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Child Massage Integrated Therapy: A Preliminary Intervention Manual for Psychological Trauma Treatment

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Abstract

This dissertation introduces an original preliminary treatment manual as a guide for mental health providers interested in adding a research-informed massage therapy component to traditional child trauma psychotherapy. Child Massage Integrated Therapy (CMIT) offers a standardized protocol to support the implementation of a replicable treatment modality that fosters critical somatic resources for traumatized children within real-world settings. The multidisciplinary field of interpersonal neurobiology, including attachment and polyvagal theories, as well as the concept of interoceptive awareness, are the theoretical constructs informing the proposed model of care. A review of the research literature recognizing massage therapy's role in creating a regulating mind/body experience provides the fundamental basis for pursuing this line of intervention as a component of a phase-oriented psychological trauma treatment.

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**CHILD MASSAGE INTEGRATED THERAPY: A PRELIMINARY INTERVENTION
MANUAL FOR PSYCHOLOGICAL TRAUMA TREATMENT**

Sylvie P. Demers, MSW, LCSW

A DISSERTATION

in

Social Work

Presented to the Faculties of the University of Pennsylvania

In

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Degree of Doctor of Social Work

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CHILD MASSAGE INTEGRATED THERAPY

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CHILD MASSAGE INTEGRATED THERAPY

Dedication

I dedicate this dissertation to the memory of Dr. Sherry Sabo who encouraged me to pursue my doctoral degree and most importantly inspired me to write about the value of integrating complementary therapies in community mental health settings.

CHILD MASSAGE INTEGRATED THERAPY

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CHILD MASSAGE INTEGRATED THERAPY

Abstract

Child Massage Integrated Therapy: A Preliminary Intervention Manual for Psychological Trauma Treatment

Sylvie P. Demers, MSW, LCSW

Lina Hartocollis, PhD

This dissertation introduces an original preliminary intervention manual as a guide for mental health providers interested in adding a research-informed massage therapy component to traditional child trauma psychotherapy. Child Massage Integrated Therapy (CMIT) offers a standardized protocol to support the implementation of a replicable treatment modality that fosters critical somatic resources for traumatized children within real-world settings. The multidisciplinary field of interpersonal neurobiology, including attachment and polyvagal theories, as well as the concept of interoceptive awareness, are the theoretical constructs informing the proposed model of care. A review of the research literature recognizing massage therapy's role in creating a regulating mind/body experience provides the fundamental basis for pursuing this line of intervention as a component of a phase-oriented psychological trauma treatment.

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INTRODUCTION

Developmental trauma has been identified as the single largest undertreated public health epidemic in the country (Wylie, 2004; Report of the Attorney General’s National Task Force on Children Exposed to Violence, 2012). An imperative in the field of social work is to identify and promote effective, best practice therapeutic interventions to treat the millions of children affected by trauma. It is well established that adverse childhood experiences (ACEs) affect the somatic system and that exposure to childhood trauma results in a multitude of psychological, behavioral, physiological and neurobiological complications (Anda et al., 2006). In spite of the strong evidence that “the body keeps the score” (van der Kolk, 1994, 2014), the majority of empirically supported trauma treatments rely on cognitive behavioral techniques. Emerging research is now exploring the benefits of integrating various somatically based techniques aimed at correcting the dysregulated nervous system and enhancing body awareness. Massage therapy is an intervention that directly targets the body with empirically demonstrated, stabilizing physiological benefits (Moyer et al., 2009).

This dissertation introduces a preliminary manual describing how to integrate massage therapy with traditional psychotherapy for children presenting in community mental health clinics. The Child Massage Integrated Therapy (CMIT) manual is presented as a guide for mental health providers interested in adding an evidence-informed, body-based component to traditional trauma therapy. The aim is to provide social workers with a replicable treatment modality that fosters critical somatic resources in traumatized children. In addition, clinicians and administrators interested in promoting adherence to fidelity measures and monitoring programmatic and quality outcomes will benefit from use of this manual.

The Child Massage Integrated Therapy (CMIT) manual is organized into ten chapters. Chapter one describes how the protocol for CMIT was initially developed and implemented in a community mental health setting. Chapter two explores the underlying reasons for the pressing need to identify and disseminate a range of safe, integrated, best practice interventions to address the far-reaching implications of childhood trauma. The factors influencing the recent paradigm shift occurring in the conceptualization and delivery of health care services in the U.S. are examined in Chapter two. The recent convergence of mind-body research and shifting national health care priorities focused on wellness, prevention and integrative approaches are highlighted as evidence that an ideal context has surfaced to support further investigation of integrating massage therapy as an effective biopsychosocial approach to treat trauma in children. Further, Chapter two argues that, as the issue of childhood maltreatment is being reconceptualized from a public health perspective, neurologically informed, holistic and interdisciplinary solutions are being sought. The social work profession, grounded in an ecological, person-in-environment framework, is in a key position to tackle the outdated Cartesian mind-body divide by embracing collaborative approaches to meet the complex needs of traumatized children.

Chapter three identifies the essential principles and theoretical constructs supporting this integrative practice. A summary of relevant findings emanating from the field of neuroscience research provides preliminary endorsement for the application of CMIT. The concepts of interoceptive awareness, polyvagal theory and the role of somatic/implicit memories are examined, as they have important implications for restoring developmental competencies and activating the social engagement system. By drawing on a range of multidisciplinary research, Chapter three of the manual summarizes the profound and

damaging legacy of trauma on the human body and consequently its central role in processing traumatic experiences.

In Chapter four, a review of the general research findings on the benefits of massage therapy provides a starting point to conceptualize utilizing this modality as a way to establish a sense of personal safety in order to improve quality of life for traumatized youth. These findings will be explored within the context of a phase-oriented, best practice trauma treatment recommendation identifying safety and stabilization as a critical first step (Herman, 1992). The relevant literature exploring the range of massage therapy effects having implications for the field of child trauma treatment is considered. Analysis of the findings will illustrate that massage therapy influences some of the same key regions of the brain and nervous system that become negatively compromised as a result of exposure to adverse childhood experiences. Specifically, CMIT is investigated as a viable body-based treatment option that aims to repair the false chasm between mental and physical functioning. It is well understood that trauma and exposure to adverse childhood experiences (ACEs) disrupts the nervous system and interrupts the healthy development of a child's bio-physiological system. As a somatically based intervention, CMIT is described as an integrative approach that recalibrates and regulates the nervous system. The multifaceted positive benefits of massage therapy are presented as a promising and effective technique to heal the nonverbal legacy of trauma. Three well-supported, somatically focused therapies (Sensorimotor Psychotherapy, Somatic Experiencing and Trauma-Sensitive Yoga), aiming to alter the "somatic narrative" (Ogden, 2010) resulting from childhood maltreatment and yielding effects similar to massage therapy, are reviewed in Chapter five.

Chapter six provides a programmatic overview of CMIT. This chapter summarizes what the model entails, identifies the target population, describes staff roles and delineates treatment duration and the care coordination practices between two disciplines. Chapter six also addresses reimbursement considerations and references resources available to support clinicians and administrators with the practical application of CMIT. Chapter seven describes the six clinical core components of CMIT practice. The assessment, informed consent, treatment readiness, massage therapy intervention and discharge process are reviewed as part of a comprehensive, coordinated, trauma-informed system of care.

Chapter eight reviews clinical documentation expectations and provides an overview of outcome measures. Chapter nine offers a composite expository case example illustrating the application of this modality in a clinical setting. The constructed vignette, focused on a traumatized adolescent, highlights massage therapy's unique role in increasing positive mood, reducing levels of hostility and regulating sleep patterns. The data presented in the composite argues for the use of massage as an incremental mechanism to help traumatized children cultivate a safe and healthy relationship with their bodies, thus contributing to a holistic healing process. Chapter ten describes evaluation tools for quality-improvement efforts helping to monitor treatment effectiveness within a community mental health setting. Surveys assessing perception of care, client satisfaction and perceived self-efficacy in the use of skills learned are described. Finally, a protocol for a randomized control trial (RCT) is presented to encourage additional rigorous research to study the effectiveness of integrating massage therapy as a component of a phase-oriented psychotherapeutic approach for traumatized youth.

Leaders in the field of psychological trauma are increasingly endorsing a focus on enhanced body awareness (Levine, 2010; Payne, Levine, & Crane-Goudreau, 2015; Ogden,

Minton, & Pain, 2006; Ogden & Fisher, 2014; van der Kolk, 2014) and challenging the monopoly of the “talking cure” (Fisher, 2014). Interventions that aim to enlist somatic resources as a key entry point in the therapeutic process are gaining acceptance in the psychotherapeutic community (Ogden & Minton, 2000; van der Kolk, 2014; Warner, Koomar, Lary, & Cook, 2013). Researchers have noted the primacy of affect, attachment and context in addition to cognition alone as mechanisms to effectively guide regulation and positive behavior (Bromberg, 2008; Schore, 2011, 2014). The accumulation of scientific evidence supporting the complex yet intertwined relationships between the brain, the body and the mind within a social environment legitimatizes expanding the available repertoire of interventions that target the whole person. As an intervention that helps to restore a sustained sense of control and safety over one’s body, CMIT has important implications for social work practice. CMIT will be explored as a “bottom-up” approach that engages the somatic system and can potentially target the role of unresolved trauma on self-regulatory deficits (Ogden et al., 2006; Warner, Spinazzola, Westcott, Gunn, & Hodgdon, 2014). By focusing on the body *as a direct entry point of treatment*, CMIT may very well hold promise for the reprogramming of maladaptive subjective physiological patterns resulting from childhood trauma.

It has been argued that manuals allowing trained professional to replicate practices are instrumental in the widespread dissemination and evaluation of novel psychosocial interventions (Evaluation Center at Human Services Research Institute, 2002). The lack of standardized protocols describing integrative massage therapy practices as a component of trauma treatment is one factor contributing to its relatively low profile. This manual contributes to the future of integrated massage therapy practice and research by providing a standardized framework to replicate, evaluate and validate the effectiveness of this cutting-edge practice. All

forms and corresponding documentation of CMIT practice are provided as appendices in the final section of this manual.

CHAPTER ONE

History and Development of Child Massage Integrated Therapy

The protocol for the CMIT manual was initially conceptualized and implemented in a large community mental health agency located in rural New England. The clinic had a longstanding history of providing comprehensive community mental health and substance abuse services, serving over 9,000 clients annually—including children, adolescents, adults and families. The agency employed roughly 350 clinical staff comprised mostly of licensed master-level social workers, bachelor-level case managers, licensed alcohol and drug counselors, board-certified psychiatrists and advanced-practice psychiatric nurses. The complementary therapists offering massage, acupuncture and energy medicine were contracted employees subject to the same onboarding hiring practices as other clinical staff.

The initial impetus for the development of CMIT as a complementary treatment option was based on research underscoring the devastating impact of trauma on the body (van der Kolk, 1994). The compelling evidence from the multidisciplinary field of neuroscience created foundational support for the establishment of this modality. Specifically, the emerging literature pointing to the importance of building self-regulatory capacities in order to fully recover from trauma (Spinazzola et al., 2011) further precipitated the development of this innovative, body-oriented model of care. Lastly, clinically supported anecdotal experience obtained over ten years prompted interest in the design of the CMIT manual. It is believed that the above-referenced mental health agency was the first in the U.S. to offer this type of comprehensive service integrating massage therapy for traumatized individuals.

The agency began offering complementary therapies (CT) as an adjunctive component to traditional psychosocial interventions for adults with a history of childhood trauma, in part as a response to staff frustration. Specifically, clinical staff reported that despite best efforts at utilizing empirically supported cognitive behavioral modalities in combination with psychopharmacology, a lack of progress was often observed in a significant number of clients. The knowledge that 90 percent of adults receiving services in community mental health clinics present with a trauma history (Lommen & Restifo, 2009) provided yet another rationale for prioritizing the implementation of interventions that address the legacy of trauma on the body. The value of integrating somatic strategies as a key element of an effective psychotherapy trauma protocol (Cook et al., 2005; Ogden & Fisher, 2015) quickly gained traction with the clinical staff.

The widespread support for the integration of massage as a component of trauma treatment was influenced by another related and equally noteworthy factor. The sustainability of the CT program was closely connected to staff engagement efforts. Recognizing that clinicians working with traumatized individuals have the potential to develop compassion fatigue and/or vicarious trauma, a focus on providing organizational support to mitigate unnecessary risks and enhance compassion satisfaction for staff was initiated. Based on research demonstrating that behavioral health organizations that do not successfully address staff burnout suffer serious economic consequences, including problems with staff retention (Morse et al., 2012), the CT program gained the attention of the board of directors. With high-level support, the use of integrated complementary therapies was adopted as a key component of the organization's strategic plan. The leadership team understood that staff engagement and quality of care thrive when stress-reducing activities are incorporated into organizational policies and daily practices

(National Child Traumatic Stress Network, Secondary Traumatic Stress Committee, 2011).

Offering CT to both staff and clients demonstrated an organizational commitment supporting a culture focused on prevention, wellness and recovery. Expanding staff access to complementary therapies was viewed as an investment and also as a method to build a comprehensive approach to providing trauma-informed care. Particularly, complementary therapies were positioned as one strategy aimed at meeting the state's licensing and contractual obligation for agencies to develop a measurable quality-improvement plan focused on the delivery of culturally competent, trauma-informed services. Information about the risks associated in working with traumatized populations was incorporated as a part of staff orientation, and annual trauma training was required for all employees. Chair massages were also offered for staff at all locations as a preventative/wellness effort. Promoting a culture supportive of self-care strategies was included in the agency's process improvement plan as an action step to help mitigate the impact of vicarious trauma on staff.

The results of yearly surveys administered to the clinical staff making referrals to the CT program provided additional support for the ongoing dissemination of this integrated treatment approach. The purpose of the surveys was to evaluate the perceived impact on staff of working collaboratively with the complementary therapists. The feedback consistently demonstrated that the ability to refer to CT improved staff job satisfaction and client satisfaction of perceived outcomes. Lastly, the use of an evidence-based tool to assess organizational climate and staff compassion-fatigue rates revealed that access to the CT program (both for clinician self-care reasons and as a referral option) contributed to overall staff engagement and to a more positive view of the agency's mission.

Encouraged by the results of a pilot study, the agency later expanded CT services to children and families. Findings from this study suggested that completing a regimen of complementary therapy in conjunction with psychotherapy held promise for enhancing mental health outcomes and for improving quality of life (Collinge et al., 2005). The study involved 20 women and 5 men, with mean age of 42 years and a mean history of 7.4 years of mental health treatment. All clients involved in this pilot had histories that included trauma, ten of which involved sexual abuse. The Diagnostic and Statistical Manual of Mental Disorders IV Axis I diagnoses were PTSD (10), major depression (9), anxiety disorder (3), and dual diagnosis (3). Outcome data was gathered from qualitative inquiry and scaled questionnaires. Clients completed an investigator-generated instrument with Likert-scaled ratings of satisfaction and perceived changes in four dimensions of trauma recovery: interpersonal safety, interpersonal boundary setting, bodily sensation, and bodily shame. Clients reported high levels of satisfaction with the service and significant levels of perceived (self-rated) change on each outcome measure. Qualitative results also included enhanced psychotherapeutic outcomes reported by the mental health clinicians. Based on these findings and as a mechanism to provide a similar comprehensive approach to child mental health, the agency began offering massage therapy to children in conjunction with conventional psychotherapeutic treatments.

The philosophical framework guiding the CMIT model is deeply rooted in the mind-body-spirit connection and the usefulness of sustainable self-care strategies. Clinical leaders understood that partnering with complementary therapists expertly trained in directly healing the body would provide an innovative opportunity to expand the existing continuum of care. Another core value that drove this program was the belief that offering options to those seeking help promotes self-empowerment and generates an interest in self-care. A range of complementary

modalities to choose from was made available, including table and chair massage, reiki, energy medicine, acupuncture and acupressure. All these modalities were chosen due to their noninvasive nature, client interest, and availability of practitioners in the community (Collinge, Wentworth & Sabo, 2005). For years, the most commonly requested treatment was massage therapy. Since the program's inception, over 1,000 adults and 350 children have been referred to and received a form of complementary therapy while receiving traditional mental health services.

CHAPTER TWO

Background and Significance: Contextual Factors

Costs and Consequences of the Child Abuse Epidemic

In 2013, 3.5 million referrals alleging maltreatment involving 6.4 million children were made to child protective agencies across the U.S. (National Child Abuse and Neglect Data System). According to statistics from 2009, of the reports made to child protective agencies, over one million cases of abuse and neglect are substantiated yearly (National Child Traumatic Stress Network, 2009). The Centers for Disease Control and Prevention (CDC) defines child maltreatment as any act or series of acts of commission (abuse) or omission (neglect) by a parent or other caregiver that results in potential for harm, or threat of harm, to a child (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). The Child Maltreatment 2013: Summary of Key Findings Report estimates that 80 percent of children were victims of neglect and that over 90 percent of the perpetrators were the parents or guardian (Child Welfare Information Gateway, 2015).

It is commonly accepted that rates of child maltreatment are underreported, and it is estimated that one in four U.S. children experiences some form of maltreatment in his or her lifetime (Finkelhor, Turner, Shattuck, & Hamby, 2013). The high prevalence of childhood exposure to

traumatic events has far-reaching societal implications. There is growing consensus that child maltreatment represents a public health epidemic with “shocking” national implications (Report of the Attorney General’s National Task Force on Children Exposed to Violence, 2012). Individuals, families, schools, and communities are equally impacted by what the Surgeon General has identified as a national health crisis (Report of the Surgeon General's Conference on Children's Mental Health: US Department of Health and Human Services, 2000).

The 2007 Economic Impact Study, conducted by Prevent Child Abuse America, conservatively estimates the annual cost of substantiated child abuse and neglect at 103.8 billion dollars per year (Wang & Holton, 2007). The latest research measuring the widespread lifetime economic cost of reported child abuse, using sensitivity analysis of total cost (which includes nonsubstantiated cases) estimates the economic burden of child maltreatment to reach closer to 500 billion dollars per year (Fang, Brown, Florence, & Mercy, 2012). The need for a preventative public health approach to child maltreatment has been advocated for decades, yet high-profile deaths of individual children rather than population-based evidence has often been the driver for policy on child protection (Gilbert et al., 2009). The result of not addressing this pervasive epidemic is leading to long-term detrimental consequences for society as a whole. Furthermore, because the “traumatic” effects of abuse and neglect are often invisible to providers, and 50 to 75 percent of children with mental health issues are not adequately accessing services (McKay & Bannon, 2004), identifying effective treatment for those who do make it through the door is imperative.

Defining and Diagnosing Interpersonal Trauma

For the purposes of this manual, trauma is defined as the “overwhelming demands placed on the physiological systems that result in a profound sense of vulnerability and or loss of control”

(Macy, Behar, Paulson, Delman, & Schmid, 2004). Another interpretation defines psychological trauma as “stemming from a failure of the natural physiological activation and hormonal secretions to organize an effective response to threat. Rather than producing a successful fight-or-flight response, the organism becomes immobilized” (van der Kolk, 1994). The proposed DSM-5 diagnosis of Developmental Trauma Disorder (DTD), although rejected for inclusion in the latest version, nonetheless captures the complex clinical presentations of children exposed to interpersonal trauma. The task force for the revised Diagnostic and Statistical Manual (DSM-5), championed by the National Child Traumatic Stress Network (NCTSN), recognized that addressing childhood trauma from a more comprehensive perspective required exploring the neurobiology as well as intergenerational transmission of ongoing childhood adverse traumatic experience.

The criteria delineated in the DTD diagnosis highlight the symptoms exhibited by children exposed to chronic and interpersonal trauma. A heavy emphasis on maladaptive attempts at affect regulation with resulting physiological disruption sits at the core of this proposed diagnosis. The recommended diagnostic criteria for DTD include (1) exposure; (2) affective and physiological dysregulation; (3) attentional and behavioral dysregulation; (4) relational and self-dysregulation; (5) PTSD spectrum symptoms; (6) duration of disturbances; and (7) functional impairment (van der Kolk & Pynoos, 2009). The DTD diagnosis provides a framework for assessing whether interventions utilized in treating traumatized children are addressing the symptoms these children exhibit. The focus on the fragmenting impact of trauma on the body/mind/sensory system suggests that interventions aimed at integrating all elements of a traumatic experience into a more adaptive mind/body experience are likely to be most effective.

Although aimed at symptom reduction, the widespread use of psychotropic medications prescribed to traumatized children is a cause for concern. Various federal agencies, including the Center for Medicaid and Medicare Services (CMS) and the Substance Abuse and Mental Health Services Administration (SAMHSA), have joined forces to highlight the risks associated with the increasing and concerning trend of overmedicating children. Over the last few years, state mental health leaders have been called upon to promote preventive and safe alternative psychosocial interventions (Report to Congress on Medicaid and CHIP, 2015). As Glenn Saxe, a child and adolescent psychiatrist at New York University's Langone Medical Center notes, treating trauma with medication "sends a message to the child that the problem is them, and they have a disorder, and it has nothing to do with the environment," (DeSa, 2014). According to researcher and practicing child psychiatrist Edmund Levin (2009), the existing medicalized model for treating problematic symptoms prevents caring for traumatized children with a comprehensive approach, deflects from attending to the complex underlying issues and ignores the multifactorial causes of trauma. In his seminal work, *The Body Keeps the Score*, van der Kolk (2014) argues that numbing and attempting to render children less aggressive through medication ultimately interferes "with motivation, play, and curiosity, which are indispensable for maturing into a well functioning and contributing member of society" (p.37).

The current treatment paradigm, deeply rooted in the supremacy of the drug-first approach typically endorsed by Western medicine, does not appear to recognize our innate ability to regulate our physiology or the importance of social connections in restoring homeostasis. The limitations and inherent risk associated with the use of psychotropic medications provides yet another justification for the ongoing exploration of emerging and novel paradigms incorporating integrative clinical approaches to care. James Lake, MD (2007), chair of the International Network

of Integrative Mental Health Care, posits that recent advances in the neurosciences suggest that the conventional Western medical model of brain functioning fails to adequately explain normal states of human consciousness, and by extension, mental illness. He stipulates that the variability of therapeutic response to pharmacological interventions further justifies expanding contemporary psychiatric perspectives by systematically evaluating nonconventional approaches. He contends that a synthesis of ideas joining the Western reductionist model of consciousness with novel, more holistic systems of medicine will result in a “fundamentally new understanding of the phenomenological nature, causes and meaning of healing” (p. 474). Lake (2007) advocates for building “conceptual bridges” between the biomedical perspectives of Western medicine (which he views as predominantly seeking to remedy mental illness with psychotropic medications) and nonconventional systems approaches (which are less linear in their understanding of the etiology of mental health symptoms) in order to reduce the “enormous medical, financial and social burdens of mental illness” (p.475). Expanding the traditional constructs informing Western medicine will inevitably permit the emergence of integrative multimodal approaches in order to adequately address the multifaceted consequences of trauma.

The widespread prevalence of trauma exposure and its lasting impact across the life course of all the populations served by social workers necessitates identifying holistic solutions embedded in a new interdisciplinary and collaborative paradigm. To this end, the field of mental health, including social work practice, is in the midst of transformative healthcare reform.

Initiatives Influencing Trauma Treatment

Shifting national healthcare priorities and a recent focus on the impact of health care disparities, including a recognition that inadequate resources are being allocated to combat child maltreatment, are slowly making their way into contemporary discourse (Every Child Matters,

2010 Report). With respect to the identification of strategies to address the child maltreatment epidemic, three recent national initiatives have influenced the developing paradigm shift in our conceptualization of how to effectively respond. Specifically, the 2010 Patient Protection and Affordable Care Act (ACA), the findings of the Adverse Childhood Experiences (ACE) study and the underlying mandates of the Triple Aim have heightened the immediate importance of dealing with the pervasive consequences of childhood trauma.

First, the ACA's emphasis on wellness, prevention and, most importantly, on integrative medicine recognizes the value of promoting interventions focused on the essential bidirectional connection between the brain and body. Duke University's Integrative Medicine Center defines integrative medicine as the practice of medicine that focuses on the whole person and makes use of all appropriate therapeutic approaches, health care professionals and disciplines to achieve optimal health and healing. Integrative medicine is further described as seeking to restore and maintain health and wellness across a person's life span by understanding the patient's unique set of circumstances and addressing the full range of physical, emotional, mental, social, spiritual and environmental influences that affect health (Duke University Medical Center website). As Dr. Victoria Stanhope (2015), a social work faculty member at NYU asserts, "fundamentally, integrative health is an acknowledgement of and a reorientation of services to the importance of the mind-body connection" (p. 287).

The prevailing health-promoting theory guiding the ACA is a holistic understanding of the economic, environmental and social determinants of health and disease. As a law guiding national health care strategic initiatives, the ACA appears to embrace a more inclusive, ecologically grounded approach and understanding of what constitutes health—values that are congruent with the core tenets of social work practice. The ACA is a policy that helps to increase awareness

toward repairing the decades-old mind-body split and finally legitimizes the rigorous exploration of what were once considered “fringe” or alternative treatments.

The implications of the ACA legislation are extensive. That they speak to repairing the damaging bifurcation of physical and behavioral health by promoting integrated holistic care is good news for social workers (Stanhope, 2015). The shift away from a primary reliance on Western medicine principles opens the door for developing interventions that enhance meaningful social connections and engagement and invite the body “into the conversation.” Further, the enactment of the ACA helped to put forth a 2015 federal budget proposal that includes \$164 million to support the “President’s Now Is the Time” initiative to expand mental health treatment and prevention services. Through the oversight of the Department of Health and Human Services, funds were allocated to establish a new Medicaid demonstration project to encourage states to provide evidence-based psychosocial interventions to children in foster care. The goal of this federally funded project “is to reduce reliance on psychotropic medications, which are disproportionately prescribed to foster children, and improve outcomes for these young people” (Office of Management and Budget of the US Government, Fiscal Year 2015). Recognizing that the majority of children in foster care have experienced trauma (Cooper et al., National Center for Children in Poverty Report, 2007), this undertaking has potential to challenge the status quo.

The second nationally recognized initiative influencing the recent shift in response to childhood maltreatment is the Adverse Childhood Experiences study (Felitti et al., 1998). The widely disseminated findings and recommendations from this seminal ACE research have forced society to deal with the overwhelmingly destructive and historically neglected legacy of childhood trauma. Early traumatic experiences can be linked to a host of physical ailments and memory problems (van der Hart & van der Kolk, 1989), can leave a deep imprint on a person’s

psychobiology (van der Kolk, 2006) and inevitably interfere with developmental tasks and optimal functioning (Beeghly & Cicchetti, 1994). These considerations can no longer be ignored when developing or assessing effective models of health care. ACE research identifies traumatic stressors as leading contributors to social, emotional, medical and cognitive impairment throughout the lifespan (Anda et al., 2006; Felitti et al., 1998). The epidemiologic data from the ACE study, based on a retrospective and prospective analysis in over 17,000 individuals, establishes that exposure to early traumatic stressors sets the stage for an array of negative outcomes across multiple life domains (medical and psychiatric disease, sexual behavior issues, healthcare costs, and life expectancy). ACE research points to a dose-response relationship between the number of adverse experiences and the increased risk of physical, emotional and social problems (Anda et al., 2006). In addition, ACEs have been shown to weaken the successful acquisition of key developmental competencies, impact brain chemistry and hormonal systems, and intensify somatic complications (Felitti et al., 1998). This research directly challenges the mind/body dichotomy. Furthermore, it strongly suggests that toxic stress on a child's developing brain has long-term consequences. Exposure to multiple ACEs has also been connected to an increase in the risk of revictimization and among other issues, instability of relationships (Felitti et al., 1998; van der Kolk, 2014).

Most importantly, the ACE findings call for an integrated perspective with regard to the conceptualization of trauma intervention. The ACE literature offers compelling evidence for the idea that all experiences, good or bad, are processed in a complex and interwoven fashion, involving multiple levels of cognition, emotion and somatic information. Therefore, it stands to reason that in order to fully recover from traumatic exposure, multiple points of intervention need to be enlisted. The conclusions from the ACE study highlighting the negative impact of

interpersonal adversity and environmental stressors on the body provide persuasive evidence for the use of cross-sector partnerships that foster resiliency. Particularly, the ACE research provides social workers with a framework to seek out and implement biopsychosocial interventions that focus on comprehensive mind-body healing (Larkin, Felitti, & Anda, 2014).

