current findings in the field of neuroscience that have enlightened our understanding of human nature and the functioning of the brain and nervous system, clinicians and practitioners still lack the "how to" to apply these concepts in their clinical practices. This book is written with the goal in mind of offering a "step-by-step" and a "how-to" approach to clinicians working with children with complex trauma. Throughout the book, the eight phases of EMDR therapy are thoroughly explored, offering in each a rich and wide variety of techniques and strategies that are clear, tangible, concrete, and creative for difficult-to-treat children.

This book provides the theoretical framework and the conceptual underpinnings for case conceptualization and EMDR clinical practice for children with dysregulation of the affective system. It covers key elements to develop case conceptualization skills and treatment plans based on the adaptive information processing (AIP) model. A broader perspective is presented by integrating concepts from attachment theory, affect regulation theory, affective neuroscience, and interpersonal neurobiology. These concepts and theories not only support the AIP model, but they expand clinicians' understanding and effectiveness when working with dissociative, insecurely attached, and dysregulated children.

This book presents aspects of our current understanding of how our biological apparatus is orchestrated, how its appropriate development is thwarted when early, chronic, and pervasive trauma and adversity are present in our lives, and how healing can be promoted through the use of EMDR therapy. In addition, it provides a practical guide to the use of EMDR within a systemic framework. It illustrates how EMDR therapy can be used to help caregivers develop psychobiological attunement and synchrony as well as to enhance their mentalizing capacities.

Many cases are presented throughout the book to illustrate the appropriate use of the strategies offered in this volume. However , it is important to highlight that they each embody a compilation of the many clients I have treated over the years and for the most part, represent hypothetical cases.

Another important goal of this book is to bring strategies from other therapeutic approaches, such as play therapy, sandtray therapy, Sensorimotor Psychotherapy, Theraplay, and Internal Family Systems (IFS) into a comprehensive EMDR treatment, while maintaining appropriate adherence to the AIP model and EMDR methodology. This is done with the goal of enriching the work that often times is necessary with complexly traumatized children and their families.

The strategies presented in this book have been effective in my clinical practice. I have received numerous anecdotal reports from the many clinicians who have attended my trainings and presentations and who have used such strategies effectively, obtaining very positive results in their own agencies and practices. In addition, research therapists participating in an ongoing study using EMDR therapy with children and adolescents suffering from depression have also been able to utilize these techniques successfully and efficaciously. This book offers all EMDR clinicians working with difficult to treat clients creative tools and strategies that can facilitate their healing process.

Acknowledgments

I would like to honor and recognize all the people who have inspired me and supported me through the journey of writing this book. I will begin with all the children and their families who have crossed my path as my clients. Their wisdom, strength, and endurance have inspired me in so many ways to create new paths, to walk through existing ones, and to be part of their life's adventures and passages.

I want to express a deep gratitude to Francine Shapiro, who has given us the gift of EMDR therapy and who has been a mentor throughout the process of writing this book. Thank you for the numerous hours you dedicated to reading this book and providing expert advice and guidance. I want to express my incredible appreciation to Robbie Dunton for her continued loving professional and personal support. It has been a great gift to have you in my life. I want to thank all of the dear friends from the EMDR community who believed in me and gave me their caring support from the beginning of my work with EMDR therapy: Karen Forte, John Hartung, Farnsworth Lobenstine, Sue Evans, Karen Alter-Reid, Robin Gibbs, Donald de Graffenried, Barbara Parrett, Jocelyn Shiromoto, Esly Carvalho in Brazil, Carmen Casado Ducos in Chile, Santiago Jacome in Ecuador, and Kathleen Reay and Tara Morrison in Canada. Thanks to Michael Scheeringa from Tulane University, who gave me his unconditional support in doing research on the effectiveness of EMDR therapy for children with depression. The knowledge I have acquired through this process has been invaluable for this book.

Many thanks to the wonderful clinicians who contributed to my book: Frances Waters, for your incredible knowledge in the work with dissociative children and a wonderful chapter on this subject. Thanks to Emily Jernberg for the many gifts you bring to clinicians working with children and especially for all the beautiful work you put into the chapter on EMDR therapy and Theraplay. Thanks to Pamela Krause for the many hours you dedicated to stimulating my mind, so I could arrive at a greater understanding of IFS and for your incredible contributions as we wrote a truly amazing chapter on EMDR therapy and IFS psychotherapy. Thanks to Pat Ogden for all the work you put into coauthoring an inspiring chapter on the integration of EMDR therapy and Sensorimotor Psychotherapy with children.

I could not have completed this book without the incredible support of my editors, Sheri Sussman and Joseph Stubenrauch. It was a delight to work with you. Thank you for your expert advice and for being the arm and hand that held me as I embraced the difficult task of writing this book.

Special thanks to all the neuroscientists that provided expert advice on various parts of chapter one: Jaak Panksepp, Stephen Porges, and Onno van der Hart. I also would like to highlight the significant influence my trainings with Daniel Siegel have had in my clinical work and my personal life.

Thanks to Richard Schwartz for the feedback offered on the integration of IFS strategies into EMDR therapy. Thanks to Phyllis Booth, David Myrow, and Sandra Lindaman, for the expert advice on the integration of Theraplay strategies into EMDR therapy.

Finally, I want to convey a deep sense of gratitude to my husband and life partner Jim Mason who has truly been the wind beneath my wings. Thank you for walking with me through light and darkness and through highs and lows and for your sensible advice as I wrote this book. Thank you for pre-editing the book and guiding me with your wisdom that goes beyond intellectual knowledge. To my beautiful Colombian family, especially my mother Elizabeth and my sister Oderay for your unconditional love, which I have been so honored to receive throughout my life and have held me high, especially as I embrace new challenges. In memory of my father Pedro for your hard work, love, and for giving me all you were, and all you had.

To all the clinicians who have attended my trainings and presentations in more than 40 cities in 10 countries, who have stimulated my mind with questions and stories of your own journeys in the clinical use of EMDR therapy. You all have been a true inspiration. To my beautiful furry companions that have given me through the years so much unconditional love: Churrusco, Blaze, Nugget, Amber, and Lady. Finally, I want to express a deep appreciation to my "helpers," whose wise and loving presence was felt in every word I wrote in this book.

1

EMDR Therapy, the Adaptive Information Processing Model, and Complex Trauma

It has been a journey of over 20 years since Dr. Francine Shapiro developed what is now known as eye movement desensitization and reprocessing (EMDR) therapy. EMDR therapy is now validated as an evidence-based approach and included in the Substance Abuse and Mental Health Services Administration's National Registry of Evidence-based Programs and Practices. In addition, EMDR therapy has been independently designated as a psychotherapy approach (Prochaska & Nocross, 2010), and has been validated by approximately 20 randomized controlled clinical trials (see www.emdrhap.org/emdr_info/researchandresources.php). Results of recent meta-analyses show EMDR as an effective and efficacious treatment for posttraumatic stress disorder (PTSD) in adults (Bisson & Andrew, 2007; Bradley, Greene, Russ, Dutra, & Westen, 2005; Seidler & Wagner, 2006) and children (Rodenburg, Benjamin, de Roos, Meijer, & Stams, 2009). Approximately seven controlled randomized studies (e.g., Ahmad, Larsson, & Sundelin-Wahlsten, 2007; Jaberghaderi, Greenwald, Rubin, Dolatabadim, & Zand, 2004; Kemp, Drummond, & McDermott, 2010), and ten non-randomized studies with children found that EMDR therapy is effective in reducing PTSD symptoms (e.g., Fernandez, 2007; Hensel, 2009; Ribchester, Yule, & Duncan, 2010; Wadaa, Zaharim, & Alqashan, 2010), and behavioral and self-esteem problems (Soberman, Greenwald, & Rule, 2002; Wanders, Serra, & de Jongh, 2008). In a recent randomized study conducted by de Roos et al. (2011), EMDR treatment was found to be as effective as CBT with children experiencing disaster-related posttraumatic stress symptoms. In addition, the California Evidence-Based Clearinghouse for Child Welfare has now accepted EMDR therapy as an evidence-based approach for children. These are promising results that bring hope to the millions of children suffering as a result of having experienced trauma and adversity in their lives. This book is dedicated to the treatment of children with early, chronic and complex trauma.

DEFINING COMPLEX TRAUMA

Childhood complex trauma refers to the exposure of early chronic and multiple traumatic events. Oftentimes, these injuries and traumas are inflicted within the parent-child or adult-child relationship. As a result, the child is placed in an inescapable

situation *on what the person's survival depends on* is the same person inflicting the pain. Abuse, neglect, family violence, traumatic loss and war experienced when important neurobiological structures are developing can have long lasting and detrimental effects in how children develop. According to Ford and Courtois (2009), complex trauma results from the exposure to repetitive and prolonged severe stressors that involve harm or abandonment by caregivers, and that occur at critical *developmentally* stages when fundamental biological systems are developing. As a result of exposure to complex trauma, children may exhibit dysfunctional regulatory mechanisms, insecure attachment, dissociative symptoms, compromised sense of self, behavioral problems, and impaired cognitive and social functioning among others.