The third contemporary initiative influencing social work practice as it pertains to childhood trauma treatment is the widespread adoption of the “Triple Aim.” Originating from the Institute of Health Improvement (IHI), the dissemination of the underlying principles of Triple Aim across multiple sectors has also served to support the paradigm shift toward a more integrative approach to health care. The simultaneous mandates of improving population health outcomes, ameliorating the individual experience of care and reducing per capita costs of care support the adoption of a public health framework (Berwick, Nolan, & Whittington, 2008). A biopsychosocial approach that addresses the social determinants of health and values prevention also provides an opportunity to embed core social work values into best practices. The historical foundation for the unique purpose of social work is rooted in the values of service, social justice, dignity and worth of the individual, the importance of human relationships, integrity and competence (NASW Code of Ethics). These ethical principles generally embraced by the profession align with an integrative and holistic healthcare paradigm and approach to assessment and intervention (Henderson, 2000). The fundamental social work perspective of “person-in-environment” encourages a comprehensive and in-depth contextual look at issues faced by individuals, families, groups and society (Germain & Gitterman, 1996). As such, a broad-based, population-health focus will undoubtedly prove to be more constructive than the current individualized, fragmented disease model in addressing the consequences of trauma. To achieve population-wide reductions in traumatic symptomatology and increase resilience in those affected, a collaborative and multidisciplinary approach is needed. By

linking childhood trauma to the overall health of our communities, the Triple Aim offers a roadmap for a shift in values for sustainable system redesign. In light of the mandate that clinical treatment must be equally influenced by considerations of cost and patient-centered experience of care, the increased utilization of integrative methods appears to be a logical next step. The use of holistic mind-body approaches, as a primary domain of intervention, is a strategy well supported by the underlying goals of the Triple Aim. According to the Institute of Medicine:

Left unchanged, health care will continue to underperform, cause unnecessary harm, and strain national, state, and family budgets. The actions required to reverse this trend will be notable, substantial, sometimes disruptive—and absolutely necessary. (IOM, 2012 Report Brief)

The sociopolitical and economic factors influencing the reluctance to fully explore the etiology of traumatic stress symptoms and the existing fragmented health care system have contributed to an inadequate response to child maltreatment. Acknowledging the negative consequences of early childhood abuse and addressing these through clinical solutions is no easy task. However, it is an urgent matter for social workers to identify ways of interrupting the prevalent cycle of disability and economic burden placed on society, as a whole resulting from inadequately addressing child maltreatment. In response to their study demonstrating the common occurrences of ACEs and their powerful negative connection to adult health, Felitti and Anda (2009) conclude, “Findings from this research have given us reason to reconsider the very structure of medical, public health, and social services practices in this country” (p.3). They call for a paradigm shift toward a comprehensive bio-psychosocial model of health care and an end to the widespread resistance to tackling the powerful implications of adverse life experiences.

Changing Perceptions: From a Mind-Body Dualistic Approach Toward an Integrative Model of Care

Two noteworthy factors are influencing the move toward a more holistic and integrated view of health care: (1) changing attitudes from both patients and healthcare providers; and (2) a proliferation of revolutionary findings from the field of neuroscience. First, the transformation in perceptions regarding complementary therapies by the public at large is a grassroots phenomenon propelling consumer-driven change. According to a systematic review of the use and acceptance of complementary interventions (CT), also referred to as complementary and alternative medicine (CAM), there has been a steady and significant increase in the use of these therapies by the general population (Frass et al., 2012). Americans spend over 20 billion out-of-pocket dollars on CT each year (Davis, Martin, Coulter, & Weeks, 2013). Therapies directed toward addressing functional links between mind/brain and body have been found to be particularly effective in treating the range of symptoms associated with many chronic diseases, such as depression, insomnia, anxiety, post-traumatic stress, irritable bowel syndrome (IBS), nausea, acute and chronic pain, and for managing impaired circulation, diabetes, and hypertension (Taylor, Goehler, Galper, Innes, & Bourguignon, 2010).

There is also a growing body of evidence demonstrating that individuals with mental illness are increasingly using complementary therapies (defined as acupuncture, acupressure, reiki, healing touch, massage, and yoga) to help alleviate a wide range of health-related complications (Sarris, 2013). A representative national survey identified that 50 percent of individuals diagnosed with PTSD reported use of CAMs during the previous year to address emotional or substance abuse problems (Libby, Pilver, & Desai, 2012). A number of studies have identified that individuals who suffer from symptoms associated with trauma have benefited from the integration of somatic approaches within a traditional psychological treatment model (Arvidson et al., 2011; Perry, 2014; Pessio, 1994; Ogden, et al., 2006; Rothschild, 2000; van der

Kolk et al., 2014). As noted in chapter 1, results from the pilot study conducted at the New England community mental health center suggest that for psychologically traumatized adults, a regimen of complementary therapies in conjunction with ongoing psychotherapy held promise for “enhancing mental health outcomes and improving quality of life” (Collinge, Wentworth, & Sabo, 2005, p.569). The literature is now also beginning to highlight the benefits of integrating innovative somatic interventions as an adjunctive component of trauma psychotherapy specifically for traumatized youth (Kinniburgh, Blaustein, Spinazzola, & van der Kolk, 2005; Perry, 2007; Ogden et al., 2006; Warner et al., 2014). Although these new developments are encouraging, research is virtually nonexistent on using massage specifically for children as an adjunct to psychotherapy.

It has been argued that in order to ensure a wider dissemination and broader acceptance for the use of CT in mainstream medicine, “the underlying biological substrates characterizing mind-body therapies” need to be elucidated (Taylor et al., 2010, p. 2). A first step to strengthening confidence in mind-body therapeutic interventions for the benefit of public health is the validation of solid psycho-physiological evidence (Taylor, 2010). In an attempt to accumulate this type of biological evidence, and in response to the growing interest and rising use of CT by the general public, federal funding is slowly being allocated to investigate the inherent risks and benefits of integrative mind/body clinical approaches. Spearheading this effort is the National Center for Complementary and Alternative Medicine (NCCAM), the federal government’s lead agency for scientific research on complementary and alternative medicine. NCCAM’s 2011-2015 strategic plan builds on a decade of scientific progress and calls for new studies to explore CAM interventions—including massage therapy—along a research continuum that includes basic science, translational research, efficacy studies and outcomes research. Recognizing the challenges

inherent in behavioral research studies, NCCAM is also recommending giving “increased emphasis to translational research and bringing the methods of effectiveness and outcomes research to the real world where public use is extensive” (NCCAM, 2011-2015 Strategic Plan).

Provider willingness to incorporate expertise from a wide range of disciplines is also contributing to the change of orientation and practice toward a broader conceptualization and understanding of health. Research has been conducted on clinicians’ (including social workers) attitudes and perceptions toward the integration of complementary and alternative medicine (CAM) into community-based settings that treat traumatized individuals (Frank, 2013; Partyka, 2014; Popowitz, 2014; Singer & Adams, 2012). One recent exploratory study (Singer & Adams, 2014) investigating health care managers’ perception of integrative health medicine revealed a strong belief that integrating CAM with psychotherapeutic interventions enhanced the holistic benefits of traditional mental health services. The main themes emerging from this qualitative research identified managers’ perspective that integrating complementary services improved the value of the therapeutic encounter in three ways: (1) by treating the whole person; (2) by filling therapeutic gaps in existing service delivery; and (3) by increasing health care options for patients. This particular study expands on the definition of integrative health, which typically has focused on CAM and conventional medicine, to include CAM and psychotherapy. The resultant themes clearly point to managers’ positive opinion for the use of CAM, including a belief that it broadens the therapeutic outcome in the treatment of trauma. The authors conclude:

While CAM is known to provide mind-body approaches in a range of health contexts, the inclusion in mental health services that deal specifically with trauma is uncommon. The findings in the present study suggest the collaborative practice between CAM and counselling is an effective therapeutic alliance, and this view is supported by earlier research. (Singer & Adams, 2014, p. 9)

Other relevant qualitative studies specifically examined professional attitudes around implementation of the use of massage therapy or somatic-based interventions in psychotherapy (Frank, 2013; Partyka, 2014; Popowitz, 2014). One study pointed to the therapeutic benefits of comprehensive care and saving time and money as key findings (Frank, 2013). Most notably, the social worker respondents in the Frank (2013) study strongly conveyed a belief in the importance of utilizing a multidimensional approach and of enlisting both mind and body resources to recover from trauma. Practice approaches grounded in this framework are congruent with emerging findings rooted in trauma theory and neuroscience, which will be reviewed in the next chapter in greater detail. Other noteworthy findings pertaining to trauma therapists' perceptions of CTs highlighted themes of safety, engagement and embodiment as key factors in favor of integrative care (Popowitz, 2014). Moreover, findings revealed that therapists who themselves were the recipients of somatic interventions while treating a traumatized child, expressed a belief that use of CT could be a possible deterrent from their experiencing vicarious trauma. Lastly, results from a cross-sectional research study of 311 Canadian social workers revealed that a significant number of them currently integrate complementary and alternative approaches into their practice and overall hold a positive attitude toward complementary and alternative medicine (Partyka, 2014).

Finally, the preponderance of empirical evidence demonstrating the functional links between mind and body has challenged the merits of relying solely on traditional talk therapy and encourages more integrative approaches. In response to the recent groundbreaking advances in neuroscience research, including new discoveries about the brain's neuroplasticity (Cramer et al., 2011; Porges, 2011; Payne et al., 2015) and also the evidence demonstrating the complexity of trauma responses (Cohen, Mannarino, & Iyengar, 2011; Cook et al., 2005; Courtois, 2004), experts

are now calling for the adoption of interventions that holistically bridge the gap between mind, body and spirit (Clark, Drain, & Malone, 2014; Emerson & Hopper, 2011; Fisher, 2015; Lanius et al., 2015; Levine, 2007; Ogden & Fisher, 2015; Perry, 2009; Price, 2012; Blaustein & Kinniburgh 2010; Solomon & Siegel, 2003; van der Kolk, 2014). Further propelling the paradigm shift aimed at integration of mind and body is a growing body of scientific evidence identifying neurobiological changes that occur following exposure to trauma. The neurobiology of trauma in relation to the use of somatically based interventions will be explored as it pertains to the development of physical self-mastery; the goal of such self-mastery is to help children restore a felt sense of control over their physiological experiences.

A Paradigm Shift in Psychological Trauma Treatment

According to trauma expert and research pioneer Bessel van der Kolk, “we are on the verge of becoming a trauma conscious society” (2014, p. 347). Yet, van der Kolk argues that we still lack a comprehensive framework to address the complexity of childhood trauma. In *The Body Keeps The Score*, van der Kolk (2014) recognizes the prominent importance of “befriending sensations in the body” (p.100). He argues that “the body is the bridge” (p. 237); that “physical reality is at the core of who we are” (p. 21); and that touch “is the most elementary tool we have” (p. 208) and the “most natural way we humans have to calm down our distress” (p. 215). Despite these strong endorsements from van der Kolk, described as “the eminent impresario of trauma treatment” (Doidge, 2014), touching the body is proscribed from most therapeutic practices. The use of the body to process sensory experiences as part of a child psychotherapy protocol remains relatively uncharted territory. Numerous studies have explored the beneficial use of sensory stimulation for normative growth and development, including the positive impact of touch in animal studies (Ardiel & Rankin 2010), in controlling weight gain, in alertness improvement and

in shorter hospital stays for neonates (Field et al., 2010). However, as psychologist Ofer Zur (2011) explains, “regardless of the vast scientific knowledge and data on the importance of touch for human development, communication, and its effectiveness in healing, the field of psychotherapy has generally shunned its use” (Para. 4). The lack of outcome research on this topic, including the fear of touch characterizing Western culture, undoubtedly contributes to this concerning discrepancy between neuroscience findings and actual practice.

Integrative approaches that recalibrate and regulate the nervous system, those that highlight the “bidirectional communication between body and mind” (van der Kolk, 2014, p.76), and those that aim to help (re) build critical internal resources are nonetheless gaining attention. More precisely, clinical research is underscoring the importance of incorporating “bottom-up” approaches that alter what Ogden and colleagues (2006) term the “somatic narrative” of trauma by addressing the body in the therapeutic context. In order to influence the deep-rooted, neurologically driven, negative worldview and the accompanying alienation from the body that typically plagues children exposed to interpersonal trauma, integrated techniques that enhance traditional “top-down” therapies—i.e., insight-oriented talk therapy— are emerging. In contrast to “top-down” strategies that enlist the higher regions of the brain to process traumatic experiences, “bottom-up” approaches “allow the body to have experiences that deeply and viscerally contradict the helplessness, rage or collapse that result from trauma” (van der Kolk, 2014, p.3). Research from neuroscience is beginning to underscore the value of a new, inclusive, bidirectional (top-down and bottom-up) therapeutic framework aimed at the integration of body/mind/ spirit (Taylor-Gill et al., 2010). However, in spite of the recent findings from the field of neuroscience, a gap remains in the translation of brain research into relevant clinical trauma practice for children (D’Andrea et al., 2012).

According to Bruce Perry (2009), an expert in child trauma treatment, conventional models of psychotherapy ignore general principles of neurodevelopment. By eloquently describing the intricate neurobiological repercussion of childhood exposure to adverse experiences, Perry advocates for a shift in intervention strategies. Based on the recently understood phenomenon of neuroplasticity, he urges providers to focus on providing repetitive sensory experiences that interrupt, inhibit and reprogram hard-wired maladaptive patterns of behavioral responses. Defined as “the ability of the nervous system to respond to intrinsic or extrinsic stimuli by reorganizing its structure, function and connections” (Cramer et al., 2011), neuroplasticity allows “neurons to change in a use dependent” fashion (Perry, 2006). Novel sensory stimulation to the brain disrupts maladaptive neural pathways, thus creating new circuits that facilitate adaptive behavior (Perry, 2006, 2009). Perry (2006) contends that, in essence, therapy should aim to change the brain by providing new and novel patterns of neural activation. Perry (2009) further explains that in order for traumatized children to benefit from traditional psychotherapeutic services, “the lower innervating neural networks (i.e., locus coeruleus and norepinephrine systems) must be intact and well regulated” (p. 243). Since the brain is organized hierarchically and develops in a sequential fashion, with the more primitive region of the brain stem receiving sensory input first, treatment must aim to provide what has been referred to as “brain stem regulation” (van der Kolk, 2006). To date, the predominant models of trauma treatment have intervened at a verbal, cognitively focused, “top-down” level, by addressing the higher cortical regions of the brain. In doing so, the most effective targets of intervention are bypassed, and opportunities to rewire the brain and impact relevant neural activity are missed. Perry (as cited in Boyd Webb, 2006) concludes that only activities providing “frequent, patterned repetitive, sensory input such as music, dance, drumming *and massage* can change the brain” (p. 50).

In searching for effective strategies congruent with neuroscience research, the nature, timing, and duration of therapeutic experiences are crucial elements demanding careful attention (Perry, 2009). Ogden, Goldstein and Fisher (2012) further suggest that, as therapists, if we apply the findings of the attachment and neuroplasticity literature to our psychotherapeutic interventions, we can potentially “help children re-establish lost or unavailable somatic attunement, re-engage and complete truncated or dysregulated responses and cultivate the physical and emotional satisfaction of success and competence as an antidote to early experiences of fear and humiliation” (p. 23).

Allan N. Schore, a leading researcher in the field of neuropsychology, contends that a profound conceptual reorganization is occurring in the treatment of psychological trauma. He asserts that a reliance on conscious cognition is no longer the driving paradigm in psychological research and clinical models. Rather, Schore (2014) suggests that we are rapidly entering a period where right-brain, body-based emotions are dominant. Schore’s work draws from numerous disciplines including the psychoanalytical concepts of Object Relations’ theory, to argue that early socio-emotional environment impacts lifelong biological, social and psychological development. Schore’s research (2001, 2002, 2005, 2014, 2015) focuses on right-brain functions and the dyadic regulatory effect of mother-infant attunement (or misattunement) as well as the importance of this dynamic system on the individual’s affect regulation capabilities throughout the lifecycle. According to Schore (2011), we have entered into a period that emphasizes the primacy of affect, moving away from the verbal, conscious, rational functions that occur in the left hemisphere to a focus on unconscious emotion. Based on findings from numerous studies that have demonstrated that the right hemisphere of the brain is responsible for processing novel, subjective, unconscious,

emotional information connected to survival, leading trauma experts are finally calling for a radical reevaluation of trauma practice (Schoore, 2005).

Since exposure to traumatic events profoundly impacts the somatic system (Rothschild, 2000) and involves alterations to an individual's biochemistry "from the neural level up" (Schoore, 2001), it has been argued that integrating the body as a primary entry point can help maximize the benefits of traditional psychotherapy (Timms & Connors, 1990). As Herman (1992) asserts, "because trauma affects every aspect of human functioning from the biological to the social, treatment must be comprehensive" (p. 156). Findings from the field of neurobiology illustrate that the body-mind connection is the critical intersecting point in dealing with the impact of trauma and ACEs. The regions of the brain modulating arousal states and receiving input from the body—fundamental for processing emotions—have profound implications for the psychological development of humans (Ogden et al., 2006, p.147; Schoore, 2010). The strong evidence that "the body keeps the score" (van der Kolk, 1994, 2014) and that integrative mind-body approaches are critical in promoting a sense of well-being, competency and mastery (Kinniburgh et al., 2005; Ogden et al., 2006), support further exploration of the use of somatic interventions and the use of touch as a complementary modality to heal traumatized children. The body plays a central role in the creation of worldview and meaning making. It is critical to developing a healthy core sense of self. Somatic interventions attempt to bridge this gap by processing through a bottom-up method, directly addressing the bodily experience of the effect of trauma on the primitive, automatic and involuntary functions of the brain (Ogden et al., 2006). Based on compelling scientific evidence, "a radical shift in our therapeutic assumptions" (van der Kolk, 2014, p.86), which provides ongoing support for the careful consideration of massage therapy as an effective intervention congruent with trauma research, is warranted.

CHAPTER THREE

Essential Principles and Conceptual Frameworks

Developmental traumatology and interpersonal neurobiology offer foundational support for the implementation of body-based approaches focused on healing the devastating consequences of adverse life experiences on children. The accumulating evidence of the long-lasting detrimental consequences of trauma on the developing brain and the associated alterations of the biological stress response systems (DeBellis, 2001; DeBellis et al., 2002) provides a scientific framework for exploring practices that fully engage the body (Perry, 2009; Warner et al., 2014). The theoretical constructs underlying polyvagal theory, which will be described later in this chapter, further paved the way for the integration of somatic resources into a trauma treatment protocol. Specifically, the essential concepts of neuroception (the unconscious evaluation of risk in the environment) and interoception (the ability to distinguish visceral responses influencing subjective affective experience) provide valuable insight into the nervous system and have significant implications for clinical practice. Moreover, the process of remembering and the interconnection between a child's attachment system and states of arousal are key factors requiring attention when assessing the neurobiological impact of trauma.

Developmental Traumatology and Interpersonal Neurobiology

The multidisciplinary research synthesized in the field of developmental traumatology elucidates the neurobiological consequences of chronic stress experienced as a result of child maltreatment (DeBellis, 2001; DeBellis, Spratt, & Hooper, 2011). Developmental traumatology theory is concerned with the causative relationship between the profoundly altered neural, hormonal and immunological systems and childhood trauma. Developmental traumatology also delivers a person-in-environment context for a comprehensive conceptualization of how the

developing brain is compromised in an impoverished attachment system. The complex intersection between genetics, environment, types and duration of trauma and resulting neurophysiological problems (Pynoos, Steinberg, & Piacentini, 1999; Teicher, 2002) demands the ongoing investigation of equally complex ways to effectively enhance neurobiological protective mechanisms (Heim & Neumeroff, 2001). The interdisciplinary perspective reflected in interpersonal neurobiology, pioneered by Daniel J. Siegel (1999) offers strong evidence that social relationships fundamentally shape how our brains develop, the way our minds construct reality, and how we adapt to psychological stressors throughout life. Siegel and Sroufe (2011) identify the brain's ability to integrate domains of experience into a cohesive whole as what allows us to be stable and functional. Siegel (2006) further postulates that trauma impairs integration, thereby resulting in chaos and a lack of flexibility in adapting to environmental, interpersonal and neurobiological changes. The discovery that emotions are biological functions of the nervous system (Damasio et al., 1994) and that they can get processed out of conscious awareness (LeDoux, 2000) provides additional evidence for the importance of understanding the complex relationship between thinking, feeling and action states. It is precisely failures of these interconnected and complex human systems that are at the root of the inability to regulate physiological and psychological arousal states characteristically observed in traumatized children (van der Kolk, 2014).

Trauma, the Brain and the Nervous System

Among other debilitating consequences, childhood adversity can produce physiological disruptions that undermine the development of the body's stress response systems and can result in a cascade of enduring changes to the brain (DeBellis et al., 2014; Shonkoff & Gardner, 2012). Exposure to chronic stress has been shown to alter brain size and structure, promote difficulties

with learning and memory, and diminish self-regulatory competencies and coping skills (D'Andrea et al., 2012; DeBellis & Thomas 2003; Felitti et al., 1998; Heim et al., 2008; Perry, 2009; Shonkoff & Gardner, 2012). The accumulation of evidence from neuroimaging research in traumatized individuals has revealed concerning anatomical impairments in regions of the brain known to require a responsive early caregiving environment to develop normally (Damasio, 1994). Published research findings have shown that 80 percent of chronically maltreated children develop disorganized attachment patterns (Carlson, Cicchetti, Barnett, & Braunwald, 1989), thereby compromising the optimal brain functioning (Solomon & Siegel, 2003) of millions of children.

MacLean (1985) described human brain development as “a brain, within a brain, within a brain” consisting of interconnected parts structurally organized to ensure our survival as a species (Porges, 2003). Because implicit trauma memories are sequestered in parts of the brain beyond conscious awareness (Siegel, 2006; Ogden & Fisher, 2015; van der Kolk, 2014), the capacity of the sequentially developed and hierarchically organized “triune brain” to integrate information into a cohesive whole is challenging (Ogden et al., 2006). The brain stem, the most primitive part of the brain structure (referred to as the reptilian brain), is responsible for instinctual survival drives (Ogden et al., 2010). The brain stem manages states of arousal and has been shown to regulate sensorimotor information processing, startle responses, sucking responses and reproductive drives (Ogden et al., 2006). The limbic brain, responsible for processing memories regulated by the amygdala, is considered the brain’s alarm system (DeBellis, 2001; van der Kolk, 1994). The limbic system helps to attribute emotional significance to an event. The activation of the limbic system in turn propels automatic/unconscious action tendencies, including movement of the body (van der Kolk, 1994). The synchrony between the two branches of the autonomic nervous system (ANS),

made up of the sympathetic (activating) and parasympathetic (calming) nervous systems, are also contained within the limbic system (Rothschild, 2000).

The third and last area of the brain to evolve in humans, the prefrontal cortex, governs higher-level cognitive processing; is focused on planning and anticipation; ensures abstract thinking, insight and self-awareness (LeDoux, 1996); and inhibits inappropriate impulsive behaviors (van der Kolk, 1994, 2014). One of the most clinically relevant findings from brain research has demonstrated that while under stress, these higher brain areas become less active and rendered unable to effectively process information at a cognitive level (van der Kolk, 2006). Groundbreaking recent advances in neuroscience, particularly fMRI research, have provided empirical evidence testing the hypothesis that most of human brain activity happens outside conscious awareness (LeDoux, 2000; van der Kolk, 1994; Walla & Panksepp, 2013). It has been shown that trauma processing occurs by activating the “emotional brain” at the biological and unconscious level and by utilizing the reptilian and limbic portions of the brain (Ogden et al., 2006; van der Kolk, 2014).

In a recent psycho-neuroendocrine study researching the link between childhood trauma and depression, Heim, Newport, Mletzko, and Miller (2008) found evidence that hyperactivity of the nervous system and of the hypothalamic-pituitary-adrenal (HPA) axis are consequences of early childhood trauma. When faced with perceived danger, the sympathetic nervous system signals for the release of stress hormones, permitting the mobilization of internal resources (increased heart rate and respiration, adrenaline release and suppression of nonessential systems), thus preparing the body to address the threat and physically defend itself. When in a state of high or hyper arousal, the hypothalamic-pituitary-adrenal (HPA) axis is also activated, and the corresponding flooding of stress hormones (especially cortisol) saturates the amygdala, causing the

fight-flight-freeze response (Perry, 2009; van der Kolk, 2006, 2014). This neurobiological reaction overwhelms the system's ability to place an event within a comprehensible subjective context, contributing to a phenomenon referred to as "alexithymia" (van der Kolk, 1996). Characterized by marked difficulties translating emotions into words and an inability to interpret the meaning of physical states, alexithymia is associated with the deactivation of the expressive center of the brain (van der Kolk, 2006). Lacking healthy communication skills, individuals with alexithymic traits often experience interpersonal conflicts, display a compromised ability to consciously engage in actions that are protective, and frequently turn to problematic behaviors as a way to self-soothe (Bloom & Farrager, 2010). It has been hypothesized that the state of "speechless terror" (van der Kolk, 1998), in which words fail to describe a traumatic experience, leads to fragmented memories permanently stored as unconscious, bodily sensations. The inevitable outcome is the sweeping effect of chronic trauma: loss of productive action, impaired language skills and cognitive functioning, and an accompanying loss of autobiographical memories evidenced by deep disturbances in a healthy felt sense of self (Fisher & Ogden, 2009; Moroz, 2005; Schore, 2003). The ability to flexibly respond to stimulus in the environment, a hallmark of human functioning, is a process that is deeply compromised in those who have experienced trauma (Siegel, 2006).

Polyvagal Theory

The importance of the link between a balanced autonomic nervous system (ANS) and behavior as it pertains to trauma has recently been explored in depth in the psychotherapy literature (Warner, Spinazzola, Westcott, Gunn, & Hogdgon, 2014). The Polyvagal Theory developed by Stephen Porges (2003) offers a new model to understand the manner in which trauma impacts the nervous system. The theory stresses the connection between bodily states and psychological experiences and emphasizes the neurobiological ability of human relationships to trigger and

restore visceral awareness and a physical sense of safety. The inherent constructs of the Polyvagal Theory, rooted in neuroscience research, reconceptualizes the functionality of the autonomic nervous system (ANS) by highlighting three neuro-anatomically based subsystems responsible for specific adaptive domains of behavior (Geller & Porges, 2014). These subsystems govern our involuntary responses to environmental stimulation. Polyvagal theory posits that from an evolutionary perspective, our nervous system is organized as a “phylogenetic hierarchy,” emphasizing that our physiological responses are hierarchically organized in the way we are wired to react to challenge. The hierarchy of reactions follows the sequence in which the various branches of the nervous system evolved (Porges, 2011).

Polyvagal principles also introduce the protective role of the ventral vagal complex, a component of the vagus nerve, in activating “the social engagement system.” The vagus nerve, located in the brain stem, has two separate circuits, with separate functions related to different adaptive behavioral and physiological strategies. One circuit, the ventral vagus, linked to the heart, connects the cranial nerves that control facial expression and vocalization. According to Polyvagal Theory, the ability to engage the ventral vagus has uniquely evolved in mammals and is responsible for humans requiring social connections to experience physiological safety. The other branch, the dorsal vagal, is more primitive and is reflexively activated as a defense mechanism. When a familiar face does not come to the rescue in times of danger, the primary part of the parasympathetic nervous system (PNS) is compromised; immobilization, or a dissociative response, ensues. When in this state of restrained mobilization, the breath and heart rate slow down, which impedes the ability to detect positive social cues and is detrimental to overall well-being. The Polyvagal Theory provides a scientifically grounded framework for designing trauma-

based interventions that promote spontaneous access to the social engagement system and inhibit the expression of defensive strategies that disrupt prosocial interactions.

As described above, chronic trauma in children results in a significant disruption of multiple branches of the autonomic nervous system (ANS) (Anda et al., 2006; van der Kolk, 2003). This somatic biological disruption results in a sequence of psychobiological challenges. In instances where the trauma occurs within the context of a child's interpersonal caregiving system, the ensuing impact can be even more devastating (Schoore, 2001; van der Kolk, 1994). A preexisting disruptive or disorganized early attachment experience can compromise the ability of a child to self-regulate affective, physical and emotional states. Ultimately a nontreated traumatized body will develop deficits in acquiring important internal resources necessary to navigate the world. By intervening with treatments that directly address the body, secure attachment patterns can be recreated (or in some instances created in the first place). The long-term consequences of building positive attachment patterns allow for a regulated neurological system. In a sustained state of physical calmness, the child will have the opportunity to modulate affect, control core impulses and utilize higher cognitive functions that automatically go off-line when the body perceives real or imagined physical, and psychological danger (van der Kolk, 2003). Considering the limited verbal and communication skills that many children possess and the fact that alexithymia is a common symptom of trauma (Way, Yelsma, van Meter, & Black-Pond, 2007), focusing on the body is an effective strategy. In abused and neglected children, the commonly observed inability to verbally identify the meaning of internal sensations leads to a profound disruption of the subjective experience of physical perceptions. The implication of this scientifically studied phenomenon cannot be underestimated as it relates to the importance of identifying effective interventions for children.

Interoception and Neuroception

Focus on increasing awareness of internal body sensations and making sense of visceral signals has been identified as key mechanisms to achieve health-related benefits (Price & Smith-DiJulio, 2016). Specifically, difficulties associated with interoception and neuroception are associated with neurobiological deficits reflected in higher levels of trait anxiety (Critchley, Wiens, Rothstein, Ohman, & Dolan, 2004); difficulties establishing and maintaining relationships; and difficulties “both in expressing social behavior and in reading social cues (i.e., social awareness)” (Porges, 2003). First, interoceptive awareness, defined as the mastery of internal physical states, has long been recognized as a critical skill necessary to facilitate the interruption of maladaptive symptoms resulting from trauma (Schoore, 2003). Also referred to as “body literacy” and the “conscious connection to the body involving a sense of identity that emerges from inner connection” (Price, Wells, Donovan, & Brooks, 2012), embodiment is key in helping to facilitate access to sensory experiences. Interoceptive awareness is scientifically quantified by measuring a person’s ability to perceive his or her own heart rate (Ainley & Tsakiris, 2013). Heart rate variability (HRV) is considered an excellent biologic marker to measure the integrity of the brain stem’s regulatory capacity (Emerson & Hopper, 2011, p. xviii). Since high HRV has been linked to positive emotions, resistance to stress and control over physiological arousal states, while low HRV has been associated with increased levels of anxiety, depression and a host of serious medical conditions (van der Kolk, 2006), identifying interventions that promote healthy HRV is imperative.

One hypothesis for the effectiveness of somatically based interventions is predicated on the notion that the interpretation of internal bodily experiences has been shown to mediate the impact of anxiety symptoms (Pollatos, Traut-Mattausch, Shroeder, & Schandry, 2007), a key component of traumatic stress. Investigating the interrelation between emotional processing, psychopathology

and visceral signals, Pollatos et al. (2007) conclude that “a high level of interoceptive awareness in combination with enhanced emotional arousal might ease the consolidation of somatic markers required for guiding individual behavior by signaling stimulus significance to the body” (p. 940). The somatic marker hypothesis, a neurobiological theory developed by Antonio Damasio (1994), provides a scientifically supported rationale for rejecting the longstanding theory of separation of body, mind and emotions. Defined as “a system for automated qualification of prediction which acts, whether you want it or not, to evaluate the extreme diverse scenarios of the anticipated future” (Damasio, 1994, p.174), the concept of somatic markers highlights the intricate nature of human systems. Damasio proposed that bodily sensations are predominantly responsible for constructing emotional states and ultimately for increasing the accuracy of the decision-making process. In his widely acclaimed *Descartes' Error*, Damasio (1994) offers the following explanation about to link between the body, mind, and the brain:

The body, as represented in the brain, may constitute the indispensable frame of reference for the neural processes that we experience as the mind; that our very organism rather than some absolute external reality is used as the ground reference for the constructions we make of the world around us and for the construction of the ever-present sense of subjectivity that is part and parcel of our experiences; that our most refined thoughts and best actions, our greatest joys and deepest sorrows, use the body as a yardstick. (p. xvi)

The implication of this hypothesis lends credibility to the idea that the complex interconnectivity of all human systems, including the activation of somatic states, is critical for us to effectively function in the world. Our emotions, driven by our biology, provide unconscious signals to help us take productive actions ensuring our survival.

Neuroception, a term coined by Porges (2001), refers to the autonomic nervous system's hardwired ability to interpret safety or danger. The unconscious capacity to effectively evaluate contextual cues in the environment is a survival instinct often compromised in traumatized

individuals (Porges, 2011; van der Kolk, 2014). The inability to accurately assess the environment creates a multitude of physiological regulatory problems. Faulty neuroception results in the more primitive neural systems bypassing the protective benefits of the newer and more adaptive social engagement system. The consequences are significant and include chronic difficulties regulating affective states of arousal and a cascade of associated problems with relationships. Porges (2013) clarifies that when in a perceived state of panic or high stress:

We are biologically wired to put the brake on our sympathetic-adrenal system and recruit the neural circuit that promotes social behaviors. We can do this by using our facial muscles, making eye contact, modulating our voice, and listening to others. The process of using the muscles in our face and head to modulate our social engagement will actively change our physiological state by increasing vagal influences on the heart and actively blunt the sympathetic-adrenal system. (Porges, 2013 interview with APA)

The reciprocal, bidirectional interplay between unconscious internal functions mediated by the nervous system and healthy, safe, productive human interactions has implications for trauma treatment. Schore's (2010) research further supports the idea that hard scientific evidence exists within the field of neurobiology, linking internal psychic structure (unconscious) process, emotional states, somatic experience and behavioral impulses. This is particularly relevant in exploring the use of somatic interventions in that if hands-on interactional patterns facilitate adaptive functioning of the brain, then improved affect regulation can be expected and ultimately cognitive processing can adequately develop.

Somatic Interventions for Trauma: The Window of Tolerance

Modern neuroscience research has effectively demonstrated that the more primitive regions of the brain damaged by trauma do not effectively respond to cognitive, "top-down" processing strategies (Ogden et al., 2006; Perry, 2009). Siegel (2002) contends that a fundamental barrier to resolving trauma is "impairment in the core process of neural integration" (p. 95). This impairment is believed to affect the neural communication between the two hemispheres of the brain and thus

undermines the healthy integrative capacity of the human mind. Experts on the neurobiology of childhood trauma have emphasized the fact that learning from new, healthy, reparative experiences can only occur when the body is in a state of physiological safety. According to van der Kolk (2003), hyperarousal interferes with the orbitofrontal cortex, which in turn impacts learning and problem-solving skills. As further explained by Siegel (2009), in order to access higher cortical function, effective processing must occur within the “window of tolerance,” or “optimal arousal zone” (Ogden et al., 2006). This concept, also rooted in interpersonal neurobiology, supports the notion that only when in a state of somatic safety and calmness can proper cognitive processing of traumatic material take hold. Ogden (2010) suggests that the encoding of a new, more adaptive neural circuit can best be facilitated in the context of a “bottom-up” approach to treatment. The importance of increasing somatic awareness by helping traumatized children safely experience physical sensations and effectively address excessive sensory overload appears to be a prerequisite for the resolution of traumatic symptoms.

Body, Memory, Dissociation and Traumatic Experiences

Another concept worthy of discussing as it pertains to the neurobiology of trauma in relation to the use of CMIT is the process and function of remembering. Pierre Janet (1889) was the first to offer insight into how the mind can dissociate in the face of overwhelming threat and how unresolved trauma affects the ability to integrate experiences (Emerson & Hopper 2011). According to Van der Hart (1989), Janet hypothesized that dissociated states of consciousness, developed in response to “vehement emotional experiences” (p.5), result in profound failures of the organism to integrate traumatic events. Janet put forth the notion that overwhelming memories are often compartmentalized and intrude as sensory perceptions that are the basis for maladaptive behaviors. van der Kolk and Van der Hart (1989) argue that Janet’s theoretical construct describing

the biological process with which traumatic experiences are stored in memory is “so basic that it had to be rediscovered” (p. 1538). According to Janet, intense emotional experiences are stored in two separate memory systems functioning independently from each other. The autobiographical, verbal memory can be altered over time but implicit memory, containing the sensory and emotional imprints of events, “preserves traumatic memories without much alteration, such that individuals may re-experience those emotions and sensory experiences in a manner that closely resembles the original trauma” (van der Kolk, 2004, p.2). This distinction between the two memory systems is one reason why therapeutic techniques that depend on enlisting higher-level cognitive processing techniques to reframe traumatic events fail to address fragmented implicit memories and therefore may not be sufficiently effective (D’Andrea et al., 2011; Spinazzola, Rhodes, Emerson, Earl, & Monroe, 2011; van der Kolk, 2014).

According to Fonagy (2002), since early attachment patterns and internal working models function outside of awareness, formative experiences provide prototypes for all future relationships. Therefore, if early experiences between infant and caregivers are not easily retrievable at a conscious level, the memory is stored in the unconscious, oftentimes preverbal, “procedural” memory system (Rothschild, 2000). In trying to retrieve memories of past trauma, the language necessary to narrate meaning coherently is missing and consequently relegated to a speechless, sensory, fragmented area difficult to access. This distinction in types of memories helps to explain why “body memory” is so powerful and can result in children reacting with fight, flight or freeze reactions to seemingly innocuous stimulus (van der Kolk, 2014). The brain somehow is accessing information that was stored in the implicit memory system and a reaction ensues which appears disconnected from the situation at hand. In order for treatment to be successful, it is critical to access and interact with the implicit or procedural memory system. Since traumatic memories

are stored in the unconscious “speechless” part of the brain and cannot be easily accessed by regular channels, i.e., talk therapy, it stands to reason that interventions aimed at reaching the implicit memory system will more comprehensively and effectively target trauma symptoms. By focusing on the body as an entry point with the goal of reprogramming the physiological subjective experience, new opportunities for procedural learning should be achieved. Exploring mechanisms, such as massage therapy, that reach fragmented, dissociated material (procedural memories), important for processing and healing, is worthy of further research and exploration.

Attachment and the Neurobiology of Trauma

In order to fully understand the interrelationship between trauma and neurobiology, one must also take into account what we know about how people form relational bonds with others, that is, attachment. Through the initial attachment bond, infants learn to differentiate self from others, to self-regulate and self-soothe, to make use of cognition and affect, and are able to explore their environment and develop a sense of agency (Blaustein & Kinniburgh, 2007). The ability to develop a strong sense of agency and self-efficacy are key components in working with traumatized children. In order for a child to follow a normal developmental trajectory, a felt sense of safety must be lived (Cohen & Mannarino, 2008). This can only be achieved through learning and playing in an environment contained by a caregiver able to provide balance between soothing and stimulation. In this type of environment the child’s arousal levels are kept within a tolerable range. It is the goal of therapy to recreate this type of holding environment by carefully tending to the client’s psychobiology. Understanding attachment theory as initially developed by John Bowlby (1977) and further refined by Mary Ainsworth (1979), Peter Fonagy (2001), Alan Schore (2003, 2005) and Schore & Schore (2008), provides an important framework to evaluate effective interventions for children impacted by adverse life experiences. Attachment has been defined as a

“reciprocal, caring, enduring emotional and physical affiliation between a child and a caregiver. The child receives what she needs to live and grow through this relationship, and the caregiver meets her need to provide sustenance and guidance” (James, 1994, p. 2). Bowlby contended that adverse childhood experiences are at the core of adult psychopathology. The idea that early faulty attunement (or disorganized attachment) leads to disintegrated self states is congruent with the types of trauma symptoms observed in children who have experienced chronic maltreatment at the hands of a primary caregiver.

In spite of the fact that Bowlby was a former supervisee of Melanie Klein, he departed from the traditional Object Relations’ theorists’ viewpoint that held that affectional bonds develop in order to reduce certain instinctual drives (orality, libidinal, aggressive) (Klein, 1945). Instead, he put forth the notion that real and actual relationships between children and caregivers impact the way personality and worldview develop over the lifespan. Bowlby’s assertion that early childhood experience, rather than unresolved unconscious “phantasies” projected onto the mother by the infant, was at the core of a fragmented self was rejected by many of his contemporaries and resulted in his ostracism from the psychoanalytic Object Relations’ community (Gullestad, 2001). However, in today’s multidisciplinary, empirically oriented climate, Bowlby’s work is now regarded as significant and as the foundation for conceptualizing the etiology of pathological interpersonal functioning as rooted in failed early attachment experiences. Most importantly, Bowlby further believed that disrupted attachment results in a negative impact and stress on the body.

Winnicott’s (1953, 1960) theory of self, solidly grounded in the middle school of the Object Relations’ camp, also informs the idea that somatic interventions, including massage therapy, can in fact contribute to a healthy sense of self. Winnicott’s concept of the “good enough

mother,” who provides the child with a strong basis for his/her evolving self, occurs when the maternal figure is “able to resonate with the baby’s wants and needs, the latter becomes attuned to his own bodily functions and impulses” (Greenberg & Mitchell, 1983, p.193). Winnicott theorized that infants need contact with mothers in order to develop what he referred to as the “True Self” as opposed to a fragmented, defensive “False Self,” which develops as a result of abnormal, traumatic environmental conditions. According to Winnicott, the “False Self” allows an individual to display “a dissociation between intellectual activity and psychosomatic existence” (1960, p. 143). He also identifies the point at which the environment— i.e., caregivers— fails the child as the point where an individual regresses later in life. These concepts are congruent with the idea that a nurturing, dyadic, “somatically grounding” interpersonal relationship is a protective factor against developing an incoherent or fragmented sense of self (Ogden et al., 2006). Winnicott’s theory appears to support the notion that replicating the ideal holding experience (both at a somatic and psychological level) in a therapeutic context will encourage the development of an integrated, coherent and well-functioning self.

According to Schore’s (1997) explanation of attachment, visceral body experiences serve to inform how humans process emotions. Schore is interested in how internal biology drives psychological functions and more importantly how human interactions impact biology. He postulates that the right hemisphere of the brain is responsible for an “affective-configurationally representational system that encodes self and object images” (p.824). Schore identifies the orbitofrontal cortex system (referred to as the “thinking part of the emotional brain”) as playing a major role in affect regulation. Most notably, Schore (2001, 2005) identifies object representations and early interpersonal events as influencing the structural organization and development of the brain. He cites interdisciplinary research to validate the contention that internalized representations

of the dyadic regulation of emotions, within an attachment context, serve as biological regulators enabling adaptive human mind/brain/body development. According to van der Kolk (2002), regardless of the quality of early caregiving experiences, one's bodily awareness remains the very foundation of one's consciousness. As explained previously, the ability to make meaning of internal bodily states is a critical component in the ability to self-regulate and manage exposure to overwhelming life circumstances.

Bowlby's theory of attachment is important because at its core, trauma disrupts normal attachment patterns in human beings. Bowlby's premise, which was significantly influenced by the concepts of ethology, is that a biologically based bond between a child and a caregiver serves as the primary context within which children learn how to organize their entire experience in the world. Through the earliest of interactions between an infant and a caregiver, the child will develop a series of internal representational working models (self, other and self-in-relation-to-other), which will inform his or her view of the world, including the capacity to cope with traumatic exposure. When the attachment system is compromised (either because the caregiver is hostile or erratic or because of exposure to an external traumatic event), the implications for normative development can be significant. Bowlby also proposed that an attachment relationship creates "an inner map of the world" (van der Kolk, 2003). Through this map a child builds developmental competencies that are informed by internal representational models, which ultimately form schemas for processing future interpersonal relationships. In a securely attached child, his or her internal representational model may be organized around the belief that "I am worthy or competent." This type of healthy model is only possible if the child was provided with a secure base and encouraged to explore his/her environment accordingly. Again, Bowlby (1977) borrowed this concept from the field of ethology, about which he reported that animals explore to "build up a

coherent picture of environmental features which may at any time become important for survival” (p. 204).

Best Practices and Phase-Oriented Trauma Treatment

Therapies identified as being effective in treating traumatized children take into account neurobiology, attachment and somatic experiences of trauma. In particular such therapies share a focus on building attachments, enhancing self-regulatory capacities and increasing competence in multiple life domains, including mastery of the body (Blaustein & Kinniburgh, 2010; Cohen & Deblinger, 2004; Ogden et al., 2006). Children who have been exposed to traumatic events (physical abuse, sexual abuse, neglect, domestic violence, parental mental illness, substance abuse, community violence, multiple placements, and attachment disruptions) will often display functional impairments. The primary domains of impairment in children exposed to complex trauma include attachment, biology, affect regulation, dissociation, behavioral control, cognition, and self-concept (Cook et al., 2005). Each of these domains has associated symptoms that cause physiological and psychological developmental deficits (DeBellis et al., 1999; Perry, 2009; Pynoos et al., 1999). In mental health clinics, these children present with hypervigilant, aggressive and self-injurious behaviors, lack of impulse control, difficulty concentrating, poor affect management and the inability to negotiate interpersonal relationships. They have typically been diagnosed using a myriad of DSM categories, such as PTSD, ADHD, Depressive Disorder, Conduct Disorder, Oppositional Defiant Disorder, Anxiety Disorder and Bipolar Disorder. These labels often serve to shift the focus of interventions to behavioral or psychopharmacological management and ignore the importance of integrating internal sensory material on the resulting developmental impairment.

A variety of insight-oriented, language-based, cognitive behavioral interventions that do not specifically address the somatic and multifaceted psychophysical impact of chronic trauma

continue to dominate. Top-down psychotherapeutic interventions aimed at managing behaviors through cognitive restructuring fail to integrate the body as a resource for healing. Implicit trauma memories need to be attended to but the non-verbal processing necessary to fully integrate and resolve trauma (Siegel, 2006) requires a wider range of interventions. The higher-level, or top-down, processing therapies are not enough to assist children with the autonomic nervous system responses of the bottom levels of the brain that need recognition and reprogramming for trauma recovery to occur (Ogden et al., 2006). The ability to process “via nonverbal, affect-mediating, right-brain-to-right-brain communication” (Wylie & Turner, 2011, p.9.), while simultaneously activating the social engagement system (Porges, 2003), appears to be a prerequisite for the development of a coherent, healthy sense of self.

The notion that effective trauma treatment involves a phase-oriented, sequential approach (Courtois & Ford, 2012; Ford, Courtois, Steele, van der Hart, & Nijenhuis 2005; Herman, 1992) is generally accepted as best practice. Although nonlinear in nature, the phases of trauma treatment involve (1) the establishment of safety and stabilization; (2) remembrance, reconstructing the traumatic memory, including mourning and the establishment of an intact sense of self; and (3) reconnection to meaningful activities and supports in one’s life which enhance daily living (Ford et al., 2005; Herman, 1992). Ford et al. (2005) posit that each of the phases of a “tripartite model of psychotherapy” involves paying attention to nonverbal communication, including bodily safety, “co-regulation,” and bodily awareness (p. 439). In all phases of effective treatment, core self-regulatory skills and the “sensorimotor legacy of trauma” (Ogden et al., 2010) must be attended to. Enhancing safety and self-regulatory skills, increasing affect management and self-efficacy, and developing resources to experience a felt sense of physical and psychological safety are all critical elements necessary for healing (Kinniburgh et al., 2005). Further, since phase 1 of trauma

treatment is generally the longest and is revisited often throughout the therapeutic process, the skills learned in this phase can be generalized as treatment progresses. Another noteworthy component oftentimes integrated as part of phase one of trauma treatment is a guided progressive relaxation exercise. Many modalities (i.e., EMDR, TF-CBT, DBT) incorporate relaxation in order to address the fight/flight response that personifies traumatized individuals. By teaching clients how to mindfully practice and how to alternately isolate, tense and relax muscle groups, a state of reduced tension can be achieved. The widespread application of this technique is rooted, in part, on research demonstrating that relaxation can “significantly lower blood pressure and heart rate in medically ill adults through what has been described as the ‘relaxation response’” (Benson & Klipper, 2000). Delgado et al.’s (2010) randomized trial comparing a progressive relaxation program to mindfulness-based training demonstrated that both interventions were equally successful in producing clinical improvement.

In addition, according to Cohen, Perel, DeBellis, Friedman, and Putnam (2002), although no studies have demonstrated the effect of specifically using bodily focused strategies in traumatized children, “most published trauma-focused CBT manuals for children include the use of relaxation techniques” (p. 97). Cohen et al. (2002) report that relaxation techniques have been anecdotally noted to help children fall asleep at night and may be important in decreasing other hyperarousal symptoms. Further, Cohen and colleagues (2002) urge clinicians to “become proficient in using these techniques and consider their use with traumatized children, particularly those with prominent hyperarousal symptoms” (p. 97). By helping to restore a sense of body awareness and safety and by decreasing hypervigilance, the stage for cognitive processing (phase two) can be set.

Conclusions from Neurobiology: The Mind-Body Connection Is Key

Findings from neuroscience and attachment-based research have demonstrated an integrated relationship between brain structure, emotional states and behavior (Schoore, 2001) and attachment patterns. Further, such research suggests that developmental trauma is predominantly a psychophysical experience (van der Kolk, 1994); hence, the unconscious connections that occur at the somatic level must be considered (Ogden et al., 2006). If processing memories, attachment patterns and making meaning out of experiences and relationships are connected to the brain and connected to physical well-being, effective interventions should include a direct focus on the body. In an attempt to build upon best practice therapeutic interventions that aim to increase a child's ability to develop internal and external resources, identifying techniques that specifically address regulating the body is justified.

The next chapter will review in greater detail the theoretical rationale for exploring the use of touch and specifically the value of therapeutic massage. The use of massage is broadly accepted as creating a therapeutic experience that facilitates a felt sense of safety—a fundamental component required for healing to occur. CMIT will be defined as an intervention that targets vagal tone and consequently improves “the neural regulation of the social engagement system” (van der Kolk, 2014). Massage therapy may improve attachment pathways, thereby holding promise as an effective integrative component of a psychological trauma protocol.

CHAPTER FOUR

Massage Therapy

This section provides an overview of the research literature focusing on the empirically documented physical, physiological and psychological effects of massage therapy (MT) and in particular, those effects that have implications for the field of child trauma treatment. Review of the findings will illustrate that massage therapy positively influences some of the key regions of the brain and nervous system that are negatively compromised as a result of exposure to adverse life experiences. Polyvagal theory will be discussed as a scientifically grounded framework supporting the integration of MT as a trauma-based intervention aimed at regulating physiological arousals.

This chapter will also offer a brief description of the history of MT research. The salient findings will be examined with respect to assessing the relevance of using massage as an effective body-oriented therapy. Lastly, relevant single-subject research investigating the effects of MT on various clinical conditions and populations will be presented. Significant meta-analyses summarizing findings are summarized.

Massage Therapy: An Overview

Massage Therapy (MT) is a widely used, body-based modality considered part of complementary and alternative medicine, which is rapidly joining the list of effective integrative complementary therapies (National Center for Complementary and Integrated Health, NCCIH). Massage therapy is an intervention that directly targets the body with empirically demonstrated stabilizing physiological benefits (Moyer et al., 2010). It is estimated that in the U.S., massage represents an 11.7 billion dollar industry (NCCIH, Strategic Plan, 2012). Between July 2013 and

July 2014, roughly 32 million Americans had a massage at least once (American Massage Therapy Association, 2015). According to the National Center for Complementary and Alternative Medicine (NCCAM), a branch of the National Institutes of Health (NIH), there is substantial evidence that complementary and alternative medicine (CAM) helps treat a multiplicity of health problems with demonstrated positive effects over a range of clinical conditions (National Center for Complementary and Integrated Health, 2015). In 2012, the National Health Interview Survey (NHIS) identified massage therapy as one of the most commonly utilized complementary approaches among children with chronic health conditions. The latest annual consumer survey commissioned by the American Massage Therapy Association (AMTA) identifies stress management and medical concerns as the primary motivators why individuals seek massage therapy.

Massage therapy is a process by which professionals press key points on the surface of the skin and manipulate muscles to stimulate the body's natural self-curative abilities. Moraska et al. (2008) describe massage as "the manipulation of soft tissues for the purpose of producing physiological effects on the vascular, muscular or nervous systems of the body" (p. 410). MT has a long recorded history, dating back thousands of years, which references its natural healing powers and medicinal value (Rich, 2010). Beyond providing a pleasant and relaxing sensory experience, evidence of its use for pain relief and as part of a healthy living regimen was documented in many ancient civilizations, including China, Mesopotamia, Egypt, and Greece (Braun & Simonson, 2008). Hippocrates, the father of Western medicine, described the practice of "rubbing" as a healing technique and an art worthy of incorporating in a well-rounded physician practice (Dryden & Moyer, 2015, p.4). In spite of this rich history, only recently has research on massage therapy

been supported by robust evidence as an accepted application in the Western world of evidence-based medicine.

The last twenty years, however, have seen an explosion of empirical studies investigating the multifaceted value of MT. Leaders and educators in the field of massage are now strongly advocating for scientifically sound evaluation methods to investigate the safety, efficacy and underlying mechanisms of MT (Moyer, 2009). The International Journal of Therapeutic Massage and Bodywork (IJTMB), launched in 2011, is an open-access, peer-reviewed journal, which has significantly contributed to the advances in scientific inquiry and the dissemination of high-quality published research findings in the field of MT. IJTMB, an arm of the Massage Therapy Foundation (MTF), provides guideposts (i.e., frameworks, standards of care, uniform clinical protocols) for effectively designing, reporting and publishing MT research findings. The Center for Dissemination and Implementation of Science (CDIS) recommends including “contextual, practical and robust” evidence in behavioral health research (Glasgow, 2008). In line with this, findings from “real world” effectiveness clinical trials with “ecological validity” (Moyer, 2009) are beginning to appear in the IJTMB, as well as elsewhere in the MT literature (Porcino & Verhoef, 2010).

Scientific evidence pointing to the benefits of MT has rapidly been accumulating across several fields, including psychology, medicine, nursing, and occupational therapy, with a view to investigating MT’s therapeutic value (Moyer, Rounds, & Hannum, 2004). The Association of Massage Therapists (AMT) recently compiled a 183-page report citing and summarizing all published MT research and classifying studies according to the National Health and Medical Research Council’s (NHMRC) evidence hierarchy. This comprehensive document provides an excellent summary pertaining to the scientifically established effects of MT and also summarizes

the clinical efficacy of MT as a promising practice for a range of symptoms. Although the quality of MT research continues to be criticized by some for not generating replicable findings and for not adhering to consistent protocols, MT is still recognized as cost-effective and safe, with limited to no side effects, for a wide spectrum of health-related conditions (Salvo, 2015).

Research Findings: General Benefits and Effects of Massage Therapy

Although massage encompasses many different types of techniques and approaches, Swedish massage is the most commonly studied and reviewed in the research literature. One well-established and broadly agreed-upon effect of MT is the connection between the stimulation of pressure receptors under the skin and the relaxation response in the body (Field, 2007). Researchers, MT professionals and lay people alike appear to agree that the most widely experienced benefit of MT is the feeling of stress relief, relaxation and felt sense of well-being (Rich, 2010). Several studies have demonstrated moderate to strong effects in the reduction of anxiety and depression in both adults and children following massage (Field & Diego, 2009). A study conducted by Smith, Stallings, Mariner, and Burrall (1999) found that in a hospital setting, patient massage increased relaxation and positive mood. The two most widely agreed-upon established effects of MT are the reduction in state and trait anxiety and depression, consistently observed across multiple studies. In addition, numerous peer-reviewed journals have published findings describing the impact of MT on alleviating a host of physical symptoms. For example, MT has been shown to lower blood pressure, increase vagal activity, reduce cortisol levels in children and increase blood flow to the amygdala and hypothalamus (Field, 2013).

Research data are now beginning to document the neurochemical and physiological single-dose effects of MT (Moyer et al., 2004), as well as the longer-term, cumulative and sustained biological effects (Rapaport, Schettler, & Bresee, 2012). The research literature

supports the notion that massage therapy can be beneficial in reducing some physiological measures of stress (Moraska, Pollini, Boulanger, Brooks, & Teitlebaum, 2010). It has been shown to alleviate symptoms associated with chronic pain (Paulo, 2012; Plews-Ogan, Owens, Goodman, Wolf, & Schorling, 2005); improve mood and positive affect in diverse populations (Moyer, 2008; Thomason & Moyer, 2012); improve psychological functioning in children with medical conditions (Zebracki, Holzman, Bitter, Freehan, & Miller, 2007); modulate overall autonomic function in critically ill children (Guan et al., 2014); positively impact body awareness (Price, 2005); and influence hormones associated with trust and social connectedness (Morhenn, Beavin, & Zak, 2012). Massage therapy has also been demonstrated to increase serotonin levels (Ironson et al., 2006), which is speculated to help modulate elevated dopamine levels in children with ADHD. Specifically and germane to the topic at hand, the research literature supports the notion that massage therapy has been shown to decrease stress hormones (Field, Hernandez-Heif, Diego, Schanberg, & Kuhn, 2005). As will be discussed later, these findings and other emerging studies exploring the range of relevant effects connected to MT have significant implications for the field of child trauma treatment.

Contextual and Secondary Effects

Emerging research has begun to demonstrate the importance of contextual, nonspecific and secondary effects of MT. For example, the nature of the perceived relationship between the MT provider and the client and other subjective components of the therapeutic encounter (i.e., the client's expectations or the provider's level of empathy), although difficult to describe, may very well contribute to positive outcomes. Gaining better insight into these contextual or nonspecific, oftentimes difficult-to-quantify influences—which interestingly have great similarities to those

documented in the psychotherapy literature—has also been identified as a strategic priority for MT research (NCCAM 2011-2015 Strategic Report, Objective 1).

The secondary effects of MT provide a potential framework to justify its use for a wide range of populations and conditions. It has been stipulated that chronic stress and negative mood can exacerbate physical and psychological ailments and also accelerate the disease process (McEwen, 2000). Moyer (2008) put forth the theory that MT's positive influence on affect or "the observable components of an individual's feelings, moods and emotions" (p.3) is worthy of developing a new subfield called Affective Massage Therapy (AMT). Moyer (2008) postulates that studying AMT as a discipline would allow a deeper understanding of the connection between the health-related benefits of MT and affect. Since reductions in depression and anxiety are the strongest and most consistently demonstrated effects of MT, Moyer argues that it is precisely these well-supported effects that produce important "second order effects" (Moyer, 2008) on a wide range of medical illnesses.

Touch Research Institute Studies

A number of studies, including several funded by National Institutes of Health (NIH) and executed by the Touch Research Institute (TRI) at the University of Miami Medical School, have shown positive effects on post-traumatic stress disorder, immune function, sleep, autism, pain and neuromuscular conditions, cognitive factors, ADHD and growth and developmental issues (Field et al., 1992,1997,1998, 2004, 2006). The Touch Research Institute (TRI), established in 1992 by Dr. Tiffany Field, a developmental psychologist and a pioneer in MT research, has explored the effects of MT at all stages of life, from newborns to senior citizens. Although criticized by some for being biased, failing to mention contradictory results in the literature and omitting control group data (Moyer, 2011), the Touch Research Institute has conducted over 100 scientific studies.

Findings from these studies suggest that moderate-pressure massage therapy facilitates weight gain in preterm infants, enhances attentiveness, reduces pain associated with fibromyalgia and other chronic conditions and impacts brain regions involved in regulating arousal and emotions (Field, 2014).

Underlying Mechanisms of Massage Therapy

The empirical evidence for the specific underlying mechanisms responsible for the widespread positive benefits of massage therapy is a debated topic in academic circles. Although most experts in the field agree that MT is in fact clinically effective, there is no clear consensus as to the underlying mechanisms of *how* MT produces results. Moyer (2011) has pointed to the lack of consistent scientific rigor, including bias and faulty RCT designs informing MT research, as the culprit for the ongoing gap in knowledge. However, despite this lack of agreement, a review of the research literature elucidates dominant themes.