According to Cozolino (2006), early interpersonal trauma in the form of emotional and physical abuse, sexual abuse, and neglect shape the structure and functioning of the brain in ways that negatively affect all stages of social, emotional and intellectual development. Early trauma, especially at the hands of caretakers, begins a cascade of effects that result in a complex posttraumatic reaction. (p. 230)

CHILDHOOD COMPLEX TRAUMA AND THE ADAPTIVE INFORMATION PROCESSING MODEL

The adaptive information processing (AIP) model constitutes the central piece and foundation of EMDR therapy (Shapiro, 2001). As EMDR therapy evolves, so is our understanding of the AIP model. The inclusion of principles and findings from the Polyvagal Theory (Porges, 2011), affective neuroscience (Panksepp, 1998, 2009), attachment theory (Bowlby, 1973, 1980; Ainsworth, 1978; Main, 1995; Liotti, 1992, 2006), interpersonal neurobiology (IPNB) (Siegel, 1999, 2010) and the structural dissociation theory (van der Hart, Nijenhuis, & Steele, 2006), can greatly support and expand our understanding of the AIP model and complex trauma.

According to the AIP model, a central aspect of health and pathology is memory (Shapiro, 1995, 2001). When children encounter maltreatment, abandonment, rejection, neglect and abuse, these experiences leave their footprints in the brain in the form of neural nets. Since important structures in charge of integrating and adaptively binding information and locating it in time and space, such as the hippocampus, do not mature until the age of 18 to 24 months (Siegel, 1999), this information is encoded in the young developing brain, following a path into implicit nonconscious, nonverbal memory. As a result, early attachment traumas and injuries will remain below awareness while still shaping how these children respond to present environmental demands. According to Shapiro (2001), the present symptoms are manifestations of past experiences encoded implicitly in the brain. The implicit encoding transpired either because these experiences occurred prior to the development of brain structures capable of moving information into explicit autobiographical memory, or because trauma and its accompanying dysregulated arousal inhibited the appropriate functioning of such structures. (Cozolino, 2011; Siegel, 1999; van der Kolk, 1999)

Along the same lines, Cozolino (2011) states: If everything we experience is represented by instantiations within neural networks, then by definition, psychopathology of all kinds—from the mildest neurotic symptoms to the most severe psychosis—must be represented within and among neural networks…. psychopathology would be a reflection of suboptimal development, integration, and coordination of neural networks. (p. 24)

Focal points in EMDR therapy are the memory network and the experiential contributors to pathology (Shapiro, 1995/2001). So far, research has shown the effectiveness of EMDR therapy when working with the memories of trauma and adversity and their neurobiological footprints. However, organic deficits are not considered to be the target of EMDR therapy, only its potential experiential legacy and sequelae.

As stated before, memory systems containing representations of the self and other in the child's brain are formed and reinforced by patterns of parent-child interaction. The caregiving system, and with it, the parent's internal working models, are closely and intimately connected to the developing attachment system of the infant. The parent already holds complex and intricate memory systems containing representation of the self and other that will closely influence how they respond to the demands and needs of the infant. Later on, once the child has also developed memory networks containing mental representations of the self and the parent, a mutual activation and reinforcement of memory systems takes place.

John, a 7-year-old boy, was brought to therapy by his mother who complained of John's oppositional and aggressive behaviors. After a thorough exploration of John's history and specific family dynamics, the mother reported feeling frustrated and desperate when John was acting out. She also identified "I am a bad mother" and "I am not valuable" as her negative beliefs. In addition, she identified a strong pressure on her chest and difficulty breathing when she was triggered by her child's behaviors. The mother stated that she either yelled or at times completely detached from John when he was exhibiting the activating behaviors. When the mother engaged in a float back, she connected with similar feelings, thoughts and bodily states she experienced in her past romantic relationships where she experienced emotional and verbal abuse at the hands of her partners. She also recalled images of herself crying as she looked from the window at her mother leaving. She remembered a mother that was socially active, but emotionally absent from home, a mother that never gave any physical or verbal affection to her. A closer look at John's responses yielded information about his cognitive, emotional and somatic responses as well. John stated that he felt angry, sad and very lonely after coming home from school and feeling like he had failed and was a bad kid for not performing well at school. When his mother asked him to clean up his room, he responded with anger and opposition, and as his mother yelled or left the room, leaving him to feel emotionally abandoned, a greater sense of loneliness took place. John identified the negative belief "there is nothing good about me," a sense of restlessness (jumpy inside) and a strong desire to run or hit someone or something once his mother yelled or left his room. These interactions happened on a daily basis, however, moments of connection and love where very much absent. This case clearly illustrates the mutual activation of memory systems containing maladaptive material and negative representations of the self and other that take place in the child as well as the parent. (See Figures 1.1 and 1.2). The activation of the parent's memory networks containing unresolved trauma and loss inhibited her capacity to "hold the child's mind in mind" (Fonagy & Target, 1997), and respond contingently to the needs of the child. These dysregulated maladaptive interactions preserve and enhance maladaptive memory systems. The intergenerational transmission of unintegrated, unassimilated and unresolved information encoded in memory perpetuates the development of pathology, trauma, and human suffering.

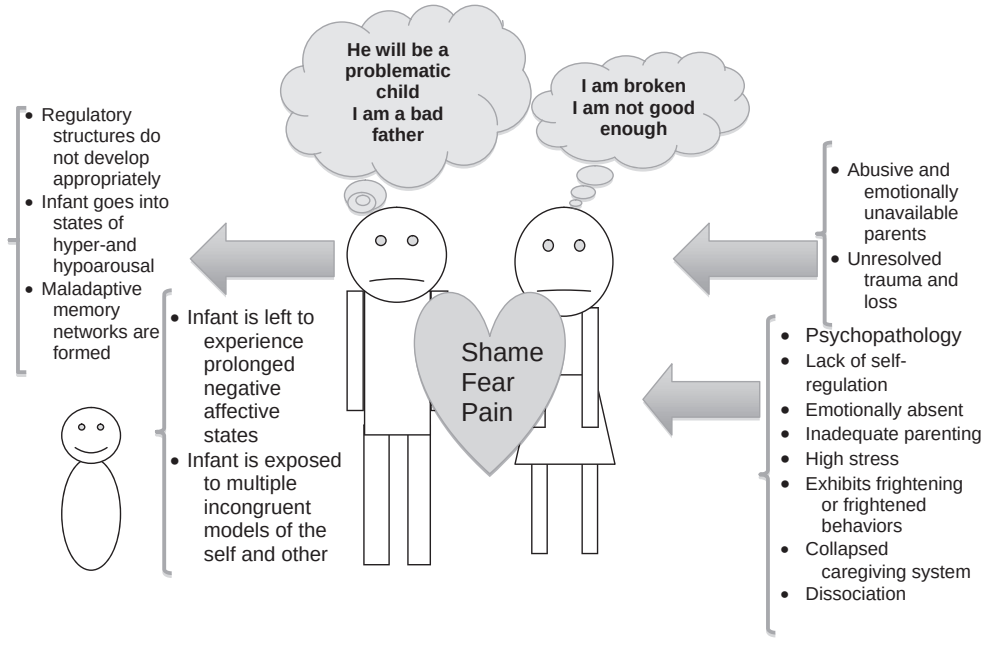

Figure 1.1 The shaping of memory systems.

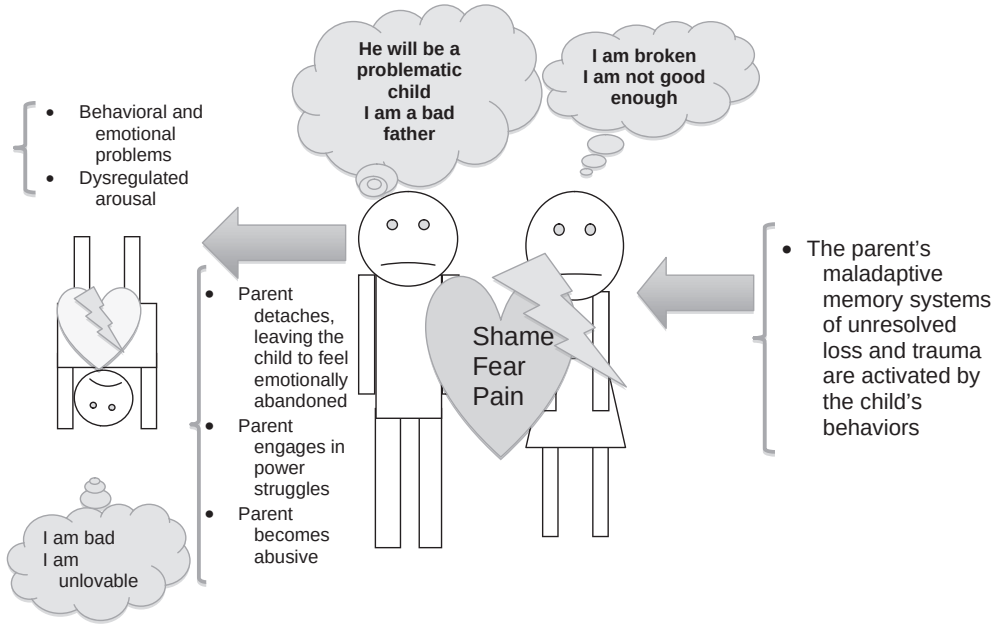

Figure 1.2 Mutual activation of maladaptive memory networks.