Some experts and researchers hypothesize that MT promotes parasympathetic activity (Diego & Field, 2009; Moraska et al., 2008; Field, 2013). Others have pointed to the reduction in stress hormones (Field, 2005, 2007, 2013; Price, 2012) and the regulation of vagal activity (Diego et al., 2007). Most recently, modulation of brain activity has been studied as a potential contributor of MT benefits (Sliz, 2009). Other conclusions garnered from meta-analyses have implicated the role of the hypothalamic-pituitary-adrenal (HPA) axis (Hou et al., 2010; Rapaport, 2010; Morhenn et al., 2010, 2012), as well as vagal activity, heart rate variability (HRV) and blood pressure (Taylor-Gill et al., 2010; Field, 2014). The positive effects of MT have also been associated with enhanced immune system functioning (Ironson et al., 1996) and a restoration of vascular function (improved blood flow) (Franklin, Ali, Robinson, Norkeviciute, & Phillips, 2014).

More specifically, based on findings from multiple trials, Diego and Field (2009) conclude that stimulation of the parasympathetic nervous system (PNS) is a key contributor to the benefits of MT. They suggest that massage elicits a PNS response and explain “as much as PNS function can profoundly affect neuroendocrine function, psychological outcomes, immune function and growth and development; the increase in PNS activity elicited by massage therapy may explain the diverse benefits documented for massage therapy” (p.637).

Massage Therapy and Cortisol Levels

Another often-cited theory is the impact of massage therapy on cortisol, commonly referred to as the stress hormone. Cortisol levels have been shown to increase when humans are under stress. Prolonged exposure to high cortisol levels can have a devastating impact on brain structure and development and result in functional and regulatory impairments, ultimately promoting the development of PTSD (Cranston, 2014). Studies support the notion that massage therapy has been shown to decrease stress hormones levels such as norepinephrine and cortisol and reduce levels of hostility in aggressive adolescents by helping to stabilize their physiological system (Diego, 2002). However, a systematic review of six scientifically conducted studies using conventional meta-analytic methods concludes that there is no statistical evidence for “overconfidently asserting without supporting evidence” that MT reduces cortisol levels (Moyer, Seefeldt, Mann, & Jackley, 2011). Although the findings that MT reduces cortisol levels in adult populations are not uniformly accepted as having strong scientific substantiation, the evidence for changes in cortisol levels in children is more broadly accepted (Moyer et al., 2011). It is generally accepted that stress reduction techniques that trigger a relaxation response positively influence hormone levels, although further studies are needed to better understand the underlying mechanism of cortisol on treatment effect size (Field, 2014).

Massage Therapy and the Nervous System

Of special interest is whether or not interoceptive awareness and neuroception are influenced by massage therapy. The constructs informing the polyvagal theory, the roles of the ventral vagus complex and the corresponding social engagement system have been identified as having significance in developing effective trauma treatments. Vagal activity has also been noted to increase following the stimulation of pressure receptors by the use of massage therapy (Field & Diego, 2008), and MT has been shown to improve vagal tone “possibly through the activation of vagal afferent fibers” (Field, 2013). Vagal tone, which influences heart rate variability, has also been linked to improved emotional regulation (Diamond, Fagundes, & Butterworth, 2012) and infant growth (Field & Diego, 2008). Specifically, individuals with greater vagal tone have presented with more adaptive patterns of socio-emotional functioning (Beauchaine, 2001).

Massage Therapy and Brain Activity

The benefits of MT have been connected to specific brain regions known to play a role in our ability to process relevant emotional information and to modulate somasensory arousal (Sliz, Smith, Wiebking, Northoff & Hayley, 2012). Moreover, MT has been linked to brain activity implicated in the augmentation of conscious functions supporting positive affect (Ouchi et al., 2006). A recent study investigating the neurophysiological effects of massage therapy in healthy adults, using functional magnetic resonance imaging (fMRI), found that massage activates the anterior cingulate cortex and the posterior cingulate cortex, key regions of the default mode network (Sliz et al., 2012). The default mode network (DMN) is the brain system comprised of interconnected regions coactivated during passive resting states while in the absence of cognitive demands (Buckner, Andrews-Hanna, & Schacter, 2008; Daniels, Frewen, McKinnon, & Lanius, 2011). Intrinsic processes (i.e., self-reflection, self-awareness) and autobiographical memory rely

on connectivity in the DMN (Mars et al., 2012). A number of neuroimaging studies have identified the engagement of organized neural patterns (predominantly located in the prefrontal cortex) when attention is internally focused (Buckner et al., 2008; Spreng & Grady, 2010). According to leading experts in the field of brain research, a fundamental function of the DMN is to facilitate mental self-assessment in order to anticipate and evaluate events before they happen (Daniels et al., 2011). It has been postulated that the DMN promotes the integration of emotional experiences, thus allowing for the performance of more challenging cognitive tasks (Sliz & Hayley, 2012). Emerging literature is exploring the link between alterations in default mode connectivity and individuals diagnosed with autism, schizophrenia and Alzheimer's disease (Buckner et al, 2008). Of special interest, it has been hypothesized that adults with PTSD that is secondary to prolonged childhood abuse display disruption (overactivity) of the DMN (Daniels, Bluhm, & Lanius, 2013).

Massage therapy has been shown to activate the insula, another region of the default mode network contributing to the transmission of bodily sensations into conscious awareness (Emerson, 2011, p. xxiii). Combined with the insula, it is posited that the cingulate cortices mediate the autonomous nervous system (ANS), which is connected to our ability to process emotions and our perception of physiological changes ("interoception"). Investigations of patterns of brain region activation during massage confirmed connectivity in these neural networks (Field, 2013), thus providing preliminary empirical evidence supporting the premise that massage is likely to directly affect somatosensory regions. Based on these findings, authors investigating the neural correlates of MT conclude that MT "may be a useful adjunct treatment to more traditional pharmacological and cognitive treatments" (Sliz et al., 2012, p. 85).

One proposed hypothesis offered for the underlying effectiveness of massage is that it triggers a reduction of the hypothalamic pituitary adrenal axis (HPA), which results in decreasing

stress hormones, blood pressure, and heart rate due to increasing parasympathetic activity (Morhenn et al., 2012). In a recent meta-analysis investigating the treatment effect of massage therapy on depression, Hou et al. (2010) conclude that strong evidence exists for its benefits. Other studies examining the MT/HPA connection conclude that both a single session of Swedish massage and repeated massage produces measurable biological effects and may have an effect on the immune system (Rapaport et al., 2010, 2012). In one study, preliminary data led the researchers to conclude that a single session of Swedish massage impacts oxytocin (OT) levels, which is hypothesized to lead to a decrease in hypothalamic–pituitary–adrenal (HPA) activity. This decrease results in lower levels of stress hormone production, thereby improving immune function (Rapaport, 2010). In a follow-up study using healthy volunteers, evidence was documented for the “sustained cumulative biologic effects of repeated massage and light touch” on the neuroendocrine and immune systems (Rapaport, 2012, p.797).

Another relevant identified element of MT is the relationship between moderate touch and ANS responses (Field, 2013). Field (2014) asserts that improvements in neurobiological outcomes resulting from MT are connected to the use of moderate pressure versus light touch. Although some researchers caution that this claim is still unsupported by robust empirical evidence, the findings generated by multiple studies (Diego, Field, Saunders, & Hernandez-Reif, 2004; Field, Diego, & Hernandez-Reif, 2010) are important to consider when comparing other soothing types of interventions that don't involve the moderate stimulation of pressure receptors in the skin.

Massage Therapy and Body Awareness

As mentioned earlier, the role of interoceptive awareness has been implicated in trauma recovery treatment. Defined as a “conscious connection to the body involving a sense of identity that emerges from inner connection” (Price, 2012, p.3), embodiment is key in facilitating access

to sensory experiences. In a series of studies exploring a protocol with a strong MT component, labeled Mindful Awareness in Body-Oriented Therapy (MABT), Price (2005, 2012) identified two main themes: increased awareness of mind/body connection and tools for emotional awareness and stress reduction. The results of the MABT studies showing reductions of anxiety, depression and dissociation provide preliminary support for the efficacy and effectiveness of promoting massage therapy in recovery from childhood sexual abuse. Massage is one of the primary MABT elements and according to Price (2005), MT “is thought to be clinically useful for increasing awareness of tension, cueing individuals to physical symptoms of stress and habitual patterns of responding to stress that may be important for relapse prevention” (2005, p. 455). According to Price et al. (2012), “Mind-body therapies, in general, address the relationship between somato-emotional awareness, coping, and emotional regulation and teach integrative strategies that may help individuals react more effectively to stress and negative emotions” (p. 2). Although only a small number of studies have investigated MT as an integrative component of treatment for sexual trauma, the Price studies suggest a high level of satisfaction with MT (Dryden & Moyer, 2012), thus offering a promising and safe treatment option.

Massage Therapy for Children with Behavioral Health Issues

A 1992 study performed by Dr. Tiffany Field of the Touch Therapy Institute in Florida explored the impact of using five days of massage therapy on a psychiatric unit with children diagnosed with depression and conduct disorders. The results revealed lower saliva cortisol levels after massage therapy. This finding is significant in that, as previously mentioned, cortisol levels have been linked to the ability of individuals suffering from PTSD to self-regulate (Yehuda et al., 1990). Further, data suggest that children engaged in pediatric massage therapy have increased attention span at school (Hart et al., 1998; Khilnani, Field, Hernandez-Reif, Shanberg, 2003), and

other findings have shown significant reduction in symptoms associated with depression (Jones & Field, 1999). Additionally, pediatric massage sessions lasting 30 minutes or more have been found to result in calming effects and to impact overall positive functioning in children, lasting up to two days (Field, 2004).

In their study assessing the effect of massage therapy on children exhibiting classroom behavioral problems following Hurricane Andrew, Field and colleagues (Seligman, Scafidi and Schanberg, 1996) assessed the persistence of PTSD symptoms. After receiving 30 minutes of back massage twice a week for 8 days over a 1-month period after the hurricane, the massage therapy group showed more sustained changes (being happier, less anxious and having lower salivary cortisol levels) as compared to the video attention control group. Massage therapy has also demonstrated increase in serotonin levels (Ironson et al., 1996), which is speculated to help modulate elevated dopamine levels in children with ADHD.

Another study (Field et al., 1997) showed massage therapy to decrease fidgeting, improve on-task behavior and enhance subjective feelings of happiness in adolescents diagnosed with ADHD. Using the same massage therapy protocol as the Field et al. (1997) study, Escalona and colleagues (2001) investigated the effect of massage on autistic children displaying a range of stereotypical behaviors, including hyperactivity and sleep problems. By teaching the parents to administer nightly 15-minute massages to their child for a 1-month period of time before bed, the Escalona et al. study hypothesized that more frequent massage by a familiar person was expected to yield greater improvement. The results of increased attentiveness in school (measured by the Teacher Conner's Rating Scale) and enhanced sleep patterns (measured by parents using a sleep diary), replicated the findings noted in the Field et al., (1997) study. The authors offer no definitive conclusion as to the specific underlying mechanism responsible for their positive findings, but

citing Porges' research (1997), they speculate that massage's effect on vagal activity, highly correlated with enhanced attentiveness, may have played a role (Escalona, Field, Singer-Strunck, Cullen & Hartshorn, 2001).

In a large-scale review of the effectiveness of complementary and self-help treatment modalities for children and adolescents suffering from anxiety disorders, Parslow et al. (2008), concluded that evidence exists for the use of both massage and relaxation training. The authors identified eleven child-focused treatments that were examined via interventions studies, which led them to conclude that in spite of the lack of adequate randomized control trials, "several treatments may have potential to reduce anxiety including bibliotherapy, massage, melatonin and relaxation training" (p. 355). Of these four, only massage and relaxation training demonstrated adequate empirical evidence of effectiveness.

A National Institutes of Health (NIH) study led by Kemper and Kelly (2004) indicates that youth in general are open to engaging in complementary therapies if there is support and encouragement from the caregivers. Moreover, this NIH study further suggests that children with special needs may benefit from integration of healing touch techniques into other coping strategies to deal with stress-related issues. A small, randomized study conducted in Canada revealed that many of the caregivers in the massage therapy group expressed "a sense of satisfaction in being able to be an active, helpful participant in the treatment of their children. They felt that doing the massage therapy at home gave them a positive physical contact with their children. It was an opportunity to connect with their children in a non-authoritarian, care giving manner" (Maddigan et al., 2003, p. 41). Using an RCT design, clinical outcomes for children who presented for mental health treatment were evaluated. The authors researched the feasibility of using MT for children with impaired functioning across multiple life domains as part of a continuum of care. Although

the sample size was small and only children with a diagnosis of ADHD were included as subjects, the authors concluded: “There was a trend of improved symptomology evident within the massage therapy group” (Maddigan et al., 2003, p. 41). Specifically, the authors identified the massage therapy group as reporting “better anger control, improvement in mood, more restful sleep and improvement in social functioning in 2 of the 3 participants and improvement in focusing at school” (p. 41).

Finally, a systematic review comparing the effectiveness of various sensory integration interventions for children with behavioral problems provides additional empirical support for the use of MT (Yanus, Bissett, Liu, & Penkala, 2015). The authors reviewed studies specifically targeting behavioral problems as the outcome. They included for review those studies using vestibular, tactile, or proprioceptive sensory interventions that met the Center for Evidence-Based Medicine’s level-three designations for the hierarchies of study designs. Ultimately the results of 14 studies encompassing 298 children were analyzed. Behavioral problems were defined as follows: “attention deficits, temper tantrums, aggression or self-injurious behaviors, repetitive stereotypes behaviors, emotional problems of anxiety, restlessness, depression, mood changes, sleep problems or disturbances” (p. 3566). This description of behaviors plaguing children on the autism spectrum is virtually identical to those experienced by traumatized children. Regardless of the diagnosis or etiology, both groups manifest similar challenges. It stands to reason that if an intervention is successful in reducing symptomatology in one group, it might have similar outcomes in a similar group. The literature review conducted by Wan Yanus et al. (2015) identified tactile stimulation as most consistently demonstrating positive results. Specifically, their extensive review of the published literature revealed that massage therapy provided the strongest clinical evidence for improving symptoms such as inattention, low class participation and poor

social engagement. The authors postulate that the polyvagal theory provides a potential explanation as to why MT successfully reduced behavior problems.

Massage Therapy Meta-Analyses

Three larger-scale meta-analyses have been conducted to evaluate the established effects of massage therapy as well as highlight those effects that are inconclusive and require further investigation. The following is a summary of the salient findings published in peer-reviewed scientific journals.

Moyer et al. (2004) conducted a meta-analysis of 37 studies utilizing random assignment to test the effectiveness of MT. This analysis revealed that single applications of massage therapy reduced state anxiety and that reductions in trait anxiety and depression after a course of multiple treatments were massage therapy's largest effects. Further, the Moyer (2004) review found that a course of massage therapy generated statistically significant results in both physiological and psychological variables. Specifically, the Moyer analysis identified reductions in trait anxiety and depression as massage therapy's largest effects, with evidence for this crossing multiple presenting conditions. Moyer (2004) reports that "the average MT participant experienced a reduction of trait anxiety that was greater than 77 percent of comparison group participants, and a reduction of depression that was greater than 73 percent of comparison group participants. These effects are similar in magnitude to those found in meta-analyses examining a more traditional treatment for either condition. Considered together, these results indicate that MT may have an effect similar to that of psychotherapy" (p. 14). Citing Wampold's (2001) research pertaining to the absolute efficacy of psychotherapy, in which it is estimated that the average psychotherapy client fares better than 79 percent of untreated clients, Moyer (2004) concludes by posing the following question: "Foremost among the questions is whether MT is as effective as psychotherapy. No

study has directly compared these treatments, a comparison that would be justified given the finding that some MT effects may be very similar to those of psychotherapy. Similarly, it could be interesting to determine whether a combination of MT and psychotherapy could be significantly more effective than either alone.” (p. 15). Although these findings and concluding questions lend support to the use of therapeutic massage, Moyer’s important and thorough meta-analysis does not specifically examine the effects of MT focused on broader population of children, since only one trial focused on ADHD in children was included in his meta-analysis.

Moraska et al.’s (2010) comprehensive evaluation of 25 peer-reviewed articles, 18 employing a randomized control trial design, also summarizes the effectiveness of massage therapy. By reviewing multiple articles involving an adult-only population, the authors conclude that despite the inconclusiveness of massage therapy’s efficacy on some indices, it “may have beneficial effect on several physiological variables, specifically salivary cortisol and heart rate when assessed immediately post-massage” (p. 2). Moraska and colleagues (2010) call for more rigorous scientific research and highlight the methodological shortcomings of the current state of massage research. The following is a list of the concerns identified by Moraska: (1) failure to include data from a control group; (2) failure to address the reason for differences in outcome measures between baseline data and post intervention data; (3) unclear statistical findings and; (4) lack of clearly documented massage therapy protocols for purposes of scientific replications.

The most relevant and closely aligned meta-analytic assessment pertaining to the use of MT in children is Beider and Moyer’s (2007) examination of 24 pediatric massage therapy RCTs. Although these kinds of studies may provide valuable insight into future directions for similar research, Beider and Moyer acknowledge that a full meta-analysis is not possible in the pediatric population because in the majority of studies “no minimal statistical detail is available to calculate

effect size” (p. 24). In spite of this challenge, the Beider review of MT trials focused on children ages 2-19 reveals important findings justifying the relevance of ongoing study of this modality. The analysis conducted by Beider was organized by study results examining single-dose versus multiple doses of MT application and further categorized by the effects of MT on affective, behavioral and physiological changes. Out of the 24 RCT studies, 7 utilized relaxation therapy as a comparison group, 4 studies evaluated children in the same age range as in this proposed study (8-to-12 year-olds) and 7 examined a similar target population (children with behavioral and/or emotional dysregulation). The sophisticated statistical protocol utilized to analyze the results of the 24 RCTs (with a total of 458 subjects) concludes that overall, MT benefits are not as universally demonstrated as some researchers have espoused. Nevertheless, it was also reported that some of the studies have in fact yielded statistically significant outcomes with promise and value for the pediatric population. Particularly, Beider and Moyer (2007) identified MT as having a strong effect on anxiety state and trait levels in children. Further, affective dimensions such as depression, negative mood and certain types of behavioral markers were also shown to be positively impacted by the effects of MT. The Beider (2007) analysis identifies the following weaknesses in the published pediatric MT research: (1) low statistical power; (2) frequent failure to report basic descriptive statistics; (3) descriptions of results that do not logically follow study designs; and (4) lack of replication. Beider (2006) calls for quantitatively validated data, which she believes, will develop as “statistical power in the form of additional studies is brought to bear on these potential benefits” (p. 33). Finally, the article concludes by urging further research into both areas: those generating positive findings and those requiring more rigorous scientific attention.

Concluding Thoughts: MT Research and Child Trauma Treatment

Based on the results of this review of the literature, sufficient evidence exists to warrant further exploration of the concept of directly intervening on the body as a part of a treatment protocol for traumatized youth. Massage therapy may be beneficial in helping stabilize the physiological system and has specifically been shown to directly target regions in the brain theorized to require attention for recovery to occur. Increasing self-regulatory capacity is a common goal among best practices for complex trauma (Cook et al., 2005). MT is an intervention that can positively target physiological variables, with evidence regarding its regulating benefit on the nervous system. Massage therapy has been shown to create a sense of connection to and control over the body, thereby promoting a felt sense of safety. The inability to self-regulate is a core concern for children who have been exposed to trauma and neglect. Traumatized children are often unable to be maintained in mainstream classrooms or to sustain positive interpersonal relationships because of behavioral outbursts. Therefore, any intervention that can help a child regulate his or her physiological experience has significant implications for practice. The research findings on massage therapy suggest an association with critical neural, hormonal and immunological systems and serve as a solid foundation to explore MT as an effective treatment for childhood trauma. Such findings are particularly pertinent given what we know about the ways in which failures of neurobiological systems are at the root of the inability to regulate physiological and psychological arousal characteristically observed in traumatized children (van der Kolk, 2014). The field of neuroscience has provided multiple examples of the neurobiological consequences of chronic stress experienced as a result of child maltreatment. Additional research is called for to generate a conclusive understanding regarding the specific underlying effects massage therapy has on the physiological variables associated with stress (Moraska et al., 2008). However, enough evidence exists regarding the regulating benefits of massage therapy on the nervous system (Moraska et al.,

2008) warranting exploring its use in counteracting the negative neurobiological imprint of childhood adversity.

In closing, although MT has yet to be established as an empirically supported intervention for traumatized children, the research pointing to improvement of various physiological variables connected to the amelioration of trauma symptoms and positive mental health outcomes lends credibility to its application as part of a holistic treatment approach. The next chapter of the manual describes three somatically focused therapies aiming to alter the “somatic narrative” (Ogden, 2010) resulting from childhood maltreatment.

CHAPTER FIVE

Promising Models Embracing the Mind-Body Connection

The body of literature highlighting the benefits of integrating innovative somatic interventions as an adjunctive component of psychotherapy for traumatized youth is expanding. According to Siegel and Solomon (2003), coeditors of *Healing Trauma*, therapeutic interventions that involve emotion, the body’s somatosensory activation, and bilateral information promise success. Siegel and Solomon (2003) posit that by accessing traumatic memories through nonverbal means and bilateral information-processing mechanisms, the negative effect of trauma can effectively be reversed. As discussed above, leaders in the field of trauma are now advocating for models guided by neuroscience that increase the efficacy of traditional verbal and cognitive psychotherapeutic methods (Emerson & Hopper, 2011). It has been postulated that by intervening at a psychobiological level, pathways for healthy and secure corrective attachment patterns are enhanced, thereby creating a sense of general well-being necessary for traditional psychotherapy to take hold. Furthermore, research is pointing to the fact that rhythmic, repetitive, soothing patterns targeting the somatic system are needed to recalibrate a dysregulated neurochemistry (Perry, 2009).

Several promising models targeting self-regulatory capacities through somatic-based strategies as an essential component of treatment have been explored (Warner et al., 2014). Toward this end, therapies are used to consciously change maladaptive body patterns and promote self-awareness and control by activating the neural system. As Perry (2009) explains, a neural system cannot be changed without first activating it. One cannot learn to write by watching a video about writing; experiential practice is necessary for learning to occur. If the damage to neural networks resulting from developmental trauma can be repaired by the judicious use of touch, then interventions that enlist somatic resources are logical to explore further. The following is a review of three models of psychotherapy that aim to enlist somatic resources and enhance interoceptive awareness through experience rather than insight. All three examples focus on the bidirectional, intersubjective, implicit, affective, body-based, communications processes of the right brain (Schoore, 2014).

Trauma Center Trauma-Sensitive Yoga

Trauma-sensitive yoga (TSY), a trauma-informed, yoga-based intervention developed by the Trauma Center at the Justice Resource Institute in Brookline, Massachusetts, is an empirically validated approach for mental health symptoms associated with trauma exposure (van der Kolk et al., 2013). TSY has also been identified as a viable intervention for youth in residential settings, displaying severe behavioral and emotional problems (Spinazzola et al., 2011). TSY has been hypothesized to be a regulating, bottom-up intervention that can change heart rate variability (HRV) and help “traumatized people learn to inhabit their tortured body” (van der Kolk, 2014, p. 270). Further, yoga, described as a mind-body modality that provides “a gentle, incremental mechanism to facilitate traumatized individuals’ cultivation of safe and healthy relationship with their bodies” (Spinazzola et al., 2011, p.434), can effectively contribute to a holistic healing

process. Frequent yoga practice has been associated with increased body awareness, positive affect, and satisfaction with life, as well as decreased negative affect (Impett, Daubenmier, & Hirschman, 2006). Research has demonstrated the efficacy of yoga for improving the body's response to stress, and TSY in particular has been shown to be an effective way to cultivate interoception, which, is a critical aspect of trauma recovery (van der Kolk, 2014, p. 272). Lastly, yoga appears promising for improving arousal tolerance and regulation and for promoting mindful awareness of here-and-now experiences, thereby facilitating future engagement in more traditional therapeutic approaches (Rhodes, 2014).

Sensorimotor Psychotherapy

Sensorimotor psychotherapy (SM), developed by Pat Ogden and focused on the nonverbal narratives and the “multifaceted language and wisdom of the body” (Ogden, 2015), has begun to make its way into mainstream protocols. Ogden et al. (2006) introduced somatic theory, which is rooted in interpersonal neurobiology and defined as “interventions and techniques that address the repetitive, unbidden physical sensations of hyperarousal and distress, movement inhabitations and excesses that plague the client with somatosensory intrusions of unresolved trauma” (p.8). According to Siegel (2006), a leading expert in interpersonal neurobiology, Pat Ogden and her colleagues offer “one of the most creative and prominent sources of neurobiological, psychodynamically, and developmentally informed clinical models in the expanding world of somatically-focused psychotherapy” (Introduction to *Trauma and the Body*, 2006, p. xxii). Although SM excludes the direct use of touch (Ogden et al., 2006, p. xxviii), bodily experience becomes the primary entry point for intervention. As explained by Ogden and colleagues (2006), “by attending to the patient's body directly, it becomes possible to address the more primitive, automatic and involuntary functions of the brain that underlie traumatic and post-traumatic

responses” (p.5). Sensorimotor therapy focuses on the importance of developing physical resources by working with physiological sensations and movement in order to promote competency and restore normal functioning levels in traumatized individuals. It addresses treatment by focusing on three bottom-up processes: affect regulation, procedural action sequences and sensory processing. The two essential components of Sensorimotor Psychotherapy are (1) regulating affective and sensorimotor states through the therapeutic relationship and (2) teaching the client to self-regulate by mindfully contacting, tracking and articulating sensorimotor processes independently (Ogden & Minton, 2000).

Somatic Experiencing

Peter Levine’s (2007, 2010) Somatic Experiencing (SE) is another model incorporating psychobiological principles. Somatic Experiencing is a therapy based on "restoring the wisdom of the body" (Vaccaro & Gaetano, 2008). SE provides a way to gain access to inner resources, restore the autonomic nervous system's ability to self-regulate, and repair the damage caused by trauma (Levine, 2010). By observing how animals in the wild deal with threat, Levine developed SE as a physiological therapeutic modality that aims to bring awareness to the body by noticing sensations. SE, professed as a “body-first” approach, promotes the rediscovery and development of inner sensations of strength, often forgotten after traumatic events. Levine’s model conceptualizes the involuntary, unconscious, frozen or immobility state that results from trauma exposure wreaking havoc on the body (Payne, Levine & Crane-Godreau, 2015). By attending to sensations associated with trauma, such as a rapid heart rate, increased body temperature, difficulty breathing, pain, and agitation, SE attempts to activate the parasympathetic nervous system and develop a felt sense of calmness and emotional regulation (Levine, 2010). Payne et al. (2015) describe this

empowering therapeutic approach as emphasizing “interoceptive, proprioceptive and kinesthetic sensation as a therapeutic tool” (p. 1).

Next Steps: Exploring Massage Therapy as an Effective Somatic Option

The underlying theories emanating from the multidisciplinary field of neuroscience research serve as the framework supporting the exploration of incorporating massage as a viable somatic component of effective trauma treatment. If massage therapy is indeed congruent with the principles of recent findings from neurobiology, it should be considered as a technique in a holistic treatment approach aimed at counteracting the negative neurobiological imprint of childhood adversity. Massage therapy’s direct focus on the body as a somatically based component to psychological treatment holds promise for improved functionality and healing.

CHAPTER SIX**CMIT: Program Overview**

The use of standardized protocols and guidelines are critical to ensure that clients experience safe and effective care when referred to CMIT. A series of handouts, questionnaires and scripts were designed to assist agencies in successfully implementing CMIT and to ensure fidelity to the model. These resources also serve to help families better understand the goal of integrating massage into a therapeutic treatment protocol. A summary of the benefits of massage therapy with diagrams illustrating how to practice skills at home and treatment planning guidelines for clinicians are available to support the successful application of CMIT. Frequently asked questions (FAQs) summarizing the program, a script offering a rationale for the model and a list of the core values and key strategies for implementation of CMIT are available to support its successful application. Finally, tools exist to capture data for programmatic process improvement.

Pre and-post-intervention surveys were designed to assess perception of care and ongoing utilization of skills outside of sessions. All corresponding forms supporting CMIT and their applicability to practice are attached in the appendices.

Figure 1: Program Rationale Script (excerpt)

Our philosophy is that healing best happens when the entire person is addressed. We offer a range of integrated health care options emphasizing the mind/body/spirit connection from which people can choose. Our treatment programs are designed to promote recovery and wellness by engaging families and offering services in a trauma-sensitive and coordinated manner. It is important that the treatment your son/daughter receives best fits his/her individual needs. Stress has been identified as a major contributor to symptoms in many diagnoses, such as ADHD, depression and anxiety disorders. Massage therapy and other types of integrated body-based interventions have been shown to help adults and children feel relaxed and calm and to help reduce stressful or anxious feelings. Our goal in offering massage as part of CMIT is to help children experience a state of relaxation and to give them the tools to self-soothe and manage stress. By learning to feel safe with their bodies and make sense of their internal sensations, children become empowered which is important for their healthy physical, emotional and overall development.

What Is CMIT?

- CMIT is an integrated, somatically based psychotherapy approach for children and adolescents who are experiencing significant emotional and behavioral difficulties related to traumatic life events. It is a holistic treatment modality emphasizing the important connection between mind, body, and spirit.
- CMIT is a treatment model that incorporates trauma-sensitive psychotherapeutic interventions with massage therapy.
- CMIT teaches children and parents new skills to manage and resolve distressing sensations connected to problematic behaviors.

- The overarching goal of CMIT is to help children experience a felt state of physical safety and to enhance body awareness in order to facilitate the verbal and cognitive processing of trauma.

Child Massage Integrated Therapy is an adjunctive clinical treatment, adding six to ten sessions of massage therapy to evidence-based psychological trauma interventions for children presenting in community mental health settings. Treatment planning is collaborative and coordinated by collocating the massage therapist in the same building as the psychotherapist. The individual psychotherapy and massage therapy sessions do not occur concurrently. Rather, the internal subjective experience and resulting physical sensations following from the massage therapy sessions are incorporated into the talk therapy treatment. Through the process of building interoceptive skills (body awareness), the psychotherapist taps into the wisdom of the body to help the client explore the relationship between internal sensations, affective states, thoughts and behaviors. The overarching conceptual framework informing CMIT is rooted in a multidisciplinary, collaborative approach to treatment that uses the body as a primary entry point in the processing of traumatic experiences. Although there is no definitive empirical evidence supporting the collocation of massage therapists with psychotherapists as a strategy to improve outcomes for traumatized children in a community mental health setting, common sense/anecdotal experience dictate that clinical integration is more likely when the treatment team practices under the same umbrella agency. In order to allow for essential and meaningful exchange of information between providers, collocation is recommended. A team-based approach to care, ease of access to medical records, and a partnership with the child and family to best coordinate treatment planning goals are core elements of CMIT.

Figure 2: Core CMIT Values

CMIT Core Values/Guiding Principles
<ol style="list-style-type: none"> 1. A client-centered approach to care prioritizing psychological and physical safety is paramount. 2. Offering options to those seeking help promotes self-empowerment and generates an interest in self-care. 3. A trauma-informed intervention emphasizing the integration of body and mind promotes recovery. 4. Colocation and a collaborative, interdisciplinary approach to treatment enhance outcomes. 5. Evaluation tools and a quality improvement mind-set are necessary for programmatic sustainability.

Description of Typical Psychological Treatment

A normal course of psychotherapy treatment typically involved 6 to 14 weekly sessions, lasting 50 to 60 minutes, with the parent/guardian often but not always present. Most sessions occur in a traditional psychotherapist's office. The most common theoretical approach or therapeutic modality utilized by psychotherapists consists of a trauma-informed, solutions-oriented therapy grounded in cognitive behavioral principles. Many therapists trained in evidence-based interventions, including TF-CBT (Trauma-Focused-Cognitive Behavioral Treatment) and in MATCH-ADTC (Modular Approach to Therapy for Children-Anxiety, Depression, Trauma or Conduct), will find CMIT enhances usual practice. The specific treatment characteristics will differ from session to session and from therapist to therapist. However, interventions generally address issues commonly experienced by traumatized children, such as poor self-esteem, difficulty trusting others, mood and affect instability and self-injurious behaviors.

How Long Does CMIT Typically Last?

- CMIT is designed to be a relatively short-term treatment, typically lasting six to fourteen sessions. The psychotherapy component follows evidence-based treatment guidelines and the MT component consists of six to ten sessions.
- The treatment may be provided for longer periods, depending upon the individual child and family needs. However, the use of additional MT sessions may require additional funding.

Who Is CMIT For? (Eligibility Criteria)

- Children and adolescents (ages 6 to 17) who have significant emotional problems and are unable to regulate physiological arousal (e.g., symptoms of posttraumatic stress disorder, fear, anxiety, or depression) related to traumatic life events.
- This treatment can be used with children and adolescents who have experienced a single trauma or multiple traumas in their lives.
- CMIT can be used with children and adolescents residing in many types of settings, including parental homes, foster care, kinship care, group homes, or residential programs. However, an invested guardian willing and able to attend all MT sessions is required. The intervention occurs in an outpatient community-based setting.

Although the original Complementary Therapy program informing CMIT was initially developed to serve adults with trauma-related symptoms, a diagnosis of PTSD is not the only indication for referral to CMIT. In the context of community mental health settings, many new and established clients already engaged in counseling, case management and/or receiving psychopharmacological services are generally eligible for CMIT. Clients who will particularly

benefit include children who display pervasive difficulty self-regulating internal biological processes. It is expected that in accordance with the typical clinical profile for children served by mental health agencies, many of the children referred to CMIT will present with a history of chronic exposure to trauma. Many will be diagnosed with comorbidities and will undoubtedly display a wide range of functional impairments across life domains. The target population historically treated by this model includes medically stable children between the ages of 6 and 17, with a history of multiple adverse life experiences yet able to communicate and engage in an evidence-informed psychological trauma treatment. Most importantly, children referred to CMIT must have a parent or guardian willing to attend all massage therapy sessions and to actively participate in the treatment. It is generally contraindicated to refer children actively engaged in self-injurious behaviors, or those with a psychotic disorder or an untreated substance-abuse diagnosis. In addition, children who are acutely suicidal or homicidal need to be stabilized prior to engaging in CMIT. Lastly, children receiving individual or family psychotherapy from another agency, or in the school system, are not ideal candidates for this type of integrated treatment.

How is CMIT reimbursed?

- Private and public insurance for the talk therapy component
- Private donations, grants or demonstration projects with bundled billing options for the MT component

All payer sources typically accepted as reimbursement for child outpatient mental health therapy should cover the traditional component of the CMIT treatment. Most community mental health centers serve a high number of clients eligible for public insurance, and many offer a sliding fee scale to address the lack of resources. However, since MT is not a commonly

reimbursable service as part of mental health treatment for children, securing alternative funding mechanisms to bridge the gap is important. In some states, legislation has passed to pilot the use of Medicaid dollars to fund acupuncture services to treat substance abuse and co-occurring disorders. This is an example of the increasing recognition that access to a broad selection of behavioral health treatment options is a step in improving the overall health of our communities. Another encouraging noteworthy advancement toward holistic healthcare is the introduction of section 2806 of the ACA. This section legally prohibits health plans from excluding health care professionals practicing within the scope of their license or certification from obtaining reimbursement for certain services rendered. Reimbursement for the treatment of mental health and substance abuse problems now fall in the “essential health” categories covered under this new law. However, until implementation of section 2806 of the ACA has been operationalized on a broader scale and research supports the effectiveness of integrating massage for child trauma treatment, relying on states to interpret this law in a consistent manner is not a stand-alone, prudent strategy. A better alternative is exploring initiatives that are currently focused on developing innovative, value-based reimbursement models aimed at improving population-based outcomes. Many grants initiated by the ACA legislation and supported by SAMSHA and other federally funded agencies are focused on studying integrative and complementary practices. Obtaining this type of funding can provide a valuable opportunity to demonstrate quality outcomes using nontraditional reimbursement structures.

In light of increasing public interest in the use of alternative interventions, annual appeals, private donations, and/or foundation awards are other good options to solicit funding to cover the cost of MT. A typical episode of care for the direct service portion of the MT sessions costs approximately \$500 (the cost of the six massage therapy sessions at \$80 per hour). Of course, not

included in this calculation is the cost of running the program, which involves supervision, administrative overhead and staff training. Furthermore, the cost of care coordination between team members is typically not reimbursable in the current fee-for-service model that continues to dominate mental health reimbursement structures. Until a different system is in place, securing adequate funding for the MT sessions will determine how many slots are available at a given location for this type of intervention.

Who Are the CMIT Therapists?

- Massage therapists: contracted by the agency, licensed, and subject to same onboarding protocols and trainings as agency clinical staff (including background checks). Trained in trauma-informed care.
- Psychotherapists: minimally trained at the master's level, trained in evidence-based child therapy models, required to attend regular clinical supervision.

Massage Therapists

In order to maintain the integrity of CMIT as a viable intervention worthy of dissemination, it is important that massage therapists are subject to the same rules and policies as other clinical agency employees. All contracted employees should complete mandatory new employee training. In some agencies this includes an orientation to ethical principles of practice and an overview of trauma-informed systems of care. All complementary providers are expected to be licensed and/or certified by their professional standard-setting organizations and, when applicable, licensed by their state. Further, contracted massage therapists benefit from obtaining regular supervision from a designated appropriate clinical supervisor and by participating in regular quality-assurance activities. Complementary therapists need to be considered core members of the treatment team

and should be expected to attend all relevant agency required meetings and trainings. Massage therapists practicing CMIT are expected to document their weekly interventions in a shared medical record, update treatment plans as needed and review the psychotherapist's case notes regularly.

Figure 3: Implementation Strategies

Key Strategies for Effective Implementation of CMIT
<ul style="list-style-type: none">• Engage staff at all levels of the organization in understanding the value of mind/body interventions and of integrated care (from board-level down) (teach self-care skills to staff).• Pilot at one site. It is helpful to learn model, get “buy in,” build competency and resolve issues on smaller scale prior to agency-wide implementation.• Identify a dedicated champion (clinical manager) to oversee CMIT program (this enhances consistency of practice, integration efforts and promotes visibility).• Ensure that massage therapists are subject to same onboarding policies as other clinical staff (trauma competency—or willingness to train in trauma-informed care—is a prerequisite for hiring MTs).• Proactively identify funding sources for the MT portion of CMIT (start early and be creative).• Educate all community partners and potential referral sources about benefits of mind/body modalities (PCPs, schools, local crisis programs, DHHS, Juvenile Justice, police departments, Public Health Agencies, etc.).• Use measures and tools to monitor outcomes and evaluate program. Employ a continuous quality improvement lens to adapt the model as necessary. Share and celebrate success stories! (Include both staff and client perspectives).• Prepare FAQs (brochure) to support ongoing and frequent internal and external stakeholder education efforts.

CHAPTER SEVEN

Child Massage Integrated Therapy: Clinical Components of Practice

Adherence to CMIT programmatic guidelines will increase the likelihood that services are provided following best practice, trauma treatment recommendations. Overall, the goal of CMIT is to promote interoceptive awareness, manage affect regulation, support positive dyadic attachment experiences and improve functioning across life domains. The six clinical components of CMIT include:

1. Assessment
2. Informed Consent (client engagement)
3. Treatment Readiness
4. The Consultation
5. MT Intervention
6. Self-Care Inventory—Evaluation of Skills Learned

1. Assessment

The completion of a thorough diagnostic psychosocial assessment prior to referral to CMIT is critical. A trauma exposure self-report checklist consisting of questions about the types of adverse life experiences a child may have been exposed to, its duration, age when it happened, and enduring symptoms also needs to be completed. The Adverse Childhood Experiences Questionnaire, integrated as a part of the comprehensive assessment, is a good tool to evaluate exposure to adversity (see Appendix F-1 for the ACE Questionnaire). At the time of intake, the AC-OK (a self-administered rapid-response screening instrument designed to identify co-occurring disorders) should also be completed by all clients ages ten and older. The tool screens for three domains: mental health, trauma exposure and substance abuse. This screening tool is considered

valid and reliable with high psychometric properties (Cherry, 2007). Although not a diagnostic tool, a positive response suggests that further assessment is warranted (see Appendix F for the AC-OK). In addition to any clinically relevant information obtained from the comprehensive assessment, the results of the AC-OK and of the trauma checklist are shared with the massage therapist. The referral process highlights relevant traumatic experiences in order to minimize clients having to retell their stories, thereby resulting in integrated care.

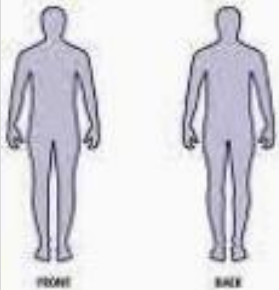
2. Informed Consent: What to Expect from CMIT


In accordance with best practice standards, informed consent needs to be obtained prior to initiating CMIT services. First and foremost, the expectation that parents/guardians participate in the treatment by attending every massage therapy session with their child is clearly articulated as part of this process. Further, the guardian and child need to be alerted to all possible risks and benefits of participating in CMIT. Clients are first oriented to the overall benefits of MT and told that the intervention with the massage therapist will involve touch. Clients are told that the massage component of CMIT differs from standard massage in that a number of elements are added to focus on sensory and emotional awareness, with the goal being an integration of body and mind. As a part of obtaining informed consent, the referring clinician explains that massage therapy can help reduce symptoms associated with anxiety and depression in adults and aggression in adolescents. The following list summarizes the salient points for therapists to review with clients to clarify what they can expect from the experience:

1. You are always in control of what part of your body is massaged. The MT will ask you where you want to be touched.
2. You will decide how you want to be dressed for your massage. Some people want all their clothes on to start; others wear a bathing suit and some take shoes off.

3. You will lie on a massage table and will be covered by a sheet when your body is not being massaged.
4. You will have a chance to talk about what the massage was like for you after the treatment is over.
5. Your parent/guardian will always be present during the session.

In addition, as part of explaining the program the diagram in figure 4 is reviewed with the child and guardian. The client is invited to circle on the picture of the human body any area where he/she is uncomfortable being touched (see Appendix x for the complete What to Expect from MT handout).

Figure 4. WHAT TO EXPECT FROM MASSAGE THERAPY	
Massage May Help You	
<input type="checkbox"/> feel calm/relaxed	<input type="checkbox"/> behave the way you want
<input type="checkbox"/> sleep better	<input type="checkbox"/> feel less angry, sad or afraid
<input type="checkbox"/> feel better about yourself	<input type="checkbox"/> feel safe when you are touched
<input type="checkbox"/> learn ways to help yourself calm down when you “feel uptight”	
<u>Things That Might Happen to Make You Uncomfortable</u>	
Circle area where you would not want to be touched	
<p>Sometimes when the massage therapist touches you, you may remember if you have been touched before and the touch hurt you or made you afraid. If you experience these feelings, please share them and talk to your massage therapist and to your psychotherapist. This can help you feel better.</p>	



Another important part of obtaining ethical consent for treatment involves a thorough review and explanation of client rights. It is critical to convey to families that the child has the right to feel safe at all times, that they can change their mind at any time and that they have the right to opt out of treatment without other services being impacted. They are encouraged to ask questions. Families shall also be alerted to the possibility that their child may feel uncomfortable while receiving massage therapy. Parents need to be told that although treatment is designed to help youths with emotional and behavioral problems, there is no guarantee that their child will improve and that they have the right to withdraw from treatment at any time. All the above-referenced information also needs to be communicated with the child, using developmentally appropriate language designed to engage him or her in a meaningful conversation (see Appendix x for Informed Consent and Client Rights Forms).

3. Treatment Readiness Process

Once a thorough assessment is completed and informed consent is carefully obtained, a series of prereferral questionnaires and surveys exist to help guide clinicians, parents/guardians and children in preparing for CMIT (see Appendices G-I for the Prereferral Questionnaires).

The clinician questionnaire is designed for the referring psychotherapist to document what changes (thoughts, feelings or behaviors) they hope to see in their clients upon completion of the program. The psychotherapist is expected to identify how integrating a body-based component to psychological trauma treatment relates to a specific goal in the child's recovery. The client prereferral questionnaire explores the clients' expectations and hopes regarding CMIT. This includes an assessment of what the client has historically done to help reduce tension in his or her body and a review of other skills that may have proven to be effective in the past to regulate states

of arousal. The parent prereferral questionnaire, administered with the help of the psychotherapist is utilized to explore what changes parents hope to see in their child following treatment. The following examples are offered: “I want my child to feel more relaxed, calmer, less anxious and fearful; sleep more or sleep less; be able to concentrate/stay with a task; talk about emotions and not react; develop self-soothing techniques; manage moods under stress.” Once compiled, this information is shared with the massage therapist (in writing form) and informs the development of an integrated treatment plan. After explaining the focus of CMIT, engaging the family in the informed consent process and completing the treatment readiness phase, the consultation is scheduled.

4. The Consultation

Following the above sequence (assessment, informed consent, treatment readiness) the child, parent/guardian and the psychotherapist participate in a joint half-hour consultation with the massage therapist. The consultation, a mandatory component of the treatment, occurs prior to the first massage therapy session. This introductory meeting, involving both treatment providers, is aimed at highlighting the importance of care coordination and sets the stage for how the team works together toward a common goal. The consultation also provides an opportunity for the child and parent to meet the massage therapist in a safe and supported environment and to learn more about what the massage treatment is like. During the consultation, the massage therapist reiterates what was reviewed during the informed consent process, telling the child that he or she has the right to be in charge of the treatment. The massage therapist explains that the child is encouraged to express how they want to be touched (pressure) and where on the body they want or don't want to be touched. The massage therapist also reviews the completed What to Expect from MT diagram, providing yet another opportunity to identify and address any discomfort with touch. In

order to maximize the client's opportunity for choice and to ensure that his or her voice is heard, the child is told that he or she can choose what to wear for the massage sessions. Ranges of options are explored with the child. Normalizing the likelihood that as the treatment progresses, the child may make different choices about the types and amount of clothing he or she wants to wear is also part of the consultation. It is critical that children are provided with an environment that allows them to feel safe and in control. Regular check-ins with the child as to what feels comfortable and acceptable is explained as being a usual part of the protocol. After stressing the importance of the guardian's presence at all sessions, the massage therapist inquires about the parent's own experience or beliefs about massage therapy. This information pertaining the guardian's level of receptiveness and comfort with therapeutic touch helps to inform the process and is a valuable client engagement strategy.

Lastly, during the consultation, the massage therapist will introduce the notion that after each massage treatment, the parent or guardian will be encouraged to practice at home the skills learned in session. Since one of the goals of treatment is the sustainability of self-care practices, teaching families to utilize touch and massage on an ongoing basis is emphasized. Handouts depicting the basics of head, neck and shoulder massage and explaining the benefits of healthy touch are provided to families. Overall, the purpose of this important introductory consultation is psycho-educational in nature and paves the way for integrated care (see Appendix E for the Benefits of Massage handout).

5. The Massage Therapy Intervention

The following are the standard components of traditional Swedish massage utilized by the massage therapists: *Effleurage* (brings the muscles together with long, sweeping strokes along the body, while friction induces heat and causes muscles to relax); *Petrissage* (allows for deeper

massage by kneading and squeezing the muscles); *Tapottement* (energizes with chopping or cupping motions); *Traction* (stretches the muscles); and *Vibration* (loosens muscles by drawing the fingertips or sides of the hands quickly along the muscle). Six 30- to 50-minute sessions of massage therapy are administered. *The guardian is required to attend all sessions.*

The standard three-phase massage protocol includes: (i) the consultation (the first one includes massage therapist, psychotherapist and guardian/child and is described in detail above); (ii) the massage therapy session; and (iii) closing comments (reviewing with parent/guardian and child important self-care techniques). Figure 5 lists the specific components of the second phase of the MT protocol.

Figure 5: MT Protocol (phase two)

<p>1. <i>Face Down</i></p> <p>Neck and Shoulders</p>
<ul style="list-style-type: none"> • Body contact is made with a light touch; hands are placed on the shoulders. • Slow lateral stroking from neck across shoulders and from shoulders to neck. • Pressure is applied with thumbs lifting and squeezing shoulder muscles. • Fingers are placed on either side of the neck, with full circles on neck and a gentle squeezing of the muscle.
<p>Back</p> <ul style="list-style-type: none"> • Moderate pressure with open hand is applied on either side of the vertebral column, walking down from shoulders to waist and back from waist to shoulders. • Moderate pressure with open hand using long, smooth strokes from shoulders to waist and back from waist to shoulders.
<p>Legs/Feet (both sides of body)</p>

- One hand is placed on the hip, the other on the foot. The child is asked if they are OK with this touch. If they are, the sequence begins. Compression from hip to foot and back to hip. This covers all of the leg.
- Long, smooth strokes from hip to foot and back again to hip.
- Long, smooth strokes from knee to calf to foot and back again.
- A long, smooth stroke to the bottom of each foot with open hand.
- Both feet are held at the same time.

2. *Face Up*

Neck

- The head is on the table and is held with one hand placed on each side.
- While the head is held, the therapist moves hands to the bony ridge at the back of the neck. Circular motions with fingertips are applied.
- Scalp massage: the whole head is massaged with three fingers making circular motions with different pressure.

Shoulders and Arms/Hands (both sides of the body)

- Slow strokes with open hands from neck across the shoulders and from the shoulders to the neck. Hands placed under the shoulders with firm pressure holding the position.
- Long, slow strokes from the shoulders to beyond the hand, followed by stroking the hand.
- Squeezing and stretching the hand
- The thumb walks around the palm of the hand, applying pressure.
- Long, slow strokes from hand to the shoulder.

Legs (both sides of body)

- One hand is placed on the hip, the other on the foot with moderate pressure. The child is asked about the comfort of this touch. If he or she is comfortable, the sequence begins.
- Long, smooth strokes from hip to the foot covering the whole leg and back to the hip.

Feet (both sides of body)

- Holding both feet, moderate pressure is applied.
- Holding one foot at a time, moderate pressure is applied to the ball of the foot with palm of the hand.
- Holding one foot at a time, the thumb is used in circular motions on the ball of the foot.
- On both feet, light, smooth strokes with open hand from top to bottom of the foot and back again.
- Hold both feet both for about one minute.

Figure 6 describes Heart Holding—the third phase of the MT session. This relaxation exercise, meant to increase attachment, is narrated by the massage therapist and demonstrated to the child and guardian. The child and guardian are encouraged to practice this technique every night before bed.

Figure 6: MT Protocol (phase 3)

Heart Holding

Place your right open hand over your heart area at center of chest. Feel your heartbeat; it should feel like a slow beating drum. As you feel your heart, say: “I am connected to my heart. I feel at peace in my body. I feel calm.” Hold this position for at least one minute.

6. Follow-up Self-Care Inventory (SCI)

Upon completion of the six to ten sessions of MT, the Self-Care Inventory (SCI) is administered. Based on years of practice, it has become apparent that clients will continue to use somatic skills learned when they are encouraged to do so by their psychotherapist. It is important to remind therapists to reinforce the use of skills by asking their clients and parents if they are continuing to practice skills regularly at home. One effective way to maximize the benefit of self-care skills is for the psychotherapist to incorporate them into sessions as a regular component of treatment. The SCI serves clinical purposes and offers important feedback regarding the program. Figure 7 identifies the various self-care skills taught during the somatic-based component of CMIT. It also provides an example of the specific questions posed to document the client's and the psychotherapist's assessment of specific self-care skills (see Appendix M for the SCI).

Figure 7. Self-Care Inventory

<u>ASSESSMENT OF SELF-CARE INTERVENTIONS</u>		
<input type="checkbox"/>	Frequency of practice	
<input type="checkbox"/>	Did your mom/dad/guardian remind you to use your skills?	
<input type="checkbox"/>	Did you and your counselor practice these self-care skills?	
<input type="checkbox"/>	When do you choose to use these skills?	
<input type="checkbox"/>	Did it help?	
<input type="checkbox"/>	How did it help?	
<input type="checkbox"/>	Observation of the effects: (Change in feelings, behavior)	
<i>SELF-CARE SKILLS TAUGHT</i>		
<input type="checkbox"/>	<i>Heart Connection</i>	<input type="checkbox"/>
	<i>Hands in Motion</i>	<input type="checkbox"/>
		<i>Loving Kindness</i>
<input type="checkbox"/>	<i>Meditation</i>	

- | | | |
|--|---|--|
| <input type="checkbox"/> <i>Energy “Bubble”</i> | <input type="checkbox"/> <i>Energy Brushing</i> | <input type="checkbox"/> <i>Breath Technique</i> |
| <input type="checkbox"/> <i>Crystals</i> | <input type="checkbox"/> <i>Mind Clearing</i> | <input type="checkbox"/> <i>Protective Energy Shield</i> |
| <input type="checkbox"/> <i>Self-Chakra Connection</i> | <input type="checkbox"/> <i>Visualization</i> | <input type="checkbox"/> <i>Other</i> |

Clinical Staff Follow-up Questions

- Are you using self-care teaching with your client?*
- Which technique was most helpful?*
- Any difficulty using the technique?*

Lastly, self-report instruments, administered as part of the discharge process are intended to address quality-improvement opportunities and to measure

1. Client and guardian satisfaction with the program
2. Ongoing utilization of learned skills outside of sessions
3. Perceived self-efficacy in the use of skills learned.

As a part of the discharge process, the families and both clinicians (MT and psychotherapist) are asked to assess the experience from their perspective and to document their impressions (see Appendix for all three surveys).

CHAPTER EIGHT

Clinical Documentation and Measures

The Shared Treatment Plan

All interventions focused on addressing symptoms identified following the assessment should be documented on an individualized treatment plan. The plan must be completed with input from the guardian/client and clearly articulate short- and long-term measurable goals, actions steps, as well as the discharge criteria. This plan should be reviewed every 90 days (or earlier if treatment

was completed prior to the 90-day mark) and a summary of the treatment, including progress made toward goals, needs to be documented. The plan must include a goal specific to the building of somatic resources. The plan must be shared with all team members and updated regularly.

MT Progress Notes

Documentation recording and summarizing the content of the sessions by the massage therapist is important. Massage therapy progress notes will be incorporated into the client's chart and are considered a part of the medical record. Progress notes should be regularly shared with the psychotherapist. If the MT therapist identifies any concerns arising out of a session, this must be documented and communicated to the clinician in a timely manner in order to assess the ongoing therapeutic benefits of CMIT for that particular child. In addition to summarizing the general encounter with the client in a narrative format, the MT progress notes address: 1) the use of oil; 2) the part(s) of the body massaged; 3) self-care skills taught in the session (visualization, meditation, hands-in-motion-heart-connection, energy-bubble, crystals); and 4) perception of care. The Emotional Inventory Questionnaire, addressing peaceful, happy, hopeful and confident states before and after each session is completed to measure self-perceived outcomes of sessions (the EIQ is described in more detail below in the measurement section). A check-off box format was developed to capture the information of the progress notes (see Appendix O for MT progress notes).

Psychological Treatment Progress Notes

The therapist completes a progress note using a SIPP (Subjective/Objective/Intervention/Plan) format summarizing the content of each therapy session, indicating the specific intervention utilized and identifying progress made and a plan for the next session. The notes incorporate the outcomes of the most recent MT session as it pertains to the goals on the treatment plan.

Measurements

Outcome measures for CMIT are collected from three sources: the parent/guardian, the child and the providers. All measures administered are incorporated in the medical record. The measurements chosen for CMIT are at the sixth-grade reading level or lower. In cases where children or guardians have difficulty with literacy issues, the therapists should read the questions to the client and families. These tools can be administered within a 10- to 15-minute time frame and are easily scored. The tools are completed or administered after the first psychotherapy session to establish a baseline and then upon termination of services. Following is a description of the specific outcomes measures and a brief summary of the psychometric properties of each measure. The party responsible for completing the tools is also indicated.

Child and Adolescent Functional Assessment Scale (CAFAS)

The CAFAS (Hodges, 1990, 1994) is considered the gold standard for assessing a youth's day-to-day functioning across critical life domains and for determining whether his or her functioning improves over time. The instrument consists of five scales (role performance, thinking, behavior toward self and others, mood/emotions and substance abuse). Each problem is rated on a four-point scale system, where 0 corresponds to minimal disruption, 10 to mild, 20 to moderate and 30 to severe disruption. The validity and reliability of the CAFAS (1990 version) has been empirically documented (Hodges, Gust, 1995) and its inter-rater reliability was demonstrated for raters with various levels of experience. The CAFAS is to be completed by the psychotherapist after the first psychotherapy session to establish a baseline and after the child is discharged from treatment (see Appendix F-4 for CAFAS).

The Child Behavior Checklist (CBCL)

The CBCL (Achenbach, 1991) is an empirically based instrument utilized to assess maladaptive functioning in children ages 6 to 18. The CBCL consists of 118 items related to behavior problems, is scored on a 3-point scale ranging from not true to often true (of the child). The CBCL was designed to address both internalizing and externalizing problems. The instrument includes measurement of the following eight constructs: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior. For the purposes of this study, the CBCL will be self-administered by the parent/guardian. The scale also consists of competency questions pertaining to a parent's perception of their child's functioning and participation across three significant life domains (activities, social and school). Several studies have supported the construct validity (.07 to .33) and the reliability (ranging from .72 to .96) of the CBCL (Achenbach, 1992). This tool is completed twice by the parent/guardian: at entry into service and at discharge from service (see Appendix F-2 for CBCL).

The Youth Outcome Questionnaire (YOQ 2.01) and the YOQ-SR

The YOQ 2.01 and YOQ-SR (Burlingame et al., 2001, 2004, 2005; Wells et al., 2003) are self-report standardized instruments comprised of 64 items each that are designed to measure the current level of psychosocial distress a child or adolescent is experiencing. For the YOQ, parents or guardians rate items on a 5-point scale according to their observations of the child's behavior over the past week. The YOQ-SR (for ages 12-18) is the youth self-report parallel form of the YOQ. The YOQ and YOQ-SR include subscales for Intrapersonal Distress, Somatic, Interpersonal Relations, Social Problems, Behavioral Dysfunction, and Critical Items such as suicidal ideation. The internal consistency estimate of the total score is .95 for the YOQ and .96 for the YOQ-SR. The YOQ is able to predict membership in a clinical or normal population with average

classification accuracy of 85 percent (Burlingame et al., 1996; Wells et al., 1996). The YOQ is meant to track actual change in functioning. In addition to internal consistency, a Brigham Young University (2007) study reports favorable analysis in terms of test-retest reliability and construct validity. The tool is completed by the guardian and by children ages 12 and above at baseline, and at termination (see Appendix F-3 for YOQ).