AFFECTIVE NEUROSCIENCE, AIP, AND EMDR THERAPY

Panksepp (1998) has demonstrated the existence of seven emotional systems present at birth. The SEEKING, FEAR, RAGE, LUST, separation-distress PANIC-GRIEF, maternal CARE and PLAY systems are subcortically concentrated and are gradually linked to cognitive autobiographical experiences (Panksepp, 2009). These raw emotional systems are not created environmentally, but they get shaped later on by lived experiences. *Panksepp advocates for bringing affects and cognitions into harmony with the reconsolidation of affective-cognitive memories as the primary goal of therapy*. This primary objective goes along with the AIP model and EMDR therapy, whose main goal is the assimilation and integration of memories containing cognitive, affective and somatic information. According to Panksepp (2009), the emotional circuits that are in the subcortical areas of the brain at birth constitute the raw emotions that in turn are shaped by environmental occurrences that then become socially constructed feelings. At birth, we possess inborn biological systems, however, how these systems function is shaped by the environmental experiences encountered by the organism. The brain's inborn systems and the neuronal connections are programmed and molded by experience. "How these raw emotional tools, provided by Mother Nature, link up to world events is of momentous importance for lived lives, sometimes proceeding smoothly and efficiently, promoting mental health, sometimes chaotically and inefficiently, promoting mental turmoil" (Panksepp, 2009, p. 6).

How we organize our perception of reality in the present and how we anticipate to the future is dependant on past experiences that have shaped the genetically dictated inborn biological systems (Panksepp, 2009). Repetitive experiences can shape biological and emotional systems as well as arousal regulating circuitry in the brain (Panksepp, 1998/2009; Porges, 2011; Siegel, 1999/2010; Schore, 2009). How early negative and traumatic experiences shape our implicit memory system is described by Siegel (1999), "Repeated experiences of terror and fear can be ingrained within the circuits of the brain as states of mind. With chronic occurrence, these states can become more readily activated in the future, such that they become characteristic traits of the individual" (p. 33). According to the AIP model, the memory networks developed as a result of the interactions between the active organism of the child and the environment become the lens by which reality is perceived and organized in the present. Children could be looking through lenses of fear and shame or, on the contrary, through the eyes of excitement and acceptance.

An especially important system for the child therapist is the play system. According to Panksepp (2009), play may actually help develop "fine-tuned" social brains that can respond optimally to environmental demands. "… play seems to be one of the most advanced methods nature has invented to allow a complex brain to create itself" (Brown, 2009, p.40). However, "…playfulness is inhibited by motivations such as hunger and negative emotions, including loneliness, anger, and fear" (Panksepp, 1998, p. 18). An animal study conducted by the same author focuses on the effect of fear on play. After rats were exposed to a single exposure to cat odor, animals displayed inhibition of play not for one hour or two but for up to five days. According to Brown (2009), when cats are completely deprived from play-fighting they can function in many areas well, but the only area where they have difficulty is in their social lives. Cats growing in impoverished play environments cannot discriminate friend from foe and they miscue on social signals, becoming either aggressive or socially isolated. Brown (2009) studied murderers in Texas prisons and he

found the absence of play in their childhoods. When children play, new neuronal connections are being formed. "The very rich connections among brain's maps are reciprocal and may involve millions of fibers. My sense of these interconnecting and dynamic maps is that they are most effectively enriched and shaped by the 'state' of play" (Brown, 2009, p. 36). In animal studies, when rats are deprived from play, the urge to play is amplified. Children growing up in relationally impoverished, chaotic, and traumatizing environments experience heightened fear states, which in turn affects the play system and the child's ability to play. These play-deprived children, as stated by Panksepp (2009), may develop a heightened motivation to play when they are placed in the classroom. These children oftentimes get diagnosed and labeled with attention deficit hyperactivity disorder (ADHD) and treated with Psychostimulants, which according to Panksepp is an inhibitor of physical, play urges. In addition, long standing deprivation of play as a result of living in dysregulating, traumatizing and neglectful environments compromises the development of the social brain, resulting in children that are unable to connect and engage socially with others; either isolating or becoming extremely aggressive.

Another important system for the child therapist is the PANIC/GRIEF system that mediates separation-distress responses. According to Panksepp and Watt (2011), continued and persistent overactivity of the separation-distress PANIC system promotes the genesis of depression. Enduring activation of the separation-distress PANIC system leads to reactions similar to the children's responses to loss proposed by Bowlby (1980). The initial response, according to Panksepp, leads to agitation resulting from separation and an increased activation of SEEKING behaviors. This phase has been called by Bowlby, protest (see more detailed information further in this chapter). During the later phases, "despair" and "disengagement," there is increased hopelessness and withdrawal, leading to a significant decreased in SEEKING behaviors (Panksepp & Watt, 2011). In conclusion, the loss of an attachment bond, whether perceived or real, has the potential of overactivating the PANIC/GRIEF brain networks mediating separation-distress, resulting in the initial increase and later decrease in SEEKING behaviors. This is congruent with the AIP model, as the resulting responses and symptoms of depression are seen as consequential from the activation of memory systems containing information of events related to trauma, loss and adversity that remain unprocessed and unintegrated in the brain. An important contribution from affective neuroscience is the empirical support of the connections between the development of depression, experiences of loss and separation, and the overactivation and underactivation of two important emotional systems: The PANIC and the SEEKING systems. In addition, affective neuroscience brings up once again the importance of PLAY as a healing agent. According to Panksepp and Watt (2011), "social CARE and PLAY systems may substantially improve therapeutic outcomes" (p. 9). Shapiro (2001/2012) has brought up the importance of enhancing existing neural nets containing positive affective states as well as promoting the development of new patterns of neural firing resulting from exposing clients to positive affective experiences. The therapeutic relationship (Shapiro, 2001; Dworkin, 2005) as well as the importance of including play and playful strategies (Gomez, 2006, 2007b, 2008b, 2009b, 2010a, 2011) have been emphasized in EMDR therapy. Throughout this book a wide range of strategies geared toward stimulating both the PLAY and the CARE system during all phases of EMDR therapy will be thoroughly covered.

POLYVAGAL THEORY, AIP, AND EMDR THERAPY

The polyvagal theory emerged out of the work of Stephen Porges on the evolution of the autonomic nervous system (ANS). According to Porges (2009), our emotional difficulties and, ultimately, disorders become "hardwired" into the nervous system. Before Porges, the function of the ANS was seen as a system of balance: The sympathetic nervous system (SNS) constituted the accelerator and the parasympathetic nervous system (PNS) the brakes. However, Porges brought up the complexities of the functioning of the ANS and how it is actually a hierarchical system that responds to environmental challenges. This model describes three different subsystems that are associated with specific behavioral and physiological responses that allow the organism to respond adaptively to danger and stressful circumstances: The parasympathetic ventral vagal system, called the social engagement system; the sympathetic system, in charge of the mobilization of fight-flight responses; and the parasympathetic dorsal vagal, that activates immobilization-shutdown responses and promotes dissociative states. According to Porges (2011), through evolution, mammals developed the two vagal, systems, which are programmed to respond with very different sets of strategies. The Dorsal vagal system and the ventral vagal system, both branches of the PNS, respond to world's demands in very different ways. The ventral vagal system stimulates physiological states that support social behavior, social communication, visceral homeostasis and the formation of social bonds. This system also allows us to respond flexibly and adaptively to environmental demands. Trauma, especially chronic, early and complex trauma, can inhibit the long-term availability of this system, constricting the child's capacity to respond adaptively to stress, self-regulate and form healthy attachment and social bonds. The dorsal vagal system, on the other hand, is connected to other behavioral strategies such as immobilization and behavioral shut down (Porges, 2009). When the memories of trauma and adversity are activated by environmental stimuli, children will see their environment through the lenses of these memory networks and as a result will provide an inaccurate assessment of the situation in terms of danger and safety. This "faulty neuroception" (Porges, 2011), may activate the defense system in situations that may be in fact safe, or on the contrary inhibit defense responses in environments that are actually risky. Children with histories of chronic and complex trauma oftentimes have social engagement systems that are unavailable and underdeveloped. These children did not have the appropriate experiences that allowed for the stimulation and development of the smart vagus system, resulting in a limited capacity to relate to others and respond to environmental demands adaptively.

EMDR therapy, throughout its eight phases, works initially during the preparation phase on stimulating the emergence of the ventral vagal branch of the ANS by promoting the creation of safe environments, enhancing and developing neural nets containing adaptive and positive material and stimulating the development of self and interactive regulatory strategies that allow individuals to modulate internal physiological states. Later on, during the reprocessing phases of EMDR therapy, the memories containing traumatic material are assimilated and integrated, resetting this "faulty neuroception" and promoting the availability of the social engagement system.

According to Porges (2011), neural circuits connecting the cortex to the brain stem control the regulation of facial and head muscles, which are directly affecting the social engagement system. The infant's ability to interact with caregivers and the world through the use of vocalization, eye contact and facial expressions, as well as the capacity to distinguish the human voice is dependent upon the social engagement

system. However, a neuroception of danger can change the muscle tone, awareness of sounds, facial expressions, ability to have eye contact and general social engagement behaviors. The concept of neuroception has been coined by Porges to refer to how the nervous system can detect and discern whether the environment is safe or dangerous. Neuroception can be activated externally by environmental stimuli, or internally as it happens when experiencing physical pain. How the infant or the child perceives the social engagement system of the caregiver is of crucial importance in how internal representations of the self, the other, and the world are formed. In addition, the facial expressions of the caregiver, voice and gaze have the potential to activate a neuroception of safety or danger. By the same token, the child's facial expressions can have the same outcome in the caregiver's system. According to Porges (2011), "the flat affect of a depressed parent or the flat affect of an ill child may trigger a transactional spiral that results in compromised emotional regulation and limited spontaneous social engagement" (p. 15). Children with attachment trauma are oftentimes cued by the tone of voice, eye contact and facial expression of their caregivers. Britney, a 7-year-old child living with a mother diagnosed with borderline personality disorder, presented with highly dysregulated emotions and self-destructive behaviors. During the clinical interview with the child, she reported having the urge to cut and scratch her arms when her mother was frustrated with her. A thorough exploration of Britney's triggers yielded a clear picture of her interactions with her mother. When her mother was either angry or frustrated with Britney, she became extremely agitated and had the urge to run and escape from the house or to cut or scratch herself. Britney stated that she could almost feel how her mother was feeling and she "could see it in her face and feel it in her mother's voice." This, in turn, activated metaperceptions such as "I am a bad kid" and emotional reactions that Britney was not consciously aware of at the moment, as this information remained implicitly and nonconsciously encoded in the brain. Britney's history revealed a mother with multiple hospitalizations resulting from suicidal ideations. Throughout Britney's life, the mother had multiple and repetitive episodes of rage and deep depression. Role reversing was identified as one of Britney's mechanisms of adaptation to not having her attachment needs met. Britney's history did not include any physical or sexual abuse, and outside her relationship with her mother, no other early traumatic events were reported. Not only did the mother's dysregulated emotional responses and lack of social engagement activate Britney's agitated states and the urge to hurt herself, but her teacher and other authority figures' emotional reactions and facial expressions also activated a neuroception of danger. Britney also presented at such a young age with panic attacks, which were activated by fear of abandonment and loss. When Britney witnessed her mother's dysregulated emotional states, she experienced a rupture in the attachment bond with her mother. Her first panic attack, a few months before her first therapy session, was actually precipitated by the loss of her dog. Experiences of misattunement, abandonment and loss activated memory networks containing information related to her past attachment experiences with primary caregivers, and resulted in the activation of a neuroception of danger and the resulting panic attack. After the first panic attack, Britney also became cued by her own physiological responses and even her heart palpitations activated a neuroception of danger.

As stated by Porges, "a neuroception of safety is necessary before social engagement behaviors can occur" (p. 17). Parent-child dysregulated interactions concurrently activate the defense system and the attachment system (Liotti, 1992/2006). When the

defense system is activated, the creation of social bonds is thwarted. In addition, it results in a "faulty neuroception" of safety and danger. According to Porges, when there is a neuroception of safety, it results in the activation of brain circuitry that inhibits defense responses, which in turn activate prosocial behaviors. The core and crux that the polyvagal theory has helped us understand is how "autonomic states are linked to social behavior" (Porges, 2011, p. 120).

An important contribution of the Polyvagal theory is the view of visceral organs as strongly connected and anchored in brain structures through the bidirectional connection the ANS offers. In other words, peripheral organs and the central nervous system maintain an intimate and close bidirectional communication through the ANS. The polyvagal theory helps us understand how the activation of memory networks containing traumatogenic material is experienced viscerally as well as how the environmental stimuli received by peripheral organs also has the potential to activate latent memory systems. "It is no longer appropriate to treat the ANS as functionally distinct from the central nervous system. We start to recognize that peripheral organs do not 'float in a visceral sea.' Rather, they are anchored to central structures by means of afferent pathways that are continuously signaling central regulatory structures…" (Porges, 2011, p. 21). This bidirectional connection between central nervous system structures and the body through the afferent and efferent fibers of the ANS expands our view of the intricate relationship between memory networks and the body. EMDR therapy, throughout the eight phases of treatment and especially during the reprocessing phases, promotes different levels of information processing: cognitive, affective and sensorimotor. According to the AIP model, the sensations and bodily states experienced during trauma and adversity become ingrained in patterns of neuro firing. It is important to highlight that an important aspect of EMDR therapy is the accessing and binding of affective and bodily states along with cognitions and meta-perceptions. Resetting a "faulty neuroception" is accomplished in EMDR therapy by promoting the assimilation, binding and integration of memory systems containing implicit information of early thwarted social engagement experiences.

The new understanding of the ANS brought up by the Polyvagal theory enriches and supports the work EMDR clinicians do to promote healing. An important aspect of EMDR therapy and the reprocessing of memories of trauma and adversity is the presence of dual awareness. When individuals can maintain dual awareness during the reprocessing of traumatogenic material, the social engagement system is participating. In addition, the preparation phase of EMDR therapy can be clearly seen as a phase where various activities, strategies and techniques are used to promote social engagement and the stimulation of the smart vagus system. The EMDR clinician is also aware of how his or her tone of voice, eye contact, facial expressions, and ability to attune to the child have a fundamental effect in supporting a neuroception of safety in the child's system as well as maintaining social engagement. When social engagement is reduced during reprocessing, the integration of memory systems stops and dual awareness is compromised. Recognizing the physiological changes occurring when social engagement is reduced is of extreme importance for EMDR clinicians. If the child is unable to maintain eye contact, his or her voice loses inflection, positive facial expressions diminish, awareness of the human voice is less acute and social engagement with others decreases, a neuroception of danger has been activated, resulting in a limited participation of the smart vagus system and a reduction in the child's integrative capacity.

The polyvagal theory also helps us understand how in children with attachment injuries and traumas, triggers may be found in the current parent-child interactions. The parent's voice, facial expressions, gaze and social engagement or lack thereof with the child can be very powerful triggers that may promote a neuroception of danger. Moreover, the polyvagal theory enhances our understanding of the important relationship between the neural circuits between higher brain structures, the brainstem and between the brainstem and the visceral organs (Porges, 2009).

THE WINDOWS OF TOLERANCE AND THE AROUSAL ZONES

The concept of the windows of tolerance was brought up by Dan Siegel (1999). This model highlights individual differences related to the capacity to tolerate various intensities of arousal (see Chapter 11). While some children may have a high threshold for comfortably managing and responding adaptively to various degrees of arousal, others may present with a limited and constricted capacity to tolerate them. The concept of the windows of tolerance is in fact congruent with the notion of "dual awareness" brought up by Shapiro (1995/2001). When clients are within appropriate windows of affect tolerance and in an optimal arousal zone, children are able to maintain mindful awareness of the present. The reprocessing of maladaptive information encoded in the brain in the form of neural networks occurs when the child can maintain present and mindful awareness while accessing the memories of trauma and adversity. When children move out of windows of tolerance, because they are experiencing either "too high" or "too low" levels of arousal, the integration and binding of these networks halts. Keeping children within optimal arousal states where dual awareness can take place is pivotal to the assimilation of memory systems (Shapiro, 2001, 2011).

IPNB, AIP, AND EMDR THERAPY

IPNB brings a viewpoint that integrates objective realms of scientific findings and subjective realms of human knowing (Siegel, 2010). According to IPNB, the mind is embodied and relational and "a process that regulates the flow of energy and information." Mindsight is a core concept of IPNB that refers to the process that allows human beings to monitor and modify the flow of energy and information within relationships, the mind and the brain (Siegel, 2010). Key aspects of health and well-being, according to IPNB, are the eight domains of integration: integration of consciousness, vertical integration, bilateral integration, integration of memory, narrative integration, state integration, temporal integration, interpersonal integration, the mirror neuron system and transpirational integration. As we achieve wholeness, different levels of integration take place. According to Siegel (2010), unresolved trauma, neglect, and other thwarted early experiences may block integration. This can result in impaired differentiation and ability to link and relate to others.