Emotional Inventory Questionnaire (EIQ)

The massage therapy progress notes include the *Children Complementary Therapy Emotional Inventory Questionnaire (EIQ)*. The EIQ tool was developed by a massage therapist and has been piloted and administered for approximately five years with over 60 children. The client is asked to rate on a scale from 1 to 10 how he or she feels across four separate domains (peaceful, happy, hopeful and confident) prior to and following the massage therapy session. Although the psychometric properties of this tool have not been empirically tested for reliability (both stability and equivalency) or validity, it does have face validity. The EIQ is administered over the course of the six sessions (see appendix O for the EIQ). A script was designed to support the massage therapist in explaining to clients the purposes of the EIQ. Figure 4 provides an excerpt from the EIQ script and depicts the tool.

Figure 8. Emotional Inventory Script and Tool

Every week I am going to ask you how you feel before your session and at the end of your session. There is no right or wrong answer. What you say will help us see how much this therapy helps you.

- *On a scale from 0-10 (10 being the most and 0 being the least) how peaceful do you feel? Peaceful means calm, still and not hyper.*
- *How happy do you feel?*
- *How hopeful do you feel? Hopeful means you think good things will happen in your life*

- *How confident do you feel? Confident means you are sure of yourself and you have an “I can do it” attitude.*

Emotional Inventory					
Session#:_					
Before Treatment:		Peaceful	Happy	Hopeful	Confident
	10				
	9				
	8				
	7				
	6				
	5				
	4				
	3				
	2				
	1				
	0				
Points: 10=Highest, 0=Lowest					
After Treatment:		Peaceful	Happy	Hopeful	Confident
	10				
	9				
	8				
	7				
	6				
	5				
	4				
	3				
	2				
	1				
	0				

CHAPTER NINE

Robert: A Case Example

The following case composite has been disguised to emphasize the key components of CMIT. Robert, a 13-year-old Caucasian male, was referred for outpatient trauma treatment following a psychiatric hospitalization. Following the death of his father due to a drug overdose,

and a history of sexual abuse, Robert made both homicidal and suicidal threats while at school. Although he had no clear plan or intent, Robert had been involved in numerous incidents violating school property and threatening students, resulting in school suspension. The police had been called on numerous occasions to his home following unsafe altercations with his mother and younger brother. At the time of referral, he was living with his grandparents because his mother did not feel that she could keep her family safe due to Robert's volatile behavior. Upon discharge from the hospital, Robert was diagnosed with Oppositional Defiant Disorder and Post-Traumatic Stress Disorder. Robert presented to the intake appointment with his mother, displaying sullen affect, making little eye contact, struggling to engage in the assessment process. His body language clearly exhibited a great deal of anxiety and hypervigilance. His mother reported that he had difficulty sleeping, had a longstanding history of chronic constipation, eczema and asthma. Mom also described how Robert's unpredictable rages at times resulted in his inability to recount the precipitating events leading to his outbursts. His pediatrician, who prescribed multiple psychotropic meds, described Robert as quiet, reactive and easily frustrated, oftentimes with minimal ability to express thoughts and emotions. He exhibited great difficulty socially engaging with peers in a positive manner and felt provoked by actions or words that appeared benign to school personnel.

The goal identified for Robert upon referral was to help him develop relaxation and self-soothing techniques and enhance his feeling-identification skills in order to better manage his anger and anxiety. The psychotherapist completed three sessions of a trauma-focused protocol prior to attending the first MT consultation session with Robert and his mother. During the course of the first few psychotherapy sessions, Robert refused to participate in any activity that involved meditation or mindfulness types of exercises stating "I don't do that." With the hope of improving

his sleep patterns and increasing his ability to tolerate social interactions without getting overwhelmed and aggressive, Robert (with encouragement from his mom) agreed to participate in the CMIT program. In the first massage therapy session, which occurred in an office down the hall from the talk therapy session, Robert agreed to have his upper back and neck massaged. He remained fully clothed, leaving on his hooded sweatshirt and shoes. At the second session, he requested the same protocol. By the third session, again accompanied by his mother and the psychotherapist, Robert appeared significantly less anxious and asked to include his legs, hands and lower back as part of the session. By the fourth session, he proactively removed his shoes and asked for additional attention to his lower back, which, he explained, had been bothering him for a long time. Surprisingly to all members of the treatment team, and especially to Robert himself, during session 5 he fell in and out of sleep. This experience was later processed at length with the psychotherapist, who used it to compare the dreamlike state he experienced on the massage table to a feeling of calm and peace. This breakthrough session, wherein he visibly felt safe enough to experiment with his breath and relaxed his defensive stance, resulted in Robert expressing curiosity about the possibility of giving the mindfulness exercise a second chance. The psychotherapist reported that Robert's newfound understanding of a felt sense of calmness, and the control he experienced by the number of choices he was offered during the pleasurable touching experience, enabled Robert to more willingly explore affect regulation skills. With Robert's explicit consent, the massage therapist invited the mother to learn and apply some of the soothing, rhythmic massage interventions to help Robert outside of sessions. In addition, Robert was encouraged to practice self-soothing techniques with the hope of sustaining the benefits of this practice. As per protocol, the Emotional Inventory Questionnaire (EIQ) was administered before and after sessions to assess feelings of peace, hopefulness, confidence and happiness. A significant improvement in

self-reported scores was noted in the clinical documentation. At the conclusion of treatment, Robert reported that the most helpful aspect of the therapy was learning how to breathe with his eyes closed while feeling peaceful.

By intervening at a bio-psychological level and enlisting the well-established relaxation response resulting from MT (Moyer, 2004; Field et al., 2014), Robert's interoceptive awareness was awakened (Price, 2012). Robert was supported in developing a framework to increase his interoceptive skills and learning to master bodily visceral cues. Faulty neuroception and inflexible defenses, demonstrated by Robert's aggressive behaviors, created chaos in Robert's life and landed him with the oppositional defiant reputation. Robert was taught a new vocabulary to translate his unconscious, instinctively activated internal experiences into a coherent somatic narrative. He was helped to make the association between his breathing pattern, his heart rate, his dreamlike state and a feeling of peace and relaxation. This ultimately allowed him to explore productive, socially acceptable ways to stabilize his nervous system and consciously create a sense of physiological safety. Robert's implicit memories, which had historically produced unconscious, automatic, destructive-action tendencies, contributed to his inability to access his social engagement system. By learning to correctly interpret sensory input from all his senses, he developed important personal somatic resources, which eventually led to successful efforts at modulating his affect and engaging in adaptive actions patterns. The relaxation techniques he experienced and, most importantly, later practiced at home with his mother optimized the protective factor of a healthy attachment system.

By allowing Robert to control the process and feel safe in relationships with others and within his own body, the interruption of maladaptive patterns ensued. The acquisition of valuable skills to appropriately process sensory input led to an interruption of the biologically hard-wired,

fight-fright-or-freeze responses Robert had been accustomed to. Among positive physical outcomes experienced by Robert, the resolution of his chronic constipation had a profound impact on his overall well-being. Furthermore, the heightened awareness to his internal world created a strong sense of agency, thereby facilitating the development of a healthy window of tolerance and opening the door for verbal trauma processing to continue. Ultimately, massage therapy, by activating key neural areas of the brain and by offering a new and novel sensory experience using “organized, purposeful movement” (Ogden, 2010, p. 28) resulted in a newfound freedom for Robert.

Case Study: Concluding Thoughts

MT has been shown to reach the inhibited areas of the brain that prevent the consolidation of traumatic experiences into a cohesive storyline. By addressing faulty neuroception and reengaging the social engagement system while maximizing the therapeutic window of tolerance (Ogden, 2014) and by “harnessing the principles of neuroplasticity” (Fisher, 2015), the dissociated memories stored as sensory perceptions (Ogden et al., 2006; Ogden et al., 2010) are effectively engaged. The intent of incorporating massage therapy into a psychological treatment protocol is to somatically address problems with affect regulation, procedural learning and sensory-processing dysfunction in order to ultimately reestablish a normal developmental trajectory (Ogden, 2010, p.26). In Robert’s case, by directly focusing on the central problem of self-regulatory deficits, a positive sense of body awareness and connection resulted, key factors required for the trauma recovery process to take hold.

CHAPTER TEN

Program Evaluation and Future Research

In addition to data compiled from outcome measures and from feedback obtained from the Self-Care Inventory, posttreatment questionnaires have been developed to evaluate the program.

Upon discharge from service, the clinician, client and guardian are asked to document responses to the following questions:

- Was this experience helpful?
- What did you like best?
- What did you like the least?
- Was the experience what you expected?
- Did you learn new ways to help you relax?
- Do you think you will continue to practice any of the skills taught?
- Did you learn anything about yourself?
- Would you recommend these sessions to others?

In addition, the following scale is used to measure overall satisfaction with CMIT:

Rate the overall CMIT experience									
1	2	3	4	5	6	7	8	9	10
Not helpful			Somewhat helpful				Very helpful		

Future Research

Directions and Dilemmas in Massage Therapy Research: A Workshop Report from the 2009 North American Research Conference on Complementary and Integrative Medicine

A comprehensive document prepared by leaders in the field of MT research addressing strategies with the intent to “make the next two decades of MT research optimally productive” (*International Journal of Bodywork*, p.1), is worthy of further review as it pertains to CMIT. This report provides an important roadmap informing the current state of affairs concerning MT research. The authors concede that multiple areas require improvement to strengthen the nature of the MT research infrastructure in order to propel the field in a productive direction. The salient conclusions and recommendations of the 2009 Workshop Report relate in part to the following categories: (1) bridging the disconnect between research and practice; (2)

developing clear research proposals “that anticipate blind spots” often characterizing funding sources; (3) developing needed longitudinal research; (4) articulating innovative ways of assessing the therapeutic MT encounter; and (5) conducting studies assessing the cost effectiveness of utilizing MT. In addition, the authors emphasize the importance of researchers describing in detail what is meant by “massage therapy.” The authors recommend that MT protocols must be clearly delineated and standardized with “sufficient details and with clearly defined terminology to permit precise replication and to aid in the eventual examination of differential effectiveness of particular MT techniques, modalities and dosages.” (Moyer, Dryden, & Shipwright, 2009, p. 6). Furthermore, the report advises that any massage therapy research maximize the use of “ecological validity,” wherein the research is conducted using real-world practice protocols and that some form of fidelity to the model is measured. Ecological validity and fidelity standards ensure that effective protocols can in fact be replicated in similar clinical settings. The serious and far-reaching impact of trauma on the body as well as the established effects and benefits of bodywork have been studied and explored. However, scientifically investigating interventions that directly include touch to provide traumatized children with a positive and calming physical experience have not been prioritized. An important next step is systematically investigating the specific regulatory benefits of massage therapy on a child’s psychobiology as well as further understanding the connections between touch, healthy functioning and emotional healing. Allocating resources to pursue this line of inquiry may have critical implications for social work theory and practice. Regardless of the mixed reviews pertaining to the effectiveness of MT, the published research to date argues for broader exploration of this line of study. The lack of clear consensus on the specific mechanisms that underlie the effects of MT and the lack of statistical detail available

to generalize the benefits of this modality to a pediatric population should not preclude innovative and well-designed research. The field of massage therapy as applied in conjunction with psychotherapy is clearly in its infancy. No significant randomized control trials have been undertaken to assess the efficacy of using massage therapy as an adjunctive component to psychological interventions that specifically treat children with symptoms resulting from adverse life experiences. If results similar to the ones identified in the rigorous studies summarized in Chapter 4 are replicable to a larger sample and a wider population (including children in community mental health agencies presenting with symptoms resulting from exposure to adverse life experiences), massage therapy could join the menu of effective integrated somatic interventions.

To address the areas described above and to further propel interest in the dissemination of CMIT, the following research questions are being proposed:

For children ages 8 to 12 who present in community mental health settings with symptoms related to exposure to adverse life experiences:

- ◆ *Is massage therapy (MT), administered as adjunct to psychological treatment as usual (TAU), more effective in improving functioning than psychological treatment as usual (TAU) with a guided caregiver progressive relaxation (GCR) component and than psychological TAU alone?*
- ◆ *Is psychological (TAU) with a guided caregiver progressive relaxation (GCR) component more effective than psychological TAU alone?*

In order to test the above research questions, a *randomized control trial* has been designed to assess the comparative effectiveness of massage therapy (MT) adjunctive to psychological treatment as usual (TAU) as compared to psychological treatment as usual

(TAU) with an added guided caregiver relaxation (GCR) component. Additionally, psychological treatment as usual (TAU) will be compared to TAU with the added GCR component. This intervention study seeks to evaluate treatment effectiveness within a real-world setting. Specifically, 60 consecutively referred research participants (children ages 8-12) presenting for treatment in a community mental health agency will be randomly assigned to one of the three conditions. The experimental treatment groups will consist of either massage therapy as adjunct to traditional psychological treatment as usual (MT+TAU) or traditional psychological treatment as usual with an added caregiver relaxation component (TAU+GCR) and the control group will consist of traditional psychotherapy as usual alone (TAU). (The complete RCT protocol can be found in Appendix P) Figure 9 summarizes the RCT.

Figure 9: A Randomized Control Trial

Title: A randomized comparison effectiveness trial of adjunctive massage therapy or caregiver guided relaxation training to traditional psychological treatment for traumatized youth in community mental health settings.

Problem: Developmental trauma has been identified as the single largest under-treated public health problem in the country (Sykes, 2010). Identifying effective therapeutic interventions to treat the millions of children who are exposed to adverse life experiences is paramount. It is well established that trauma impacts the somatic system and that exposure to traumatic material results in a multitude of physiological and neurobiological complications. In spite of the strong evidence that “the body keeps the score” (van der Kolk, 1994), there is a paucity of research exploring interventions that target the body as a direct focus of intervention. Massage therapy

and relaxation training are techniques that hold promise as effective approaches to heal the sequelae of childhood trauma.

Objective: To examine the effectiveness of massage therapy as adjunct to traditional psychotherapy and compare it to both traditional psychotherapy with an added relaxation component and traditional psychotherapy alone in reducing functional impairment (including externalizing and internalizing problem behaviors) in children ages 8 to 12 who present for mental health treatment.

Design: A randomized controlled trial with a 6-session massage therapy intervention as adjunct to office-based psychotherapy as compared to office-based psychotherapy with an added caregiver guided relaxation component and to office-based psychotherapy alone.

Setting: A multisite community mental health center

Participants: 60 children ages 8 to 12, consecutively referred, who present to the agency requesting mental health services will be randomly assigned. Participants must have a guardian willing to participate in the treatment component; at least one exposure to an adverse life experience; not be psychotic, developmentally impaired, actively suicidal or homicidal; or carry an autism spectrum diagnosis. Participants cannot be currently receiving any other psychotherapy.

Interventions: 1) Experimental conditions include either a) 6 sessions of massage therapy as adjunct to traditional psychotherapy or b) traditional psychotherapy with an added caregiver-guided relaxation component 2) Usual Care control includes traditional psychotherapy alone. All three conditions will involve psychotherapists providing the same general type of trauma-informed CBT therapy.

Main Outcome Measures: Standardized psychometrically sound measures will be used to assess functional impairment (Child and Adolescent Functional Assessment Scale—CAFAS), problem behaviors including externalizing and internalizing problems (Child Behavior Checklist—CBCL), and change in functioning and symptomatic distress (Youth Outcome Questionnaire—YOQ 2.0). Data for this study will be primarily compiled from three sources: the parent/guardian, the child, and the providers. Outcomes will be assessed pre-and post-intervention. The massage therapists in conjunction with the youth and family will complete the Emotional Inventory Questionnaire (EIQ) after each massage session.

Data Analysis: Analysis of variance will determine differences among the experimental and control groups in regard to functional impairment and internalizing and externalizing behaviors. Chi square and t-tests will be utilized to determine if there are significant differences in the groups at baseline. The potential cofounders assessed will be age of client, diagnosis, number and types of psychiatric medication, parental support and education and experience of the psychotherapists.

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APPENDIX A**CHILD MASSAGE INTEGRATED THERAPY (CMIT)
Program Rationale Script**

**** This description can be used during the intake process to help clinicians explain the basic premise of CMIT to families

Our philosophy is that healing best happens when the entire person is addressed. We offer a wide range of integrated health care options emphasizing the mind/body/spirit connection from which people can choose. Our treatment programs are designed to promote recovery and wellness by engaging families and offering services in a trauma-sensitive and coordinated manner. It is important that the treatment your son/daughter receives best fits his/her individual needs. Stress has been identified as a major contributor to symptomatology in many diagnoses, such as ADHD, depression and anxiety disorders. Massage therapy and other types of integrated body-based interventions have been shown to help adults and children feel relaxed and calm and to help reduce stressful or anxious feelings. Our goal in offering massage as part of CMIT is to help children experience a state of relaxation and to give them the tools to self-soothe and manage stress. By learning to feel safe with their bodies and make sense of their internal sensations, children become empowered, which is important for their healthy physical, emotional and overall development.

Who is eligible for CMIT?

CMIT is available to children ages 6-17 who are clients of the agency and are minimally engaged in counseling and/or other services.

Who provides the services?

The massage therapists, who work very closely with the psychotherapist (talk therapy counselor), are licensed and/or certified by their professional standard-setting organization and, when applicable, licensed by the state.

Appendix B: FAQs

CHILD MESSAGE INTEGRATED THERAPY: Frequently Asked Questions

What is CMIT?

- CMIT is an integrated, somatically based psychotherapy approach for children and adolescents who are experiencing significant emotional and behavioral difficulties oftentimes related to traumatic life events. It is a holistic treatment modality emphasizing the important connection between mind, body, and spirit.
- CMIT is a treatment model that incorporates trauma-sensitive psychotherapeutic interventions with massage therapy.
- CMIT teaches children and parents new skills to manage and resolve distressing sensations connected to problematic behaviors.
- The overarching goal of CMIT is to help children experience a felt state of physical safety and to enhance body awareness in order to facilitate the verbal and cognitive processing of trauma.

Who are the CMIT therapists?

- Massage therapists: contracted by the agency, licensed, and subject to same onboarding protocols and trainings as agency clinical staff (including background checks). Trained in trauma-informed care.
- Psychotherapists: minimally trained at the master's level, trained in evidence-based child therapy models, required to attend regular clinical supervision.

Who is CMIT for?

- Children and adolescents (ages 6 to 17) who have significant emotional and behavioral problems and are unable to regulate physiological arousal (e.g., symptoms of posttraumatic stress disorder, fear, anxiety, or depression) related to traumatic life events.
- CMIT can be used with children and adolescents who have experienced a single trauma or multiple traumas in their life.
- CMIT can be used with children and adolescents residing in many types of settings, including parental homes, foster care, kinship care, group homes, or residential programs. However, an invested guardian willing and able to attend all MT sessions is required.

Where are CMIT sessions held?

- In a community mental health clinic
- Ideally the massage therapist is collocated in the same building as the psychotherapist to ensure good care coordination

How long does CMIT typically last?

- CMIT is designed to be a relatively short-term treatment, typically lasting 12 to 16 sessions. The psychotherapy component follows evidence based treatment guidelines and the MT components consist of six to 10 sessions.
- The treatment may be provided for longer periods depending upon individual child and family needs. However, additional MT sessions may require additional funding.

How is CMIT reimbursed?

- Private and public insurance for the talk therapy component
- Private donations, grants or demonstration projects with bundled billing options for the MT component

What are the core values of CMIT?

1. Integration of body and mind is key to healing.
2. Client-centered care and choice is paramount.
3. Building somatic skills in an attachment context leads to sustainable gains.
4. Colocation enhances outcomes.
5. Continuous Program Evaluation is important.

APPENDIX C:

WHAT TO EXPECT FROM MASSAGE THERAPY in CMIT

Massage May Help You

feel calm/relaxed	☞ behave the way you want
sleep better	☞ feel less angry, sad or afraid
feel better about yourself	☞ feel safe when you are touched
learn ways to help yourself calm down when you “feel uptight”	

Things That Might Happen To Make You Uncomfortable

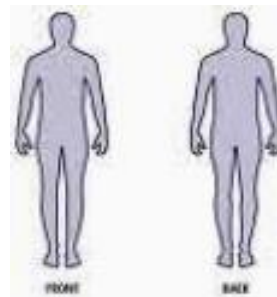
Sometimes when the massage therapist touches you, you may remember if you have been touched before and the touch hurt you or made you afraid. If you experience these feelings, please talk to your massage therapist and your talk therapist/psychotherapist about them. This can help you feel better.

Circle area where you would not want to be touched

Please circle area where you would not want to be touched.

What Is Massage Therapy Like?

1. Massage therapy involves light touch that works on your muscles. Your massage therapist may work on your feet, legs, arms, hands, neck, and back and sometimes on your head, forehead or face.
2. You are in control of what part of your body you want massaged. The massage therapist will ask you where you want to be touched.



3. You will decide how you want to be dressed for your massage. Some people want all their clothes on to start, others wear a bathing suit or whatever feels comfortable. You can take your shoes off if you want.
4. You will lie on a massage table and will be covered by a sheet when your body is not being massaged.
5. You will have a chance to talk about what the massage was like for you after the treatment is over.
6. Your parent/guardian will always be present.

I have been told about massage and I understand what the treatment is like. I can ask questions during the treatment and I can choose to stop treatment if I do not want it to continue.

Client Signature

Date

Clinical Staff Member

Date

Parent/Guardian Signature

APPENDIX D

**CHILD MESSAGE INTEGRATED THERAPY
Rights and Responsibilities**

- 👉 You have the Right to feel safe at all times.

- 👉 You have the Right to say “NO” or “STOP” or “DON’T”.

- 👉 You have the Right to change your mind.

- 👉 You have the Right to ask questions whenever you want.

- 👉 You have the Right to make choices about the treatment.

Client Signature

Date

Provider Signature

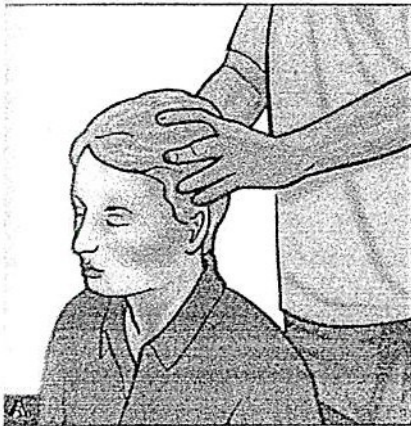
APPENDIX E

The Benefits of Massage

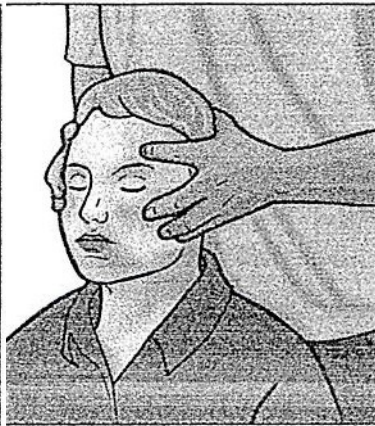
Massage offers a drug-free, non-invasive and humanistic approach based on the body's natural ability to heal itself. So what exactly are the benefits to receiving regular massage and/or bodywork treatments?

- Increases circulation, allowing the body to pump more oxygen and nutrients into tissues and vital organs.
- Stimulates the flow of lymph, the body's natural defense system, against toxic invaders.
- Increased circulation of blood and lymph systems improves the condition of the body's largest organ - the skin.
 - Relaxes and softens injured and overused muscles
 -
 - Reduces spasms and cramping
 -
 - Increases joint flexibility.
- Reduces recovery time, helps prepare for strenuous workouts and eliminates subsequent pains of the athlete at any level.
- Releases endorphins - the body's natural painkiller - and is being used in chronic illness, injury sustainment and recovery from surgery to control and relieve pain.
- Reduces post-surgery adhesions and edema and can be used to reduce and realign scar tissue after healing has occurred.
- Improves range-of-motion and decreases discomfort for patients with low back pain.
- Relieves pain for migraine sufferers and decreases the need for medication.
- Provides exercise and stretching for atrophied muscles and reduces shortening of the muscles for those with restricted range of motion.
 - Assists with shorter labor for expectant mothers, as well as less need for medication, less depression and anxiety, and shorter hospital stays.

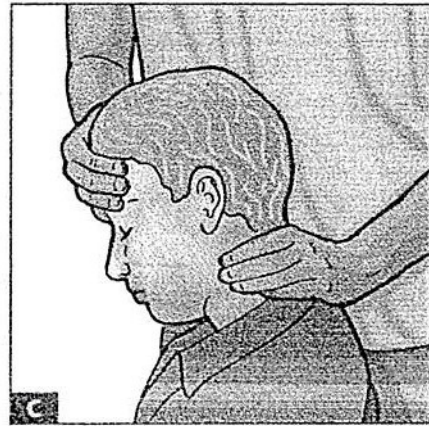
Chair Massage



Head.



Face.



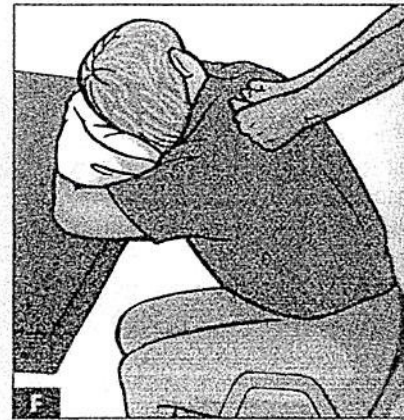
Neck.



Shoulders (forearm position).



Shoulders (hand position).



Back—both sides simultaneously.



Left arm.



Right arm.

Back-both sides simultaneously,
continued.

CHILD MASSAGE INTEGRATED THERAPY



Lower left leg.



Left foot.



Right lower leg.



Right lower leg, continued.



Right foot.

Session 1: Head, Neck, and Shoulders

1. Ground and center yourself and airplane into contact with the top of your feet over on the shoulders; ask them to take a deep breath as you breathe deeply with them. This will connect you with their energy.
2. **Trap Squeeze:** **apply** petrissage to the upper traps by compressing, lifting and squeezing. Use thumbs as well as fingers to manipulate the muscle. Petrissage is where the skin is lifted and squeezed to loosen tightness in the musculature



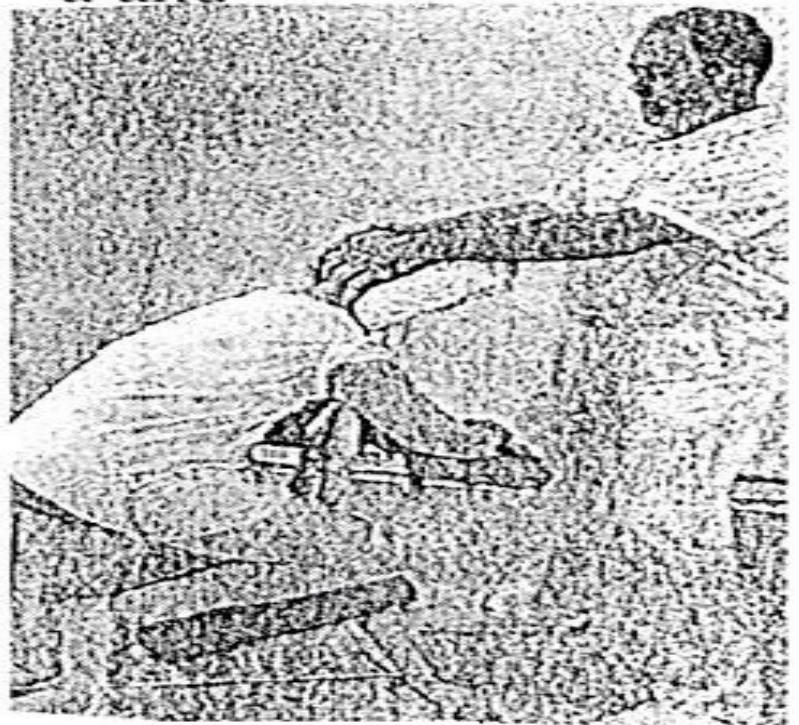
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3. **Borders of Scapula:** Frame the scapula in a triangle with your hands. Work the inside border first. Use your thumbs to apply light circular friction. Move your pressure to the upper angle of the scapula and manipulate the tissue with the fingers of both hands using light circular friction. Do the same to the outside border of the scapula.
4. **Scapula Circles:** Apply vigorous circular friction around the borders of the scapula, starting at the inside border.
5. **Trapezius Press points:** Using your thumb or forearm, move from spine to outside of shoulder, applying pressure to the upper trap (*never apply pressure to the spine itself*)



1.

6. **Full Circles:** Using the entire palm of your hand , apply circular friction to the scapula. Finish with a trap squeeze
7. **Cervical Massage:** apply circular scooping massage to back of neck, using 1 or 2 hands and scooping deeply up both sides
8. **Hook Occiput:** Move to front of chair and hook finger tips onto occipital ridge and apply circular friction. You can lean back and use body weight to apply pressure
9. **Scalp Massage:** From base of neck, use circular friction with light or moderate pressure all over entire scalp
10. **Energy Brush Down:** Lightly "brush" your hands over head, neck, shoulders and back with the intention of releasing any "stuck" energy finalizing the session



Session 2: Back, Arms, and Hands

1. **Ground and Center Yourself:** Airplane into contact with the top of your loved one's shoulders; ask them to take a deep breath as you breathe deeply with them. You will be connected with his or her **energy**.
2. **Stroke Back Gently:** Using fingertips or palms, stroke lightly down the back from shoulders to hips to introduce your energy and touch to the back
3. **Heart Stroke:** Starting with hands either side of the spine, move upward and over the shoulders and back down to the lower back. Do this 3 times.
4. **Twisted Fister:** With fist, push and compress each side of the spine, moving from top of the back to the bottom.



5. **Feline's PawPrint:** Position your hands on both sides of the spine with fingers pointing up at the base of the spine. Use entire hand and fingers to walk up the spine alternating first with one hand then the other as you grasp and squeeze with your fingers.



Repeat #4 and #5 as many times as you wish

6. **Choo-Choo:** With forearms or pinkie part of hand, use side of hand, "scrub" the area between the shoulder blade and the spine vigorously in an up and down motion

7. Arm Splay: Grasp arm at top of arm and use thumbs to spread and squeeze the fibers, moving toward the fingers.



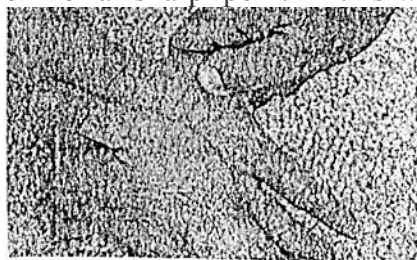
148

8. Roll and Glide: Starting at upper arm and moving toward hand, briskly create a front to back rotation along the full length of the arm with moderate pressure.

9. Palmerge: With client's palm facing upward, insert both your hands, palms up as well, so as to anchor fingers... spread and stretch, then work palm with your thumbs

10. Finger Twist: Starting at the small finger, pull, squeeze and twist off each finger. NOT the thumb.

11. Hoku Point: Simultaneously press the front and back of the webbed area between the thumb and forefinger. Look for a "sharp" point in this webbed area. This point induces



general levels of wellness.

Transition Effleurage: Maintain contact by lightly brushing up the arm and position yourself on the other side of your client. Repeat steps 6-10 on other arm

12. Energy Brush Down: Lightly "brush" your hands over head, neck, shoulders, arms and back with the intention of releasing any "stuck" energy finalizing the session



Heart Connection

Open your Hands

Open your Heart

Place your hands on your heart
and think: I am connected to
my heart and I feel peace in my
body

"I Feel Peace In My Heart."

ENERGY BRUSH-DOWN

Purpose: To move and restore energy throughout the body. It enhances health and overall well-being. (Note: all movement is light, slow, and deliberate)

1. Begin by placing *your* hands, palm to palm, in *front of you* (*or* in a prayer-like fashion). Ask *For your highest* good to be served to stay healthy and/or to regain health. This process opens and activates the hands.
2. Then, place your hands on your shoulders, *crossed over* at *your* heart. Allow the energy in *your* shoulders to soften and even out, boosting the energy.
3. Next, open one *Foot* by holding one palm to the arch *of the Foot* and the other- hand on top *of the Foot*. You can either bend *over- or* cross *your* leg to reach *your Foot*. *if you cannot reach your Feet or legs*, open them by intention.
4. Once you feel *the energy* repeat the procedure on the other *Foot* and hold until it *Aows*.
5. Now, brush one leg down, starting at the hip and moving all the way to the ankles and away *from* the leg. Brush the leg several times.
6. Repeat on the other leg.
7. Next, brush one arm down with the opposite hand, starting at the shoulder and moving all the way to the wrists and *off* the arm. Brush the arm several times.
8. Repeat on the *other* arm with the opposite hand.
9. Now, start at the top *off* the chest and brush the *energy* down the front several times.
10. Reach behind *to your* back as *Far* up as you can and brush down and *off* the buttocks *several times*.
11. Go *to* the top *of* the head and lightly brush down over *your Face* and h e a d several times.
12. Then, gently hold· cheeks in your- hands until the *energy settles* (a minute or two).
13. Close by holding both hands on the heart and being thankful *for* any assistance you received and regaining *or* improving your health.



APPENDIX F: AC-OK Tool and Instructions

OK-COD Adolescent Screen

Gender: _____ Date of Birth: _____ Last grade completed _____

Read as: During the past year have you:

1. Felt really sad, lonely, hopeless; stopped enjoying things, wanted to eat more or less, had problems sleeping, or doing what you need to at home or at school.? Yes
No
2. Heard voices or seen things that others don't hear or see? Yes
No
3. Drink alcohol or used other drugs more than you meant to? Yes
No
4. Burned or cut yourself? Yes
No
5. Have you experienced a very bad thing happen (a traumatic event) where you continue to feel scared, worried, or nervous or even had nightmares that bothered you after it was all over? Yes
No
6. Tried to stop drinking alcohol or using other drugs, but couldn't? Yes
No
7. Been prescribed medication for your feelings? Yes
No
8. Got in trouble with the law, school, or parents, or lost friends because of your drinking alcohol or using other drugs, and continued to use? Yes
No
9. Drink alcohol or used other drugs to change the way you feel? Yes
No
10. Had thoughts about hurting yourself or wanting to die? Yes
No
11. Tried to kill yourself? Yes
No

12. Have you ever been afraid of your parent, caretaker or a family member? Yes
No
13. Have you ever been hit, slapped, kicked, touched in a bad way, cursed at, yelled at or threatened by someone? Yes
No
14. Changed your friends or planned your free time to include drinking alcohol or using other drugs? Yes
No
15. Needed to drink more alcohol or use more drugs to get the same buzz or high as when you first started using? Yes
No

Instructions: OK Adolescent Screen

“I’m glad you called (or came in); let’s see how I can help. In your own words, what is going on, OR can you tell me a little about why you called (or came in) today?”

“In order to find the best services for you, I’d like to ask you a few short yes or no questions to see if there is anything we may have missed. There are no right or wrong answers and these questions may or may not apply to your situation. Is this okay with you?”

- This screen should be used when a person first contacts the agency for services.
- This screen is only a tool to help identify potential problem areas which may need further assessment. Please note: **This is NOT a diagnostic tool and should not be used as an assessment.**
- Please read each question *exactly* as written in the *order* provided.
- If a potential crisis is identified during the screening, please follow your agency protocols immediately to assess for lethality and provide appropriate intervention.
- Positive indicators (one “YES” answer), in any of the three (3) domains indicates that an additional assessment(s) is needed in that domain.

Scoring: Remember, one (1) “Yes” answer on any of the three (3) domains (Substance Abuse, Mental Health, and Trauma) indicates that an additional assessment(s) is needed in that domain.

Substance Abuse: 3 , 6 , 8 , 9 , 14 , 15

Mental Health: 1 , 2 , 4 , 7 , 10 , 11 ,

Trauma 5 ■, 12 ■, 13 ■

Reading level of Screen:

Flesch Reading ease: .76

Flesch—Kincaid Grade Level: 6

APPENDIX F 1

Adverse Childhood Experience (ACE) Questionnaire Finding your ACE Score

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** ...
Swear at you, insult you, put you down, or humiliate you?

or

Act in a way that made you afraid that you might be physically hurt?

Yes No

If yes enter 1 _____

2. Did a parent or other adult in the household **often** ... Push,
grab, slap, or throw something at you?

or

Ever hit you so hard that you had marks or were injured?

Yes No

If yes enter 1 _____

3. Did an adult or person at least 5 years older than you **ever** ...
Touch or fondle you or have you touch their body in a sexual way?

or

Try to or actually have oral, anal, or vaginal sex with you?

Yes No

If yes enter 1 _____

4. Did you **often** feel that ...
No one in your family loved you or thought you were important or special?

or

Your family didn't look out for each other, feel close to each other, or support each other?

Yes No

If yes enter 1 _____

5. Did you **often** feel that ...
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?

or

Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No

If yes enter 1 _____

6. Were your parents **ever** separated or divorced?

Yes No

If yes enter 1 _____

7. Was your mother or stepmother:
Often pushed, grabbed, slapped, or had something thrown at her?

or

Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?

or

Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Yes No

If yes enter 1 _____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

Yes No

If yes enter 1 _____

9. Was a household member depressed or mentally ill or did a household member attempt suicide?

Yes No

If yes enter 1 _____

10. Did a household member go to prison?

Yes No

If yes enter 1 Now add up your "Yes"

answers: _____

This is your ACE Score

Please print

CHILD BEHAVIOR CHECKLIST FOR AGES 6-18

For office use only

CHILD'S FULL NAME First Middle Last

CHILD'S GENDER Boy Girl CHILD'S AGE CHILD'S ETHNIC GROUP OR RACE

TODAY'S DATE Mo. Day Year CHILD'S BIRTHDATE Mo. Day Year

GRADE IN SCHOOL NOT ATTENDING SCHOOL Please fill out this form to reflect your view of the child's behavior even if other people might not agree. Feel free to print additional comments beside each item and in the space provided on page 2. **Be sure to answer all items.**

PARENTS' USUAL TYPE OF WORK, even if not working now.
 (Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)
 FATHER'S TYPE OF WORK _____
 MOTHER'S TYPE OF WORK _____

THIS FORM FILLED OUT BY: (print your full name)

Your gender: Male Female
 Your relation to the child:
 Biological Parent Step Parent Grandparent
 Adoptive Parent Foster Parent Other (specify)

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

Compared to others of the same age, about how much time does he/she spend in each?

Compared to others of the same age, how well does he/she do each one?

- None
 a. _____
 b. _____
 c. _____

Less Than Average Average More Than Average Don't Know Below Average Above Average Don't Know

II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, cars, computers, singing, etc. (Do not include listening to radio or TV.)

Compared to others of the same age, about how much time does he/she spend in each?

Compared to others of the same age, how well does he/she do each one?

- None
 a. _____
 b. _____
 c. _____

Less Than Average Average More Than Average Don't Know Below Average Above Average Don't Average Ave

III. Please list any organizations, clubs, teams, of the same or groups your child belongs to. he/she in each?

Compared to others of the same age, how active is he/she in each?
 Less Active Average More Active Don't Know

- None
 a. _____
 b. _____
 c. _____

IV. Please list any jobs or chores your child has. the same For example: paper route, babysitting, making bed, working in store, etc. (Include both paid them out?

Compared to others of the same age, how well does he/she carry them out?

and unpaid jobs
and chores.)

None

Below
Average

Average

Above
Average

Don't
Know

a. _____

b. _____

c. _____



**Be sure you answered all
items. Then see other side.**

UNAUTHORIZED COPYING IS ILLEGAL

Please print. Be sure to answer all items.

v. 1. About how many close friends does your child have? (Do not include brothers & sisters)

None 1 2 or 3 4 or more

2. About how many times a week does your child do things with any friends

~~outside of regular school hours? (Do not include brothers & sisters)~~ ~~Less~~

than 1 1 or 2 3 or more

vi. Compared to others of his/her age, how well does your child:

Worse Average Better

- a. Get along with his/her brothers & sisters? Has no brothers or sisters
- b. Get along with other kids?
- c. Behave with his/her parents?
- d. Play and work alone?

vii. 1. Performance in academic subjects.

Does not attend school because _____

Check a box for each subject that child takes

Failing Below Average Average Above Average

Other academic subjects—for ex-ample: computer courses, foreign language, busi-ness. Do **not** in-clude gym, shop, driver's ed., or other nonacademic subjects.

- a. Reading, English, or Language Arts
- b. History or Social Studies
- c. Arithmetic or Math
- d. Science
- e.
- f.
- g.

2. Does your child receive special education or remedial services or attend a special class or special school?

No Yes—kind of services, class, or school:

3. Has your child repeated any grades? No Yes—grades and reasons:

4. Has your child had any academic or other problems in school? No Yes—

please describe: When did these problems start? _____

Have these problems ended? No Yes—when?

Does your child have any illness or disability (either physical or mental)? No Yes—please describe:

Please print. Be sure to answer all items.

What concerns you most about your child?

Please describe the best things about your child.

Please print. Be sure to answer all items.

Below is a list of items that describe children and youths. For each item that describes your child **now or within the past 6 months**, please circle the **2** if the item is **very true or often true** of your child. Circle the **1** if the item is **somewhat or sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know)

2 = Very True or Often True

- 0 1 2 1. Acts too young for his/her age
0 1 2 2. ~~Drinks alcohol without parents' approval~~
(describe): _____
- 0 1 2 3. Argues a lot
0 1 2 4. Fails to finish things he/she starts
- 0 1 2 5. There is very little he/she enjoys
0 1 2 6. Bowel movements outside toilet
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for
long

- 0 1 2 9. Can't get his/her mind off certain
thoughts; obsessions (describe): _____
- 0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
- 0 1 2 15. Cruel to animals
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Daydreams or gets lost in his/her thoughts

1 = Somewhat or Sometimes True

- 0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/
her
- 0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
- 0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
- 0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others
who get in _____
trouble
- 0 1 2 40. Hears sound or voices that aren't there
(describe): _____
- 0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
- 0 1 2 44. Bites fingernails _____
0 1 2 45. ~~Nervous, highstrung, or~~
tense
- 0 1 2 46. Nervous movements or twitching
(describe): _____
- 0 1 2 47.

Please print. Be sure to answer all items.

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 23. Disobeys at school | 0 | 1 | 2 | 52. Feels too guilty |
| 0 | 1 | 2 | 24. Doesn't eat well | 0 | 1 | 2 | 53. Overweight |
| 0 | 1 | 2 | 19. Demands a lot of attention | 0 | 1 | 2 | 54. Not liked by other kids |
| 0 | 1 | 2 | 20. Destroys his/her own things | 0 | 1 | 2 | 55. Over-tired without good reason |
| 0 | 1 | 2 | 21. Doesn't get along with other kids | 0 | 1 | 2 | 56. Constipated, doesn't move bowels |
| 0 | 1 | 2 | 26. Doesn't seem to feel guilty after misbehaving | 0 | 1 | 2 | 57. Too fearful, anxious |
| 0 | 1 | 2 | 21. Destroys things belonging to his/her family or others | 0 | 1 | 2 | 58. Physical problems without known medical cause |
| 0 | 1 | 2 | 22. Disobedient at home | 0 | 1 | 2 | 51. Feels dizzy or lightheaded |
| 0 | 1 | 2 | 27. Easily jealous | 0 | 1 | 2 | a. Aches or pains (not stomach or headaches) |
| 0 | 1 | 2 | 28. Breaks rules at home, school, or elsewhere | 0 | 1 | 2 | b. Headaches |
| 0 | 1 | 2 | 29. Fears certain animals, situations, or places, other than school (describe): _____ | 0 | 1 | 2 | c. Nausea, feels sick |
| 0 | 1 | 2 | 30. Fears going to school | 0 | 1 | 2 | d. Problems with eyes (not if corrected by glasses) (describe): _____ |

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

- | | | | | | | | |
|---|---|---|--|---|---|---|--|
| 0 | 1 | 2 | 57. Physically attacks people | 0 | 1 | 2 | 84. Strange behavior (describe): _____ |
| 0 | 1 | 2 | 58. Picks nose, skin, or other parts of body (describe): _____ | 0 | 1 | 2 | 85. Strange ideas (describe): _____ |

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 59. Plays with own sex parts in public | 0 | 1 | 2 | 86. Stubborn, sullen, or irritable |
| 0 | 1 | 2 | 60. Plays with own sex parts too much | 0 | 1 | 2 | 87. Sudden changes in mood or feelings |
| 0 | 1 | 2 | 61. Poor school work | 0 | 1 | 2 | 88. Sulks a lot |
| 0 | 1 | 2 | 62. Poorly coordinated or clumsy | 0 | 1 | 2 | 89. Suspicious |
| 0 | 1 | 2 | 63. Prefers being with older kids | 0 | 1 | 2 | 90. Swearing or obscene language |
| 0 | 1 | 2 | 64. Prefers being with younger kids | 0 | 1 | 2 | 91. Talks about killing self |
| 0 | 1 | 2 | 65. Refuses to talk | 0 | 1 | 2 | 92. Talks or walks in sleep (describe): _____ |
| 0 | 1 | 2 | 66. Repeats certain acts over and over; compulsions (describe): _____ | 0 | 1 | 2 | 93. Talks too much |
| 0 | 1 | 2 | 67. Runs away from home | 0 | 1 | 2 | 94. Teases a lot |
| 0 | 1 | 2 | 68. Screams a lot | 0 | 1 | 2 | 95. Temper tantrums or hot temper |
| 0 | 1 | 2 | 69. Secretive, keeps things to self | 0 | 1 | 2 | 96. Thinks about sex too much |
| 0 | 1 | 2 | 70. Sees things that aren't there (describe): _____ | 0 | 1 | 2 | 97. Threatens people |
| 0 | 1 | 2 | 71. Self-conscious or easily embarrassed | 0 | 1 | 2 | 98. Thumb-sucking |
| 0 | 1 | 2 | 72. Sets fires | 0 | 1 | 2 | 99. Smokes, chews, or sniffs tobacco |
| 0 | 1 | 2 | 73. Sexual problems (describe): _____ | 0 | 1 | 2 | 100. Trouble sleeping (describe): _____ |
| | | | | 0 | 1 | 2 | 101. Truancy, skips school |

- | | | | | | |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 16. Communicates in a pleasant and appropriate manner. |
| 0 | 1 | 2 | 3 | 4 | 17. Seems tense, easily startled. |
| 0 | 1 | 2 | 3 | 4 | 18. Soils or wets self. |
| 0 | 1 | 2 | 3 | 4 | 19. Is aggressive towards adults. |
| 0 | 1 | 2 | 3 | 4 | 20. Sees, hears, or believes things that are not real. |
| 0 | 1 | 2 | 3 | 4 | 21. Has participated in self-harm (e.g. cutting or scratching self, attempting suicide). |
| 0 | 1 | 2 | 3 | 4 | 22. Uses alcohol or drugs. |
| 0 | 1 | 2 | 3 | 4 | 23. Seems unable to get organized. |
| 0 | 1 | 2 | 3 | 4 | 24. Enjoys relationships with family and friends. |
| 0 | 1 | 2 | 3 | 4 | 25. Appears sad or unhappy. |
| 0 | 1 | 2 | 3 | 4 | 26. Experiences pain or weakness in muscles or joints. |
| 0 | 1 | 2 | 3 | 4 | 27. Has a negative, distrustful attitude toward friends, family, or other adults. |
| 0 | 1 | 2 | 3 | 4 | 28. Believes that others are trying to hurt him/her when they are not. |
| 0 | 1 | 2 | 3 | 4 | 29. Threatens to, or has run away from home |
| 0 | 1 | 2 | 3 | 4 | 30. Experiences rapidly changing and strong emotions. |
| 0 | 1 | 2 | 3 | 4 | 31. Deliberately breaks rules, laws, or expectations. |
| 0 | 1 | 2 | 3 | 4 | 32. Appears happy with him/her self. |
| 0 | 1 | 2 | 3 | 4 | 33. Sulks, pouts, or cries more than other children of the same age. |
| 0 | 1 | 2 | 3 | 4 | 34. Pulls away from family or friends. |
| 0 | 1 | 2 | 3 | 4 | 35. Complains of stomach pain or feeling sick more than other children of the same age |
| 0 | 1 | 2 | 3 | 4 | 36. Doesn't have or keep friends. |
| 0 | 1 | 2 | 3 | 4 | 37. Has friends of whom I don't approve. |
| 0 | 1 | 2 | 3 | 4 | 38. Believes that others can hear his/her thoughts, or that he/she can hear the thoughts of others. |
| 0 | 1 | 2 | 3 | 4 | 39. Engages in inappropriate sexual behavior (e.g. sexually active, exhibits self, sexual abuse towa family members or others). |
| 0 | 1 | 2 | 3 | 4 | 40. Has difficulty waiting his/her turn in activities or conversations. |
| 0 | 1 | 2 | 3 | 4 | 41. Thinks about suicide, says he/she would be better off if he/she were dead. |
| 0 | 1 | 2 | 3 | 4 | 42. Complains of nightmares, difficulty getting to sleep, oversleeping, or waking up from sleep too early. |
| 0 | 1 | 2 | 3 | 4 | 43. Complains about or challenges rules, expectations, or responsibilities. |
| 0 | 1 | 2 | 3 | 4 | 44. Has times of unusual happiness or excessive energy. |
| 0 | 1 | 2 | 3 | 4 | 45. Handles frustration or boredom appropriately. |
| 0 | 1 | 2 | 3 | 4 | 46. Has fears of going crazy. |
| 0 | 1 | 2 | 3 | 4 | 47. Feels appropriate guilt for wrongdoing. |
| 0 | 1 | 2 | 3 | 4 | 48. Is unusually demanding. |
| 0 | 1 | 2 | 3 | 4 | 49. Is irritable. |
| 0 | 1 | 2 | 3 | 4 | 50. Vomits or is nauseous more than other children of the same age. |
| 0 | 1 | 2 | 3 | 4 | 51. Becomes angry enough to be threatening to others. |
| 0 | 1 | 2 | 3 | 4 | 52. Seems to stir up trouble when bored. |
| 0 | 1 | 2 | 3 | 4 | 53. Is appropriately hopeful and optimistic. |
| 0 | 1 | 2 | 3 | 4 | 54. Experiences twitching muscles or jerking movements in face, arms or body. |
| 0 | 1 | 2 | 3 | 4 | 55. Has deliberately destroyed property. |
| 0 | 1 | 2 | 3 | 4 | 56. Has difficulty concentrating, thinking clearly, or attending to tasks. |
| 0 | 1 | 2 | 3 | 4 | 57. Talks negatively, as though bad things are all his/her fault. |
| 0 | 1 | 2 | 3 | 4 | 58. Has lost significant amounts of weight without medical reason. |
| 0 | 1 | 2 | 3 | 4 | 59. Acts impulsively, without thinking of consequences. |
| 0 | 1 | 2 | 3 | 4 | 60. Is usually calm. |
| 0 | 1 | 2 | 3 | 4 | 61. Will not forgive him/herself for past mistakes. |
| 0 | 1 | 2 | 3 | 4 | 62. Lacks energy. |
| 0 | 1 | 2 | 3 | 4 | 63. Feels he/she does not have any friends, or that no one likes him/her. |
| 0 | 1 | 2 | 3 | 4 | 64. Gets frustrated and gives up, or gets upset easily. |

Developed by Michael Lambert, Ph.D, and Gary Burlingame, Ph.D. Copyright 1996
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APPENDIX F-4

**CAFAS SUMMARY SCORING SHEET
CHILD AND ADOLESCENT FUNCTIONAL ASSESSMENT SCALE**

Child's First Name: _____ Middle Initial: _____ Last Name: _____
 Child ID: _____ Date Assessed: ____/____/____ Service Start Date: ____/____/____
 _____ DOB: ____/____/____ Gender ____ M ____ F
 Child's County Residence: _____ Region: ____ I ____ II ____ III
 Rater Name: _____ Rater ID#: _____
 Agency Name: _____

Scale Scores for Youth's Functioning

DIMENSION	DIMENSION RATING Choose one rating option (30) (20) (10) (0)
Role Performance	
School/Work	
Home	
Community	
Behavior Toward Others	
Moods/Self-harm	
Moods/Emotions	
Self-Harmful Behavior	
Substance Use	
Thinking	

TOTAL FOR YOUTH

8-Scale Summary	Description
0-10	Youth exhibits no noteworthy impairment
20-40	Youth likely can be treated on an outpatient basis, provided that risk behaviors are not present
50-90	Youth may need additional services beyond outpatient care
100-130	Youth likely needs care which is more intensive than outpatient and/or which includes multiple sources of supportive care
140 & higher	Youth likely needs intensive treatment, the form of which would be shaped by the presence of risk factors and the resources available within the family and the community

APPENDIX G

CMIT–CHILD PREREFERRAL Questionnaire

Complementary Service chosen

- Massage
- Energy Healing

1. What do you hope will happen because you have this experience?

2. What do you do now that helps you relax/and feel calm?

Listen to music

Walking/running

Taking deep breaths

Reading

Exercising (working out)

Being alone (time out)

Other: _____

APPENDIX H

CMIT–PARENT PREREFERRAL Questionnaire

What changes in your child do you hope to see (such as thoughts, feelings or behaviors)?

1. Feel more relaxed, calmer (less anxious and fearful).

2. Sleep more Sleep less

3. Be able to concentrate/ stay with a task.

4. Can talk about emotions and feelings without becoming overwhelmed/reactive.

5. Learns how to self-soothe /manage moods under stress.

6. Help with muscle aches/pain

7. Other: _____

Client/Guardian Signature

Date

Provider Signature

APPENDIX I

CMIT- CLINICIAN PREREFERRAL Questionnaire

Please answer the following questions and forward them to the CMIT massage therapist prior to the consultation (with your client and parent/guardian).

1) Please identify relevant history of trauma and /or adverse life experiences (please attach the completed ACE questionnaire and AC-OK/Trauma Checklist).

2) What changes in your client (thoughts, feelings, behaviors) and/or somatic resources (affect regulation, interoceptive awareness, self-soothing skills) are you hoping to see as a result of integrating massage therapy into your trauma-focused psychotherapy protocol? Have you discussed this with your client and parent/guardian?

3) Please identify the specific goal (s) on the treatment plan that relate to integrating a body-based component in treatment for this client.

4) Please note that your attendance at the initial consultation is mandatory. The appointment will be scheduled in your calendar. Please provide any additional information that may facilitate a client- centered, trauma-informed experience for your client.

Client _____

Parent _____

Psychotherapist _____

6. What did you like the least?

Client _____

Parent _____

Psychotherapist _____

7. Did you learn new ways to help you ax?

Yes No What where they?

Client _____

Parent _____

Psychotherapist _____

8. Do you think you will continue to do any of the skills t ht?

Yes No If yes, which ones?

Client _____

Parent _____

Psychotherapist _____

9. Did this help in meeting treatment goals?

Yes No If yes, how?

Client _____

Parent _____

Psychotherapist _____

10. Did you learn anything about yourself? Yes No

Client _____

Parent _____

Psychotherapist _____

10. Would you recommend these sessions to others? Yes No

APPENDIX

Client Signature

Date

-

Parent Signature

Date

Clinical Staff Signature

Date

APPENDIX

APPENDIX K

CMIT Clinical Staff Notification Re: Self-Care Inventory

Dear Staff:

All clients who receive complementary therapies, including CMIT, learn self-care practices. It is important that you become familiar with these skills and support your client in the ongoing use of somatically based skills. We have found in our evaluations that clients will continue to practice these skills when they are encouraged to do so in session and at home by their psychotherapist. We need you to help collect information to evaluate whether clients are continuing to practice these skills and help us quantify if and how somatic interventions are beneficial.

Within two weeks after your client completes the six-to-ten sessions of massage therapy, you will receive an email alert and a Self-Care Inventory (SCI). You will be asked to fill out the SCI with the client and parent/guardian and return the completed form to the complementary therapies program director.

If the client reports not using self-care practices, please note that on the form. No more reminders will be sent. If the client is using these skills, in accordance with the permission obtained from the client, we will send you periodic evaluation requests for a six-month period.

Thank you for your cooperation. This information is important in helping to evaluate the effectiveness of our program. The data will also guide our quality improvement efforts and can help us in seeking other funding sources.

_____, LCSW

Complementary Program Manager

APPENDIX

APPENDIX L

Client Agreement to Participate in Self-Care Follow-up Evaluation

Date: _____

Dear _____

When you were receiving massage therapy as a part of CMIT, you may have learned ways to help you relax and feel calm. Would you be willing to share with your psychotherapist if you are still using these skills and if and how what you learned still helps you? If you agree, your therapist will review this with you and share your responses several times over the next six months.

_____, LCSW

Complementary Program Manager

Would this be a good idea? Yes No

Child Name: _____

Parent/Guardian Name: _____

APPENDIX

APPENDIX
CMIT- Follow up Self-Care Interventions

QUESTIONS TO ASK PEOPLE WHO ARE DOING SELF CARE INTERVENTIONS

SELF-CARE SKILLSTAUGHT

Heart Connection	Hands in Motion	Loving Kindness
Meditation Energy "Bubble"	Energy Brushing	Breath Technique
Crystals	Mind Clearing	Protective Energy Shield
Self Chakra Connection	Visualization	Other _____

Comments/Additional information: _____

Frequency of practice: Daily: Weekly: Less: Several Times a Day:

Did your parents remind you to use your skills? Yes No

Did you and your counselor practice these self care skills? Yes No

When do you choose to use these skills? _____

Did it help? Yes No

How did it help? _____

Observation of the effects: (Change in feelings, behavior)

Parent observations: _____

CSI Clinical Staff Member observations: _____

Anecdotes (optional)

APPENDIX

APPENDIX N

**Child Massage Integrated Therapy
Clinical Staff Follow-up Questionnaire**

To be completed by clinical staff after client completes MT sessions

Are you reinforcing any self-care skills with your client/guardian? Please provide a brief narrative describing how skills were incorporated into your sessions (if applicable).

What techniques did you like and why?

What techniques did you dislike and why? _____

Any difficulty using the technique? Was the family receptive to practicing at home? If so, did it impact treatment in any way?

What recommendations do you have to improve the referral process and/or care coordination practices between you and the massage therapist?

APPENDIX

APPENDIX O

CMIT- Emotional Inventory Script for Massage Therapists And MT Progress Notes

Every week I am going to ask you how you feel before your session and at the end of your session. There is no right or wrong answer. What you say will help us see how much this therapy helps you.

- On a scale from 0-10 (10 being the most and 0 being the least) how peaceful do you feel? Peaceful means calm, still and not hyper.
- How happy do you feel?
- How hopeful do you feel? Hopeful means you think good things will happen in your life.
- How confident do you feel? Confident means you are sure of yourself and you have an “I can do it” attitude.