EMDR therapy is geared toward promoting the client's ability to embrace more freely present experience and acknowledge internal and external realities while remaining contained and regulated. It also promotes the development of a renewed and coherent sense of self that cannot be achieved without the equal and balanced participation of the two brains: the left and the right or the harmonious work of the subcortical and cortical areas of the brain. Shapiro (2001) has emphasized the trait and state change that takes place during the different phases of EMDR therapy and

the increased integration among different levels of information processing: Cognitive, emotional and somatic. An important aspect of EMDR therapy is dual awareness, and a mindful presence while accessing the memories of trauma and adversity. Mindful attention to the different elements of the current experience as unprocessed memories are activated while remaining aware of the present reality is a core element highlighted during the different phases of EMDR therapy. "One of the key practical lessons of modern neuroscience is that the power to direct our attention has within the power to shape our brain's firing patterns, as well as the power to shape the architecture of the brain itself" (Siegel, 2010, p. 39). A great contribution of IPNB is the understanding and compelling evidence of how social and interpersonal relationships shape and sculpt neural circuits and how the capacity for mindfulness and mindsight play an important and integrative role that promotes the healing of human suffering. As IPNB helps us elucidate and come to a more solid understanding of the neurobiological underpinnings of human experience, based on scientific findings but not constricted by them (Siegel, 2011), our understanding of the AIP model also continues to expand.

ATTACHMENT THEORY, AIP, AND EMDR THERAPY

John Bowlby (1969/1982) pioneered the development of attachment theory and with Ainsworth (1967) brought up awareness into the biological predispositions of infants to seek proximity and safety from primary caregivers and attach while still exploring their environments. This is what they called "secure base." Bowlby also brought up the concept of the "attachment behavioral system" of the child and the "caregiving system" of the caregiver, both geared toward promoting parent-child proximity and the ultimate protection and survival of the child (Cassidy, 1999/2008). According to Bowlby and recent attachment researchers, the relationship with the attachment figure serves as an external regulator of the internal affective states of the infant (Schore, 2009). According to Bowlby, the child, through the repetitive interactions with the attachment figure, develops mental representations of the environment, the attachment figure and the self. This is what Bowlby called: internal working models. According to Schore (2009), "for the rest of the lifespan, internal working models of the attachment relationships with the primary caregiver, stored in the right brain, encode strategies of affect regulation that nonconciously guide the individual through interpersonal contexts" (p. 118). These working models in the AIP model are seen as memory networks emerging from the repetitive parent-child interactions that ultimately constitute the foundation for the development of the self. These memory systems in the brain become the lenses through which the individual will see, interpret and experience other relationships. Even though Bowlby views these internal working models as primarily cognitive, in the AIP model, these patterns or neural firing, instigated by the interactions with the caregiver, contain the affective and somatic experience of the child as well as the meta-perceptions that correspond to how the child made sense of the whole experience.

In 1978, Ainsworth et al. designed a laboratory procedure to evaluate the different forms of infant attachment, which is known as the Strange Situation (SS). In the SS, the infant stays with the mother, then with the mother and a stranger, and then just with the stranger. The infant's behaviors are observed at separation and reunion. Out of this laboratory procedure, three infant classifications of attachment arose: Secure, avoidant and ambivalent (Figure 1.3). The most relevant information that yielded the different

classifications came from the behaviors exhibited by the infant at the reunion with the mother. Infants that exhibit a secure attachment seek proximity with their mothers, are regulated and soothed by the mother's presence and go back to playful states quickly. Infants with avoidant strategies do not not seek proximity with their mothers; in fact, they avoid and ignore the mother. The infant with ambivalent strategies is highly distressed by the absence of the mother, shows high preoccupation with the attachment figure and the presence of the mother does not soothe or regulate the infant.

Main and Salomon (1986) included a fourth category, which they named disorganized/disoriented (see Figure 1.3). In this category, the infants exhibit disorganized and disoriented behaviors that, in recent literature, has been suggestive of the parent activating the attachment system as well as the defense system of the infant (Liotti, 1992/2009). This is the category of attachment more closely associated with the development of dissociative strategies, behavioral collapses and the presence of trance-like-states (Liotti, 2009). Using the AIP model as a lens, this clearly shows how infants have already developed neural nets containing information related to the parent, the self and the environment. These neural pathways that remain in implicit memory are activated by the separation from the caregiver, setting in motion a series of strategies used to adapt and modulate internal arousal and optimize the experience so attachment needs are met. Research using the Adult Attachment Interview (AAI) has suggested that the parent's state of mind with regards to attachment experiences and the resulting attachment category is highly correlated with the kind of attachment their children will form with them.

Avoidant	Ambivalent	Disorganized
• Caregiver emotionally unavailable, rejecting, and unresponsive • Minimizes and limits opportunities for connection and interaction • There is a "deactivation" of the attachment system and the need for connection • In older children, denial. Strong reliance on self-regulation • Biased toward parasympathetic dorsal vagal states	• Caregiver is intermittently available and responsive • Caregiver is intrusive and has difficulty differentiating • Caregiver does not respond contingently to the needs of the child • Caregiving responses are geared to meet caregiver's needs, not the child's needs • There is an "overactivation" of the attachment system • Strong reliance on interactive regulation. Needy and clingy child who is not soothed by the caregiver's presence • Biased toward sympathetic states	• Caregivers exhibit frightened, dissociated, incongruent, and frightening behaviors • Physical, sexual, and emotional abuse • Caregiver has difficulty regulating affect and regulating the child • Presence of dissociation • Controlling style of interaction in relationships • Social engagement system underdeveloped and unavailable • Great difficulty creating social bonds • Experience "too high" or "too low" arousal states

Figure 1.3 Insecure Attachment Categories.

Data adapted from Main, 1995; Cassidy, 1999; Siegel, 1999, 2010.

Dissociation

When studying the etiology and genesis of dissociation, several models have been proposed. (Also see Chapter 6 of this book). Some models view dissociation as an intrapsychic process developed as a defense against trauma and pain (Putnam, 1997). On the other hand, dissociation is also seen as the result of the parent-child interactions that involve frightened or frightening parental behaviors. These responses are usually seen in disorganized-disoriented attachment. The cornerstone for the development of dissociation is the internalization of multiple and reciprocally incompatible models of the self and the parent (Liotti, 2009).

Within this model, two prominent etiological variables have been linked to the development of dissociation: First, the repetitive parental frightening or frightened interactions (Liotti, 1992, 2009; Main, 1995; Main & Solomon, 1986) and, second, the repetitive dyadic interactions between the child and the caregiver where the parent is emotionally unavailable.

Bowlby and Robertson classified young children's responses to the loss or separation from the mother figure in three phases (Bowlby, 1980; Figure 1.4). The initial phase was called "protest" where the child showed indicators of distress: crying, anger and fear. Throughout the second phase, "despair," the child exhibited increased hopelessness, disengagement and withdrawal. During the final phase, termed "detachment," the child showed absence of attachment behaviors when reunified with the mother. The infant also shows blank and emotionless faces.

Barach (1991) has brought up the connection between the terms detachment (Bowlby, 1973/1980) and dissociation. According to Liotti (1992), detachment is the result of the caregiver's prolonged physical or emotional unavailability.

If these dyadic parent-child interactions become pervasive without the caregiver providing opportunity for repair, dissociative states may become sensitized. According to Perry et al. (2009), children's brains are undergoing crucial periods of organization and development. As a result, if the child enters dissociative states frequently, these neural networks become sensitized and a lesser stimulus is required to elicit dissociative states.

According to Main (1995), a frightening parent creates an irresoluble conflict for the child or the infant. The child concurrently wants to seek the parent for security and contentment while at the same time is wanting to getaway from the caregiver, who represents a source of danger. As a result of this quandary, disorganized incongruent

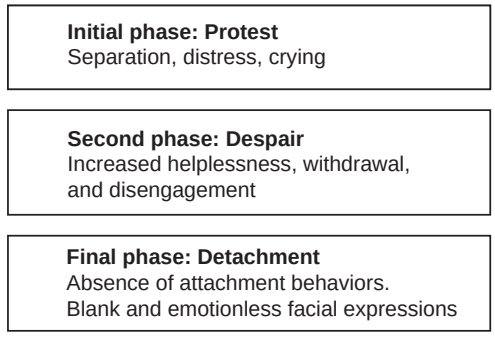

Figure 1.4 Children's responses to loss and separation.

attachment behaviors are generated. Consequently, the child develops internal working models of the self that become fragmented and incoherent (Main, 1995). According to Liotti (1992), these incoherent and contradictory models of the self and the attachment figure cannot be integrated due to their contradictory nature. Most recently, Schore (2009) brought up how the primary caregiver induces extreme and prolonged levels of arousal without interactive repair. The caregiver becomes the source of danger, activating both the attachment system and the defense system at the same time. Unable to escape, the infant becomes helpless and hopeless and the only option at this point is to disengage and withdraw from the outside world. This state of hypoarousal submission and immobilization appears to be responsible for the early forming dissociative states. According to Schore (2009), "the infant's psychobiological reactions to traumatic stress is comprised of two separate response patterns: Hyperarousal and dissociation. . . . The maternal haven of safety suddenly becomes a source of threat . . . . This maternal stressor activates the infant's hypothalamic–pituitary–adrenal (HPA) stress axis, thereby eliciting a sudden increase of the energy-expending sympathetic component of the infant's ANS" (p. 120). Along the same lines, Schore speaks of a second reaction to relational trauma: Dissociation. "This later-forming response is dominated by a parasympathetic system in which the infant becomes hopeless and helpless and moves into a metabolic shutdown." (p. 120). As it is seen through the AIP model, these dysregulated interactions that activate sympathetic and dorsal vagal parasympathetic responses are ingrained and imprinted in patterns of neural activity in the brain, which remain unprocessed, unintegrated and isolated from other later forming memory systems containing adaptive information.

On the other hand, Barach (1991) brought up the etiological implications of having parent-child interactions where the caregiver is unresponsive. These experiences might set the stage for reliance on dissociative responses. According to Dutra, Bianchi, Lyons-Ruth, & Siegel (2009), in a longitudinal study, they found that maternal hostility and or frightening behaviors may not be the strongest predictors of further development of dissociation. "Instead, lack of positive maternal affective involvement, maternal flatness of affect, and overall disrupted maternal communication were the strongest predictors of dissociation in young adulthood" (p. 87).

The intergenerational transmission of attachment trauma has been described by a number of authors (Hesse & Main, 2006; Liotti, 2009). According to Hesse and Main (2006), when the attachment figure exhibits dissociative states, it activates the alarm system of the infant. "During these episodes of intergenerational transmission of attachment trauma the infant is matching the rhythmic structures of the mother's dysregulated arousal states . . . . The massive ongoing psychobiological stress associated with dysregulated attachment trauma sets the stage for the characterological use of right-brain unconscious pathological dissociation over all subsequent periods of human development" (p. 123).

According to the AIP model, asynchronic dysregulated parent-child interactions create patterns of neural firing that become reinforced as they are activated over and over again through the moments of traumatic attachment interactions with caregivers. Later on, when facing eliciting stimuli, these patterns of neural activity are ignited as well as its accompanying autonomic activation. In addition, neglectful environments do not provide the raw materials needed for the construction of the self, making us "vulnerable to creating a fragile, poorly symbolized, unmoderated sense of subjectivity . . ." (Sleed & Fonagy, 2010, p. 156). Experiences of remaining unseen, unknown, unheard, unfelt and unrecognized by the parent are woven into the quilt of the brain's

neuronal nets forming the base and foundation of our identity. "The most profound trauma comes when a neglectful environment gives nothing for the child to work with and when the material for constructing an image of oneself is oneself alone" (Sleed & Fonagy, 2010, p. 156).

Liotti's Etiological Model of Dissociation—Multiplicity of Ego States

According to Liotti (2009), "parental communications that are frightened or confused, but not obviously maltreatment of the infant may set dissociative mental processes into motion. Pathological dissociation, in infancy, is a primary failure in organizing multiple and incongruent models of the self and other into unitary mental states and coherent behavioral states rather than an intrapsychic defense against unbearable pain of severely traumatic experiences" (p. 56). These confusing, incongruent, and disorganizing parental behaviors may be the result of behaviors that are set in motion by the activation of neural networks containing information about the unresolved trauma and loss of the caregiver. According to Shapiro (1995/2001), when memories of trauma and adversity are activated, they remain in isolation, unable to link up to other memory systems containing adaptive information. Due to these memories not being assimilated into a larger adaptive memory system, the individual remains trapped, experiencing the present as if the past was still occurring. Consequently, children will perceive present environmental stressors and demands through the lenses of the past.

According to Liotti (2006/2009), the development of mild to severe forms of dissociation begins with disorganized attachment (DA). However, depending on the presence of other risk factors and the integration of the parent's memories of unresolved trauma and loss, the child with DA may follow three different paths into either developing full mental health or a dissociative disorder (Figure 1.5).

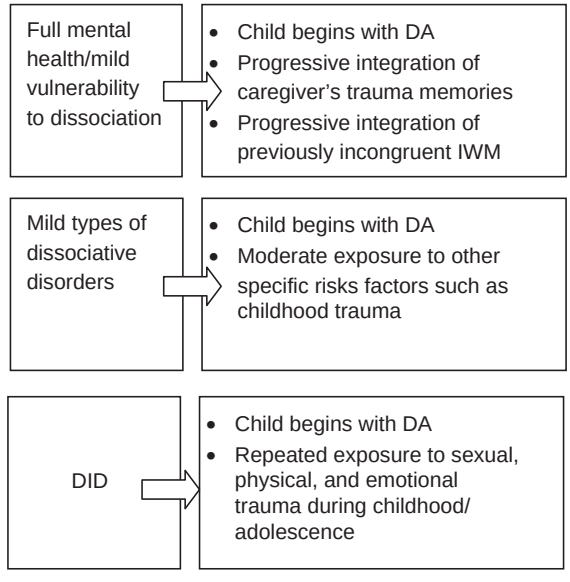

Figure 1.5 Liotti's etiological model of dissociation.
Note: DA, disorganized attachment; DID, dissociative identity disorder; IWM, internal working models.

As long as the caregiver's memory systems remain unprocessed and unintegrated, the child may continue to be exposed to the same experiences that laid the foundation for the development of dissociative mechanisms. The following case exemplifies how the caregiver's activation of maladaptive neural systems perpetuates the child's exposure to multiple and incongruent models of the self and other. An 8-year-old girl adopted at age 2 was brought to therapy by his two adoptive parents. She had extreme anger outbursts, mostly directed toward her mother. She engaged in name-calling and even threats of death toward her mother. The child reported no memories of the moments of rage and the resulting behaviors. The crisis lines were called multiple times and frequent hospitalizations were necessary. A variety of medications were used unsuccessfully and, at times, the frequent change of medication made things worse for this child and the entire family. The parents received extensive psychoeducation in therapy and specific strategies to manage the child's outbursts. After investigating step by step the parent-child interactions, the mother stated that she had an extensive history of abuse by her father and mother. When the child became agitated and called her names, no longer was she in her adult state, she felt once again victimized, and her child was perceived as a perpetrator. As a result, the mother was unable to respond as the adult mother she was while utilizing the strategies provided in therapy. The father of the child stated that the mother completely changed during the confrontations with her daughter. Sometimes the mother became extremely fearful and acted like a "younger person." Other times, she became agitated and yelled and threatened the child with abandonment. After these confrontations, the mother felt extremely guilty. To compensate, she allowed the child to get and do anything she wanted, including eating extra candy or breaking important house rules. In addition, as a result of the mother's inability to manage the child's affect, she felt highly incompetent when this child was threatening her, so she called the crisis lines endlessly, even when there was not an imminent danger. The child reported that the frequent calls to crisis lines, doctors and mental health professionals made her feel "bad," "abnormal," and "sick." The child stated that she had to constantly hear her mother on the phone repeating all the "bad" behaviors she had and how problematic she was. On the other hand, when the child was agitated, the father remained highly detached and peripheral. Sometimes, the father also became agitated and restrained the child by using physical force. Despite all the efforts of many different therapists that worked with this family over the years, no improvement was made. In fact, things continued to escalate and get worse.

When looking at this clinical picture, it is clear how the parents' own past trauma and attachment experiences inhibit their mentalizing capacities (Fonagy & Target, 1997; Sleed & Fonagy, 2010) exposing this child, as a result, to numerous contradicting and incongruent models of the self and other. Unless the parents can appropriately assimilate, integrate and resolve their past trauma, their responses will only continue to further dysregulate this child, promoting internal disorganization and dissociative states. If the mother continues to experience and respond to her child as if she was at times a perpetrator, a victim and a rescuer, this child most likely will not have the opportunity to develop memory systems containing appropriate and healthy representations of the self and other. According to Liotti (2009), the metaphor of the drama triangle can help portray the core nature of multiple and incongruent models of the self, as the child at times may experience himself or herself as a victim and the parent as the perpetrator. At the same time, the parent may be represented as a rescuer (Figure 1.6). These, according to Liotti, are the three main types of self-representations.

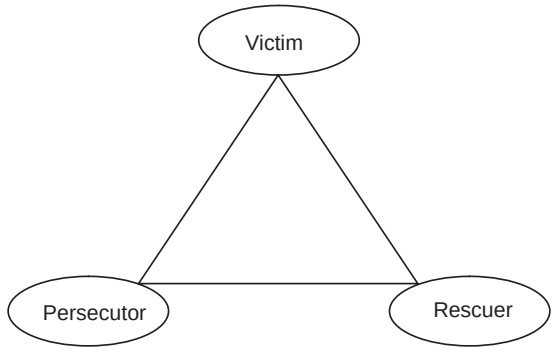

Figure 1.6 Types of self and other representations in disorganized internal working models.
Source: Adapted from Liotti (2009).

As stated by Liotti (2009), "pathological dissociation from childhood to adult age is the coexistence of reciprocally segregated contradictory ego states" (p. 56).

THE STRUCTURAL DISSOCIATION THEORY, EMDR THERAPY, AND AIP MODEL

The theory of structural dissociation of the personality (van der Hart et al., 2006) is based on Pierre Janet's view of dissociation as a division among systems that constitute the personality of an individual. According to this theory, personality is seen as a system "comprised of various psychobiological states or subsystems that function in a cohesive and coordinated manner" (van der Hart et al., 2006, p. 2), also described by them as a "dynamic, biopsychosocial system as a whole that determines [the individual's] characteristic mental and behavioral actions" (Nijenhuis & van der Hart, 2011, p. 418). According to the structural dissociation theory, two basic types of action systems make up, to a large degree, the personality of an individual: Action systems that support adaptation and action systems that defend the individual against major danger or threat. The lack of cohesion and integration of these systems, as a result of trauma, constitutes the core of the structural dissociation theory. As a result of this division of the personality, we see the presence of dissociative parts that are mediated by action (sub)systems such as the flight, fight and submission/shut-down systems. Dissociation entails the co-existence of dissociative parts of the personality, each with its own sense of self and first-person perspective: The Apparently Normal Part of the Personality (ANP) is guided by action systems of adaptation and daily life and at the same time is fixated on avoiding the traumatic memories. On the other hand, the so called Emotional Part of the Personality (EP) is guided by an action subsystem of defense and the action systems activated when the traumatizing event occurred. According to the structural dissociation theory, early and chronic trauma activates psychobiological action systems that as a result of the high levels of stress and activation remain unintegrated.

Shapiro's AIP model also posits that high levels of disturbance resulting from experiencing trauma inhibit and prevent the information processing system from properly

assimilating and integrating the experience into adaptive comprehensive memory networks. This results in unprocessed memories that remain unintegrated and prone to becoming activated in the presence of trauma-related environmental stimulus.

Structural dissociation extends from mild and simple to severe with a more complex division of the personality (van der Hart et al., 2006).

1. **Primary dissociation of the personality.** Considered the simplest form of dissociation with the presence of a single ANP and a single EP. This is observed in simple cases of Acute Stress Disorder, simple PTSD and simple types of dissociative disorders.
2. **Secondary dissociation of the personality.** This type of dissociation occurs in the presence of persistent and/or increasingly devastating traumatizing events. The integration of various animal defense subsystems is thwarted. This is observed in cases of complex PTSD, also known as Disorders of Extreme Stress Not Otherwise Specified (DESNOS), Dissociative Disorder Not Otherwise Specified (DDNOS), and trauma-related Borderline Personality Disorder.
3. **Tertiary dissociation of the personality.** In this type of dissociation, in addition to the division of the EP, there is also a division of the ANP. This type of dissociation, according to van der Hart et al. (2006), is observed in cases of dissociative identity disorder (DID).

According to van der Hart et al. (2006), a major goal of the therapeutic process with individuals with structural dissociation is the synthesis, realization, presentification and personification that corresponds not only to the integration and assimilation of the traumatic experience, but also to the further growth of the personality. "Synthesis includes binding and differentiating sensory perceptions, movements, thoughts, affects and a sense of self" (p. 11). Realization involves the mental action of fully accepting and developing awareness of reality so the individual can reflect and adapt to this present reality. Oftentimes, trauma survivors are either fixated on avoiding such memories and lack the complete realization that it actually happened to them, or they completely live enmeshed in the past, not realizing that it is over. Integration of the trauma memories involves personification, which refers to "integrating the experience with an explicit, personal sense of ownership" (van der Hart et al., 2006, p. 12) and presentification, which implies "being firmly grounded in the present and integrating one's past, present, and future" (p. 12). All these are important aspects of the full integration of trauma memories according to this theory.

The AIP model as well as the structural dissociation theory has as a primary goal of treatment; the binding, assimilation and ultimate integration of traumatic memories that have been physiologically encoded in the brain (Shapiro, 1995, 2001). Based on the AIP model, the brain and biological systems are shaped by experience. These experiences are encoded in different forms of memory, implicit and explicit. Memories of trauma will follow a path into implicit encoding and isolation from other adaptive and positive information. The EP in the AIP model represents memory networks containing the emotions, thoughts, sensations and meta-perceptions of traumatizing and adverse events that have not been integrated into a coherent autobiographical memory. (The structural dissociation theory adds that EPs, like any other dissociative part, have their own first-person perspective.) The EP in the AIP model also represents thwarted animal defenses fight, flight, freeze and immobilization-shutdown responses taking place during the traumatizing event. In addition, they contain the potentially self-destructive

coping mechanisms used to protect and modulate affect resulting from the activation of such memory systems holding traumatogenic material. Based on the structural dissociation theory, EP and ANP have various biological and psychological responses, with the EP exhibiting the activation of episodic memory systems and the ANP the activation of semantic memory systems (Nijenhuis & van der Hart, 2011).

In my opinion, the ANP is represented in the AIP model by memory systems that contain the mechanisms of adaptation that have been utilized by the individual to suppress, manage and avoid the existing memories of trauma. This is accomplished by using avoidance and keeping the memories of trauma and adversity away, compartmentalized and isolated. In the structural dissociation theory, avoidance is conceptualized as mental actions associated with the phobia of the trauma memory and phobia of the dissociative parts of the personality (Nijenhuis & van der Hart, 2011; van der Hart et al., 2006). An important goal of EMDR therapy is to promote and facilitate the linkage, connection and ultimate assimilation of such memory systems so they can be integrated into a healthy sense of self. This entitles, as van der Hart et al. (2006) state, the synthesis, personification, presentification and realization of the traumatic experiences. The structural dissociation theory proposes a phase-oriented treatment that involves the integration of mental actions and contents feared and avoided by the individual. During the initial phase of treatment, the clinician works on assisting the client in overcoming the phobia of mental actions and contents, phobia of EPs, phobia of ANPs for each other, phobia of attachment, as well as improving the level of functioning of ANPs, for example, through skills-training (van der Hart et al., 2006). In addition, the accessing and direct trauma work, in phase 2, is only done when the individual's integrative capacity has been adequately improved. The latest phase of treatment involves the integration of the personality. EMDR therapy is also a phased treatment approach that in its initial phases aims for the enhancement of the individual's regulatory and integrative capacities. The EMDR clinician works diligently on developing a therapeutic relationship based on attunement, resonance and security as well as in assisting the client in overcoming the "phobia of the trauma" by assisting the client in enhancing existing and developing new resources. Advanced strategies are also used to assist the client in exploring, accessing, processing and ultimately integrating memory systems containing traumatic material. The ultimate goal of both the structural dissociation theory and EMDR therapy may be seen as integration: Integration of the personality and integration of its memory systems.

EMDR THERAPY AND THE NEUROSEQUENTIAL MODEL OF THERAPEUTICS

The neurosequential model of therapeutics (NMT) developed by Dr. Bruce Perry and colleagues provides valuable insights into appropriate therapeutic interventions that follow fundamental principles of neurodevelopment. These principles are extremely relevant and can enrich the work that needs to be done during the different phases of EMDR therapy, but especially during the preparation phase. According to the NMT model, a critical element of therapeutic success is to provide activities that match and correspond to the developmental stages and physiological needs of traumatized children. According to McLean (1985/1990) when trauma responses are activated, the more primitive reptilian brain hijacks the higher parts of the brain. With this in mind, before adverse and traumatic memories can be accessed and processed, lower

parts of the brain need to be regulated (Perry, 2006). According to Perry (2006), since trauma responses originate in the brainstem and diencephalon, when these lower parts are poorly regulated, they also disrupt and dysregulate higher parts. The activation of memory systems containing traumatogenic material in children with history of early and chronic trauma will be accompanied by the activation of brain structures intimately connected with regulatory processes. If trauma occurred when brain circuits in charge of regulation and survival were developing, the long term appropriate function of such systems may be compromised. Brainstem regulation should be initiated early in EMDR therapy and it should continue throughout its eight phases. However, the sequence of therapeutic activities will have a greater impact on the outcome of therapy if they closely mirror normal brain development (Perry, 2006). As a result, Perry suggests initiating therapy with brainstem-modulating activities. He actually considers EMDR therapy one of the forms of therapy that helps modulate lower parts of the brain. According to Perry, treatments and activities such as dancing, music, EMDR therapy, and massage, among others, can help regulate the brainstem. With this in mind, before a highly traumatized child can respond to more cognitive resources, the utilization of activities and strategies directed to regulating and working with the lower parts of the brain may be necessary.

A TYPOLOGY FOR EMDR THERAPY: CASE CONCEPTUALIZATION

After finishing my early training in EMDR therapy and using it with numerous cases, I started to notice that some children responded very well and fairly fast to EMDR therapy, while others either refused treatment or had symptoms that worsened after an EMDR reprocessing session. I also noticed that I was using a "cookie cutter" approach to the clinical practice of EMDR therapy with children. As a result, I was moving many children with complex trauma with limited and constricted capacities to tolerate affect into trauma processing when they were not yet ready. I started to create categories that could help me better understand the needs of each child, organize more effectively treatment plans and conceptualize each case more efficiently. I developed a typology that helped me organize the clinical landscape of each client and have appropriate expectations in terms of the work and time needed to walk through the eight phases of EMDR therapy.

Type 1 Cases

The children that fall into this clinical category come into therapy with a single or few traumatic events. Overall, they present with positive attachment experiences and external as well as internal resources that they can access during moments of activation. Despite the experiences of trauma and or adversity and how symptomatic they may be in the present, they exhibit appropriate levels of stabilization and ability to use approach and self-regulatory strategies. Neural nets containing information associated with a healthy sense of safety and congruent representations of the self and other are present in the child's system. These children tend to be successful at finding a safe place and, as a result, the calm-safe place EMDR protocol is usually used without any difficulties. The child is able to find a safe place, access it and use it efficiently as a state change strategy. These children are usually able to move fairly quickly into the reprocessing of the memories of trauma and adversity. The preparation phase is usually

short and the reprocessing of disturbing material tends to be straightforward, as the child is able to reprocess several memories one after the other. These children possess the capacity to tolerate positive and negative affect and their windows of tolerance permits them the early accessing of traumatogenic material.

According to Shapiro (2001), during EMDR reprocessing, synthesis and linkages of memory systems happen with the resulting assimilation and integration of such neural networks into other adaptive memory systems in the brain. Considering how these children possess memory networks containing adaptive information, the assimilation of trauma memories tends to occur spontaneously, rapidly and efficiently during EMDR reprocessing sessions.

In addition, the parent(s) of these children may possess the qualities that allow them to promote attachment security and, as a result, the time the clinician will need to dedicate to working with the family system may be minimal. Having parents with the capacity to attune, mentalize, and synchronize with their children will significantly reduce the amount of time dedicated during the preparation phase of EMDR therapy to working directly with caregivers. In addition, in these cases, oftentimes the parent or caregiver has not been the wounding agent. However, if the parent has somehow contributed to the current clinical presentation of the child, parents in this category tend to participate more actively.

Overall, in this category, the time needed for preparation tends to be minimal, with the child responding well to safe place and resource protocols. Since the children in this category possess neural nets with positive and adaptive information, the reprocessing of disturbing events does not tend to encounter much "turbulence."

Type 2 Cases

These children portray more complex clinical presentations, such as: multiple experiences of trauma and a family system with identified areas of dysfunction. These are children that, despite the trauma they have suffered, present with great resiliency or with some positive early experiences of attachment with at least one caregiver. Despite the family dysfunctional patterns, both caregivers, or at least one is open and willing to actively participate in therapy. These children may have some difficulty identifying resources and a safe place. When using the calm-safe place or resource development protocols, these resources may become contaminated, as the child rapidly accesses negative elements and the associated dysregulated affect. A more extensive preparation phase may be needed to expand the child's capacity to modulate and tolerate affect. In addition, the preparation phase may include some level of work with the caregivers and, in general, with the family system. Other clinicians may need to be involved to appropriately meet the needs of the child and the family. However, some of these children, due to their resilient capacities, may be able to move fairly fast into the reprocessing of disturbing memories. Some others may require the titrated exposure, the fractionation or layering of the memories of hardship and trauma during the reprocessing phases of EMDR therapy.

Type 3 Cases

These children tend to be the hardest to treat and engage in EMDR therapy. They may present with chronic and severe early trauma. Most likely they present with disorganized attachment strategies and moderate to severe dissociative symptoms. The

presence of co-morbidity is high, as well as the occurrence of self-destructive behaviors and regulatory strategies. The family system is oftentimes chaotic, highly dysregulated or absent. The presence of child protective service agencies as the custodial agents of these children make the clinical presentations more convoluted. Oftentimes, the presence of reactive attachment disorder, mood disorders and dissociate disorders and the misdiagnosis of the underlying trauma make these children linger in the mental health system for years without any real therapeutic gains. Fragmentation, pervasive emotion and physiological dysregulation accompanied by the existence of very narrow windows of affect tolerance are usually prevalent in these children. The presence of internal resources and neural nets containing adaptive and congruent information about the self and other are not present or are scarce. As a result of these clinical presentations, the use of EMDR treatment tends to be more multifaceted and intricate. Frequently, treatment is not a linear process going from resourcing to reprocessing. Instead, the clinician may have to go from resourcing to reprocessing and back to resourcing. Their dissociative symptoms can make it challenging for these children to stay present and maintain mindful present awareness. As a result, the preparation phase and reprocessing phases may require the utilization of advanced strategies to maintain these children's dual awareness and keep them within appropriate windows of affect tolerance.

I use the analogy of the "teeth" and the "steak" to assist clinicians in conceptualizing and understanding the level of participation and length of treatment for each of the typologies described above. The teeth represent the resources and the steak represents the amount of trauma. Children with type 1 clinical presentations come in with all their teeth in good condition. If you give them a piece of steak, they will be able to chew it up without choking and without too much assistance form the clinician. Children with type 2 clinical presentations come into therapy with several teeth missing and fairly large pieces of steak that need to be digested. They will be required to get "dentures" in order to be able to chew up the steak. They may even need to have the clinician cut or layer the steak for them, otherwise, they may choke while attempting to chew up the steak. Children that present with type 3 clinical landscapes come to therapy with very few teeth or none at all. They may also present with extreme fear of the steak. As a result, extensive preparation to help them overcome the fear of the steak while "putting in" dentures will be necessary. The clinician may have to use distancing strategies or start with minimal amounts of steak in order to help these children be successful in their EMDR treatment. The fractionation, layering and titration of the traumatic material may be necessary as well as sufficient amount of work to achieve appropriate levels of stabilization prior to the reprocessing of trauma memories.

This typology is not intended to be rigid and to limit all children to just only these three categories. Instead, it is intended to bring light into the effective use of EMDR therapy with various and diverse types of clients and families as well as to assist clinicians in using appropriate case conceptualization skills. Honoring the rhythm and speed each child needs for effectively moving through the eight phases of EMDR therapy is critical. The clinicians' ability to be flexible and adjust to different therapeutic rhythms, to go fast with some children while taking a very slow pace with others will highly enhance the effectiveness of EMDR child clinicians. This typology is intended to honor the rhythm and pace of the child, not the pace of the clinician. Some clinicians may have the need to go really fast and attain results as fast as possible, even when this rhythm does not necessarily honor the rhythm of the child. Others may always want to

go very slow not because the child needs this pace, but because the clinician may fear the affect of the child during the work with EMDR therapy.

In addition, it is important to highlight that some children presenting with cases that resemble a type 3 presentation are incredibly resilient and, as a result, are able to move fairly quickly into the reprocessing of target memories. It is of extreme importance to see each child as a unique individual with very distinctive qualities and characteristics and not to box them into stereotypical prototypes. Keeping an open mind and the ability to understand the uniqueness and the rhythm of each child and the clinical picture while attending to best clinical practice guidelines is foremost encouraged.

This book is dedicated to providing a thorough review of how to use EMDR therapy effectively and efficiently with type 2 and type 3 cases. A wide range of strategies that can enhance treatment outcome with difficult to treat children, will be thoroughly presented.

SUMMARY AND CONCLUSIONS

Complex trauma includes the experiencing of early and chronic trauma and adversity. It oftentimes involves asynchronic dysregulated interactions between the infant and the caregiver. Latest neuroscience research and theory supports the idea of the development of the self as highly and intimately connected to the repetitive experiences with caregivers. Our understanding of the AIP model that supports and gives meaning to the work done with EMDR therapy has been expanded by principles and findings from the polyvagal theory (Porges, 2011), affective neurobiology (Panksepp, 1998, 2009), attachment theory (Bowlby, 1973/1980; Ainsworth, 1967; Main, 1978) and interpersonal neurobiology (Siegel, 1999, 2010). Understanding the intricate connection between early attachment experiences, development of biological systems as well as brain circuits is pivotal when working with complex trauma cases. Even though the human organism comes into the world with similar biological systems, they are shaped by the environment and experiences by which they are surrounded especially early in life. As a result, how these systems work later on and respond to environmental demands may be different for each individual. The AIP model gives us a view of health and pathology that is rooted in memory systems. These memory networks become the basis and foundation for the development of the self. Moreover, the polyvagal theory gives us light into the intimate and intricate connection between the central nervous system, brain structures and the body. Through the afferent and efferent branches of the ANS, the brain and the body are closely connected. When memory systems containing traumatogenic material are in a state of activation, so is the body. EMDR therapy accesses cognitive, affective and somatic aspects of the memories of trauma stimulating simultaneously cognitive, emotional and somatic information processing. As a result, EMDR clinicians should be well versed in how to be witnesses and at times active participants as they assist children in accessing the different levels and modes of information processing. EMDR clinicians need to be proficient in accurately understanding the AIP model and the current theories and research that support and enhance our appreciation of the AIP model.