APPENDIX

Emotional Inventory

Client _____ Date: _____ Session#: _____

Before Treatment:

Peaceful Happy Hopeful Confident

1					P o i n t s : 1 0 = H
9					
8					
7					
6					
5					
4					
3					
2					
1					
0					

**ighest,
0=Low
est**

Comments: _____

After Treatment:

Peaceful Happy Hopeful Confident

1					P o i n t s : 1 0 = H
9					
8					
7					
6					
5					
4					
3					
2					
1					
0					

**ighest,
0=Low
est**

Comments: _____

Client: _____ Date: _____ Session # _____

Massage Therapy

Back	Oil	Neck	Oil	Shoulders	Oil
Arms	Oil	Hand	Oil	Legs	Oil
Feet	Oil	Chest	Oil	Abdomen	Oil
Head	Oil	Face	Oil		

Energy Healing

Reiki Healing Touch Energy Medicine

Notes: _____

Self-Care Skills Taught

Heart Connection	Energy "Bubble"	Self Chakra
Crystals	Mind Clearing	Energy Brushing
Hands In Motion	Visualization	Breath Technique
Protective Energy Shield	Loving Kindness Meditation	Other: _____

Notes: _____

Emotional Inventory Data

<u>Emotion</u>	<u>Before</u>	<u>After</u>	<u>Change</u>	<u>Comments:</u>
Peaceful	_____	_____	_____	_____
Happy	_____	_____	_____	_____
Hopeful	_____	_____	_____	_____
Confident	_____	_____	_____	_____
Total Change				_____

Narrative Treatment Summary:

--

APPENDIX P

RCT Protocol

Aim of Study

To examine the effectiveness of massage therapy as adjunct to traditional psychotherapy and compare it to both traditional psychotherapy with an added relaxation component and traditional psychotherapy alone in reducing functional impairment (including externalizing and internalizing problem behaviors) in children ages 8 to 12 who present for mental health treatment.

Study Hypothesis

By creating a safe and regulating brain-mind-body experience, postintervention clinical improvement in outcomes measures will result. It is hypothesized that there will be a statistical difference in outcomes between the experimental groups and the treatment-as-usual group. It is predicted that adding hands-on and/or somatically based components to psychological treatment will yield improved functionality and healing.

Research Question

For children ages 8 to 12 who present in community mental health settings with symptoms related to exposure to adverse life experiences:

- 1. Is massage therapy (MT), administered as adjunct to psychological treatment as usual (TAU), more effective in improving functioning than psychological treatment as usual (TAU) with a guided caregiver progressive relaxation (GCR) component and than psychological TAU alone?*
- 2. Is psychological (TAU) with a guided caregiver progressive relaxation (GCR) component more effective than psychological TAU alone?*

Research Design and Methods

Overview of Study

In order to test the above research question, a *randomized control trial* will be utilized to assess the comparative effectiveness of massage therapy (MT) adjunctive to psychological treatment as usual (TAU) as compared to psychological treatment as usual (TAU) with an added guided caregiver relaxation (GCR) component. Additionally, psychological treatment as usual (TAU) will be compared to TAU with the added GCR component. This intervention study will seek to evaluate treatment effectiveness within a “real-world-setting.” Specifically, 60 consecutively referred research participants (children ages 8 to 12) presenting for treatment at a community mental health agency, will be randomly assigned to one of the three conditions. The experimental treatment groups will consist of either massage therapy as adjunct to traditional psychological treatment as usual (MT+TAU) or traditional psychological treatment as usual with an added caregiver relaxation component (TAU+GCR) and the control group will consist of traditional psychotherapy as usual alone (TAU).

Outcome measures (CAFAS, CBCL, YOQ) will be administered at baseline and at the end of participation in the study to assess a change in the functional impairment between the experimental research participants and the comparison group.

Setting

The proposed study will take place at a community mental health clinic/agency.

Referral Process

Referrals for treatment will be made by parents or guardians as well as by a variety of community members, such as child protective workers, juvenile justice, probation officers, school personnel, pediatricians and others. All relevant referrals regardless of ethnic or economic

Child Massage Integrated Therapy: A Preliminary Manual

backgrounds will be accepted. It is expected that in accordance with the current clinical profile for children referred to mental health agencies, many of the children referred to this study will present with diagnosed co-morbidities as well as a with a history of multiple ACEs, functional impairment and chronic exposure to trauma. All payer sources will be accepted as reimbursement for the clinical services and annual appeals and/or private donations/grants/foundation awards will cover the cost of the massage therapy sessions for the subjects in the experimental condition.

Recruitment Process and Randomization

In order to reach the desired sample size of sixty (60) study subjects, all eligible children ages 8-12 consecutively referred for services will be approached about participation. The agency's intake clinicians will be charged with assessing eligibility and assuring that consent and assent is appropriately obtained. In order to fulfill the University's requirement for training in human research protection, all intake clinicians will complete the University of Pennsylvania's CITI training course. Enrollment will end when the N of 60 has been attained. For optimal recruitment purposes, including maximizing the number of enrolled subjects who complete the treatment, the intake clinicians will be the initial contact point for potential research subjects. A recruitment script/interest form has been developed to prevent clients from agreeing to participate in a project that is vaguely or inaccurately described to them.

In accordance with the agency's usual intake protocol, the intake clinician will complete a thorough diagnostic psychosocial assessment on all prospective participants to determine study eligibility. During the intake process, the agency's psychosocial assessment, which includes a trauma exposure self-report checklist, will be completed. The trauma report checklist consists of questions pertaining to the type of adverse life experience a person may have been exposed to as

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well as the duration, age when it happened and enduring symptoms. A positive finding on the trauma checklist will serve to satisfy the eligibility criteria and will cue the intake clinician to inquire about the client's level of interest in hearing about the study.

In addition, at the time of intake, the AC-OK (a self-administered rapid-response screening instrument designed to identify co-occurring disorders) is completed by all clients ages 10 and older and reviewed and signed by the intake clinician. The tool screens for 3 domains: mental health, trauma, and substance abuse. This screening tool is considered valid and reliable with high psychometric properties (Cherry, 2007). Although not a diagnostic tool, a positive response suggests that further assessment is warranted. Since the AC-OK is recommended for children 10 and older, only the information from the trauma checklist will be utilized for those between the ages of 8 and 10. As with the trauma-checklist, a positive finding on the AC-OK will serve to satisfy eligibility requirements and will provide a cue to the intake clinician to initiate a conversation with families about interest in the study.

Following the completion of the intake assessment, the intake clinician will identify those initially assessed to be eligible to participate in the RCT (see inclusion criteria below). Once deemed eligible, if a client and caregiver express interest in the study (and following the consent/assent process which will be described in greater detail below), the client will be assigned to one of the three conditions in the following manner. Prior to the beginning of the study, a computer program will be used to generate a random number list of 1, 2 or 3, corresponding to the treatment condition. Opaque envelopes will be sequentially numbered with numbers from the computer-generated list, and each envelope will have a slip of paper with the study assignment (1=TAU-A; 2=MT+ TAU; 3= TAU+GCR) sealed inside.

After the parent/guardian consents and the child assents to take part in the study, the

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intake clinician will select the envelope next in the sequence. In order not to bias the pretest data to be collected for the study, the client will not be informed about the assignment at this time. Rather, the intake clinician will simply provide the identifying information to the assigned psychotherapist, who will communicate the assignment to the family after the first session and upon completion of the baseline outcomes measures. The randomization process will give all participants an equal chance of being assigned to either condition and will prevent a participant's possible preference for one condition over the other to influence responses to the measures. All children assessed will be offered services regardless of agreement to participate in the study.

The following is a list of criteria for participation in the study:

Inclusion criteria:

- Evidence of exposure to an adverse life experience as reported by a positive finding on the AC-OK and/or positive response on the trauma report checklist section of the comprehensive intake assessment.
- Children between the ages of 8 and 12, medically stable and able to communicate.
- Children must have a parent or guardian willing to participate in the treatment component of the project.
- Informed consent by parent/guardian and assent by the child is obtained.
- Children already in services at the agency will be considered as long as they are not already receiving psychotherapy. For example, preexisting clients open with targeted case management and/or psychiatry or transitioning from home-based services to a lower level of care will be eligible to participate.

Exclusion criteria:

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- Children with a primary diagnosis of autistic spectrum disorder, an active psychotic disorder or an active substance abuse diagnosis.
- Children who are acutely suicidal or homicidal or have been diagnosed with a significant intellectual disability.
- Children currently receiving individual or family psychotherapy from another agency, internally or in the school system.

Time Frame of Study, Refusal Rate, Attrition

This study, including the recruitment phase and conducting the interventions, will be completed within an eight-month period. The treatment duration for this study will be fixed and will consist of a maximum of three months. Since 90-day reviews (which collaboratively assess treatment progress with clients) and outcome measures are typically administered and completed at this point, and are mandated by state licensing regulations, the 3-month mark is a realistic point in time to obtain termination data. The fixed treatment duration will help to assure that the proposed sample size of 60 subjects is attained. Based on historical data obtained in a typical community mental health clinic, 275 children between the ages of 8 and 12 presented for services. An 8-month time frame should provide ample time to enroll 60 subjects and complete 3 months of psychotherapy, including the 6 sessions of massage for those in the experimental condition. As was previously mentioned, if clinically indicated, treatment will continue post the 90-day review and termination from the study; but data will no longer be collected.

Based on similar population involvement in other community-based randomized effectiveness trials, the refusal rate for the target population is not expected to be significant. Research experience has revealed that the most common reason why families refuse to follow through with enrollment is related to the lengthy eligibility screening process. In this case, no

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screening measures are being administered that are not part of the usual clinical protocol. Therefore, the primary factor potentially impacting agreement to participate will most likely have to do with perceptions about the value of massage therapy. However, based on the positive response to complementary therapies increasingly expressed by the public, no particular difficulties are anticipated recruiting subjects into the study. In spite of this, the design of this RCT must plan for the fact that some clients will choose not to participate following the initial intake assessment, that some clients and therapists will not complete the outcome measures and that some clients will simply drop out of the study. To protect the validity of the study, to improve the statistical power of analysis and to demonstrate a causal relationship between the variables, attrition must be controlled. This will be achieved by implementing various strategies to enhance engagement rates. One strategy to enhance full participation and completion of the study involves compensating the participants for their time and energy. In this case, following recruitment, the participants and their guardians will be informed about the possibility of being entered into a drawing for a \$50 gift certificate to Target. The study participants will be told that they will be eligible for entry into the drawing only after they have completed all self-administered outcomes measures including the final one. If time constraints allow, a preparatory, pre-randomization introductory-phase process involving “interest meetings” with families may also help to minimize attrition.

Sample size

To justify the optimum sample size to adequately generate a meaningful effect size, a Cohen *d*'s statistical power analysis was conducted. In an attempt to avoid a Type II “false negative” error, which could lead critics to conclude that the experimental conditions had no effect, the sample size needs to be large enough to detect a difference between the two

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conditions. Since a t-test is especially suitable to detect such a difference for randomized experimental designs, Cohen's d is the most applicable statistical method to calculate the effect size.

The sample size must be calculated to ensure that there is enough power to find a true clinical difference between the conditions being evaluated. In order to justify the sample size, researchers, estimate an effect size of a target intervention based on previous research with similar or same interventions. Results from several trials enrolling massage therapy recipients as subjects (utilizing psychological outcome variables) were leveraged to estimate the sample size for this study. Moyer et al.'s (2004) meta-analysis supports the general conclusion that massage therapy is effective. Thirty-seven studies yielded a statistically significant overall effect. Moyer concludes, "significant results were found within the single-dose and multiple-dose categories and for both physiological and psychological outcome variables" (p. 15).

Lastly, the sample size must be calculated, using information about anticipated effect size, desirable power of 80 % and alpha level of .05. According to Cohen (1988) "Statistical Power Analysis for the Behavioral Sciences", a sample size of 60 (per group) will give power of .70 (70%) at alpha level .05 or if effect size is medium (i.e., Cohen's $d = .5$). In order to attain the preferential power of .80, a sample size of 64 (per group) would be required. This proposed pilot study is most likely going to be underpowered, however, based on the innovative nature of this work and the feasibility of attaining the proposed participants in the time frame designated. However, the sample is justified. The proposed design for this study follows many of the recommendations set forth in the review of published MT research literature. In addition, the early phase characterizing the field of MT research (especially in the pediatric population) justifies conducting this study with a smaller than ideal sample size.

Operationalizing Treatment Conditions

The independent variables in this study are the experimental interventions (MT+TAU and TAU + GCR) and the control condition is psychological TAU alone. The dependent variable is functional impairment. The hypothesis is that the experimental intervention MT+TAU (massage therapy provided to clients as adjunct to psychological treatment as usual) will result in a greater change in the functional impairment of the research participants than the control intervention (TAU) or than the other experimental condition: TAU + GCR (psychological treatment as usual with an added caregiver guided relaxation component). An additional hypothesis is that TAU + GCR will result in a greater change in functional impairment than TAU.

Treatment as usual

The psychological treatment as usual (in both the control and experimental groups) will be administered by the agency's current psychotherapists. This will ensure no systematic differences in clinical competence across conditions. These therapists are all trained at the master's level, some with a degree in clinical social work, the others with master's in counseling psychology. All clinical staff are either conditionally or independently licensed and they range in experience from newly graduated to having 20 plus years in the field. All of them have identified working with children and families as an area of interest and expertise. The specific treatment characteristics will differ from session to session and from therapist to therapist. However, generally, interventions address issues commonly experienced by traumatized children such as poor self esteem, difficulty trusting others, mood and affect instability and self-injurious behaviors, including substance abuse. A normal course of treatment typically involves 6 to 14 weekly sessions, lasting 50-to-60 minutes with the parent/guardian often but not always present. The most common theoretical approach or therapeutic modality utilized by the agency's

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psychotherapists consists of a trauma-informed, solution oriented therapy grounded in cognitive behavioral principles. Many of the therapists participating in the research study are trained in evidence-based interventions including TF-CBT (Trauma Focused Cognitive Behavioral Treatment) and in MATCH-ADTC (Modular Approach to Therapy for Children- Anxiety, Depression, Trauma or Conduct). All interventions are documented on an individualized treatment plan signed off by the guardian/client with the identifying diagnosis, short and long term measurable goals, actions steps, as well as the discharge criteria. This plan is reviewed every 90 days (or earlier if treatment is completed prior to the 90-day mark) and a summary of the treatment, including progress made toward goals, is documented and signed by the client. All psychotherapists are required to minimally attend two hours of clinical supervision per month.

Lastly, the sessions occur in the therapist's office. At the end of each session, the therapist completes a progress note using a SIPP (Subjective/Objective/Intervention/ Plan) format, summarizing the content of the meeting, and indicating the specific intervention utilized and identifying progress made and a plan for the next session.

Guided Caregiver Relaxation Exercise

A relaxation activity will be added to the treatment-as-usual sessions. This added intervention will consist of six sessions of a progressive muscle relaxation exercise that will be taught by the psychotherapists to the guardian/child dyad and assigned as homework. The guardian and child will be encouraged to practice the intervention on six separate occasions at home and report during the next therapy session how the child reacted. Progress notes will reflect both the client's and the guardian's reaction to the exercise. The following script will be provided to guardians to guide them in the "Magic Wand Progressive Relaxation" exercise.

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“You hold the magic wand to help your child relax. Explain to your child that when you lightly touch a body part, it is his/her job to tense and then relax that part. You can use two fingers together as your magic wand, or create one as a craft project. The power in the wand is to help relax the body. (This activity can be easily done with auditory instruction only, using the imagination to feel the magic wand tap the area to be relaxed. As with any relaxation activity, please ask your child’s permission first, especially if he has sensory issues and is tactile sensitive to light touches).

- 1. Have your child lie down in a comfortable place on the floor.**
- 2. Gently touch your child’s toes like this:**
 - **Touch One “Tense Your Toes, squeeze tight, tight, tight, with all your might.”**
 - **Touch Two: “Toes Let Go, melt, melt, melt, your toe muscles into the floor. Relax and let go.”**

Repeat for the following body parts: calves, thighs, legs, tummy, hands, arms, shoulders, neck, face, and whole body. When you have completed the sequence, wave your wand over the entire body, explaining that, as it passes over your child the first time he or she is to TENSE their whole body, squeezing every part very, very tight. As the wand passes over the second time, instruct him or her to RELAX, let go of any tension and feel his or her whole body melting into the floor. Remind your child that he/she has the power to relax his or her body whenever he/she chooses, no matter where he/she is and no matter what he/she is doing. That magic wand is in her/his mind as well and can help him/her to relax different body parts whenever needed.”

Massage Therapy

Massage therapy is operationalized as the manipulation of superficial layers of muscles and connective tissue to enhance the function and promote relaxation and well-being. Massage therapy has been described as a process by which professionals use their fingers and hands to press key points on the surface of a person’s skin to stimulate the body’s natural self-curative abilities. Massage therapy reduces tension, increases circulation and enables the body to relax deeply. Three licensed massage therapists, licensed by the state, and contracted by the agency,

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will administer six to ten 30-to-50 minute sessions of massage therapy. The focus of the therapeutic massage will be on teaching self-soothing techniques and healing touch methods.

The licensed massage therapists, well versed in the impact of trauma on children, will work with the caregiver and the child in conjunction with the mental health psychotherapist. All three massage therapists participating in this study are women who have been practicing between 5 and 15 years.

Although no specific massage manual is required to implement the intervention, the massage therapists will administer a standard massage protocol. Generally it includes the following components of traditional Swedish massage: *effleurage* is used to bring the muscles together with long, sweeping strokes along the body, while friction induces heat and causes muscles to relax; *petrissage* allows for deeper massage by kneading and squeezing the muscles; *tapotement* energizes with chopping or cupping motions; *traction* stretches the muscles by pulling on them; and *vibration* loosens muscles by drawing the fingertips or sides of the hands quickly along the muscle. As is the case with the usual agency protocol, fidelity to this technique will be monitored by length and numbers of sessions, as well as by the progress notes, completed by the massage therapists after each session. Following usual practice, all massage therapy notes and records will be incorporated into the client's chart. The following is the protocol that will be utilized by all licensed massage therapists for the sessions of massage.

I) Consultation

The children, parent/guardian and the psychotherapist participate in a half-hour consultation with the massage therapist prior to the first massage treatment. The consultation provides an opportunity to meet the therapist before the treatment and to learn what the massage treatment is like. The children are told they are in charge of the treatment. They have a right to

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say how they want to be touched (pressure) and where on the body they want or don't want to be touched. They also have a chance to draw on a picture of the body where they feel uncomfortable with touch.

In order to maximize the client's opportunity for choice and to ensure that his or her voice is heard, the child is told that he or she can choose what to wear for the massage sessions. It is critical that these children are provided with an environment that allows them to feel safe and in control. Regular check-ins with the clients as to what feels comfortable and acceptable is a usual part of the protocol. During the consultation time, the massage therapist explains to the guardian that all sessions require the guardian's presence. In addition, the massage therapist will explore with the guardian his or her own experience or beliefs about massage therapy in order to assess his or her level of receptiveness and comfort with the process.

Lastly, during the pre-session consultation, the massage therapist will introduce the notion that after each massage, the parent or guardian will be encouraged to practice at home the skills learned in session. It will be explained to both the child and the adult that one of the goals of the treatment is to teach families to utilize touch and massage on an ongoing basis.

II) Massage Sessions

The child receives 30-50 minutes of full body massage. The massage is done on a massage table. The exception is when a child indicates that he or she does not want a certain area touched or requests a shorter session. The child is covered with a sheet and the massage begins. If the child is comfortable with touch on the skin, the sheet is removed from the area being massaged. When that area is completed, it is re-covered. The following is the specific order in which the massage is administered.

1. Face Down

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- Neck and shoulders

- A. Body contact is made with a light touch; hands are placed on the shoulders.
- B. Slow lateral stroking from neck across shoulders and from shoulders to neck.
- C. Pressure is applied with thumbs lifting and squeezing shoulder muscles.
- D. Fingers are placed on either side of the neck, with full circles in neck and a gentle squeezing of the muscle.

- Back

- A. Moderate pressure with open hand is applied on either side of the vertebral column walking down from shoulders to waist and back from waist to shoulders.
- B. Moderate pressure with open hand, and long, smooth strokes from shoulders to waist and back from waist to shoulders.

- Legs/Feet (both sides of body)

- A. One hand is placed on the hip, the other on the foot. The child is asked if they are OK with this touch. If so, the sequence begins.
- B. Long, smooth strokes from hip to foot and back again to hip.
- C. Long, smooth strokes from knee to calf to foot and back again.
- D. A long, smooth stroke to the bottom of each foot with open hand.
- E. Both feet are held at the same time.

2. Face Up

- Head and neck

- A. The head is on the table and is held with one hand placed on each side.
- B. While the head is held the therapist moves hands to the bony ridge at the back of the neck. Circular motions with fingertips are applied.

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C. Scalp Massage: the whole head is massaged with three fingers making circular motions with different pressure.

- Shoulders

A. Slow strokes with open hands from neck across the shoulders and from the shoulders to the neck. Hands placed under the shoulders with firm pressure holding the position.

- Arms /hands (both sides of the body)

A. Long, slow strokes from the shoulders to beyond the hand, followed by stroking the hand.

B. Squeezing and stretching the hand.

C. The thumb walks around the palm of the hand applying pressure.

D. Slow, long strokes from hand to the shoulder.

- Legs/Feet (both sides of the body are done)

A. One hand is placed on the hip, the other on the foot with moderate pressure. The child is asked about the comfort of this touch. If he or she is comfortable, the sequence begins.

B. Long, smooth strokes from hip to the foot covering the whole leg and back to the hip.

- Feet

A. Holding both feet, moderate pressure is applied.

B. Holding one foot at a time, moderate pressure is applied to the ball of the foot with palm of the hand.

C. Holding on foot at a time, the thumb is used in circular motions on the ball of the foot.

D. On both feet, light, smooth strokes with open hand from top to bottom of the foot and back again.

E. Hold both feet for about one minute.

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III) Closing Comments (including a review with parent/guardian and child about important self-care techniques to promote relaxation).

1. *Energy Brush Down*

With open hands an inch above the body or lightly touching the skin, start at the head and move down the body to the feet. Repeat once. Using an open, right hand, go to the left hand side of the body and brush from the side of the head to the foot. These should be slow, continuous movements. Do this five times. Then take the left hand and start on the right side of the body, moving from the top of the head to the foot. Again, slow movements, repeated five times.

2. *Heart Holding*

The following is narrated and demonstrated to the child and guardian: “Place your right, open hand over your heart area at center of chest. Feel your heartbeat; it should feel like a slow beating drum. As you feel your heart, say: ‘I feel at peace, I feel calm.’ Hold this position for at least one minute.” The child and guardian are encouraged to practice this technique every night before bed.

Measurements

Data for this study will be primarily compiled from three sources: the parent/guardian, the child and the providers. As is consistent with usual agency practice, any measures administered will be filed in the medical record either electronically or in the paper chart. Both versions of the client’s self-administered tools (YOQ 2.0, YOQ-SR) and the CAFAS are routinely administered measures that are completed as a part of the clinical process. The staff has been trained in the scoring and clinical utility of these tools. The agency captures data from the YOQ and the CAFAS as a part of its overarching Process Quality Improvement (PQI) initiative, and a web-based system tracks the results as a routine part of clinical practice.

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All measurement tools utilized in this study are written at the 6th grade reading level or lower and in cases where participants or guardians have difficulty with literacy issues the therapists can read the questions to the subjects. The tools can be administered within a 10-to-15 minute time frame and are easily scored. The tools will be completed or administered in both conditions after the first psychotherapy session to establish a baseline and after concluding participation in the study (which will vary). For those subjects in the control condition and in the experimental condition with GCR, termination in the study will automatically occur at the 90-day review, 3 months after the first psychotherapy session has occurred. Treatment may continue past the 90-day mark as clinically warranted; however, no data will be collected after that point for the purposes of this study. For those in the experimental condition receiving the additional 6 sessions of massage therapy, termination from the study will occur after the 6 sessions of massage therapy have been completed or at the 90-day review, whichever one comes first. The tools will be completed and/or administered twice: at baseline and after completion of the study component as described above.

Following appropriate consents, assents and signed releases of information, all demographic, emergency, diagnostic and collateral contacts for participants enrolled will be entered into the system by an administrative support person. Following is a description of the specific outcomes measures that will be utilized for purposes of this study, a summary of the psychometric properties of each measure and the party responsible for completing the tools.

Child and Adolescent Functional Assessment Scale (CAFAS)

The CAFAS (Hodges, 1990, 1994) is considered the gold standard for assessing a youth's day-to-day functioning across critical life domains and for determining whether a youth's functioning improves over time. The instrument consists of five scales (role performance,

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thinking, behavior toward self and others, mood/emotions and substance abuse). Each problem is rated on a four-point scale system where 0 corresponds to minimal disruption, 10 to mild, 20 to moderate and 30 to severe disruption. The validity and reliability of the CAFAS (1990 version) has been empirically documented (Hodges, Gust, 1995) and its inter-rater reliability was demonstrated for raters with various levels of experience. The CAFAS will be completed in both conditions by the psychotherapist after the first psychotherapy session to establish a baseline and after the child has concluded participation in the study, as described above.

The Child Behavior Checklist (CBCL)

The CBCL (Achenbach, 1991) is an empirically based instrument utilized to assess maladaptive functioning in children ages 6 to 18. The CBCL consists of 118 items related to behavior problems and is scored on a 3-point scale ranging from not true to often true of the child. The CBCL was designed to address both internalizing and externalizing problems. The instrument includes measurement of the following eight constructs: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior. For the purposes of this study, the CBCL will be self-administered by the parent/guardian. The scale also consists of competency questions pertaining to a parent's perception of their child's functioning and participation across 3 significant life domains (activities, social and school). Several studies have supported the construct validity (.07 to .33) and the reliability (ranging from .72 to .96) of the CBCL (Achenbach, 1992). This tool is to be completed twice by the parent/guardian: at entry into service and at the conclusion of the study.

The Youth Outcome Questionnaire (YOQ 2.01) and the Y-OQ-SR

The Y-OQ 2.01 and Y-OQ-SR (Burlingame et al., 2001, 2004, 2005; Wells et al., 2003)

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are self-report standardized instruments comprised of 64 items each that are designed to measure the current level of psychosocial distress a child or adolescent is experiencing. For the Y-OQ, parents or guardians rate items on a 5-point scale according to their observations of the child's behavior over the past week. The Y-OQ-SR (for ages 12-18) is the youth self-report parallel form of the Y-OQ. The Y-OQ and Y-OQ-SR include subscales for Intrapersonal Distress, Somatic, Interpersonal Relations, Social Problems, Behavioral Dysfunction, and Critical Items such as suicidal ideation. The internal consistency estimate of the total score is .95 for the Y-OQ and .96 for the Y-OQ-SR. The Y-OQ is able to predict membership in a clinical or normal population with average classification accuracy of 85% (Burlingame et al., 1996; Wells et al., 1996). The YOQ is meant to track actual change in functioning. In addition to internal consistency, a Brigham Young University (2007) study reports favorable analysis in terms of test-retest reliability and construct validity. The tool will minimally be completed by the guardian and by children ages 12 and above in both conditions: at baseline, and at completion of the study.

In addition to the measurement tools described above, progress notes will be completed after each session by both the massage therapist and the psychotherapist. Following usual protocol, these progress notes will be filed in the client's charts. The massage therapy progress notes will include the *Children Complementary Therapy Emotional Inventory Questionnaire (EIQ)*. The EIQ tool was developed by a massage therapist and has been piloted and administered with over 60 children. The client is asked to rate on a scale from 1 to 10 how he or she feels across four separate domains (peaceful, happy, hopeful and confident) prior to and following the massage therapy session. Although the psychometric properties of this tool have not been empirically tested for reliability (both stability and equivalency) or validity, it does have

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face validity. The EIQ will be administered over the course of the six sessions.

Analysis

In order to test the hypothesis that massage therapy administered in conjunction with TAU is more effective in improving functioning across life domains than TAU plus an added guided caregiver relaxation component or than TAU alone, a series of analysis of variance (ANCOVA) will be conducted. It is expected that the major characteristics in all three groups will be similar. However, if baseline data demonstrates a significant difference, key variables will be controlled for gender, age, ethnicity and number of sessions attended, and therefore ANCOVA will be performed. It is hypothesized that there will be a statistical difference in outcomes between the experimental groups and the treatment as usual group. Specifically, the study hypothesis will be supported if the CAFAS, YOQ and CBCL scores in the experimental groups demonstrate a greater improvement in functioning than those in the control group and if adjunct massage therapy yields a greater change in the child's functioning than the guided caregiver relaxation group. A more positive change in the massage therapy experimental group versus the control group in the measurable concepts discussed above will satisfy the hypothesis.

In addition, intent to treat analysis will be utilized to minimize bias, and all enrolled randomized study participants will be analyzed in the condition in which they were assigned. This will be made clear in the consent and assent process, and attempts will be made to obtain termination outcome data, even for clients who have dropped out.

Administrative Arrangements

The agency's Board of Directors must approve the concept of the research, including the assent/consent forms, the outcome measures and the time frames for administering them. In addition, the senior leadership team, responsible for strategic plan development and for holding

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the agency's long-term vision and goals, must endorse the implementation of this study. Since study subjects will be recruited as part of the usual intake process, no changes should be required at that end to accommodate this study. However, it will be of great importance to train all intake clinicians and provide them with a thorough understanding of the research study as well as with a recruitment script, since they will be responsible for obtaining consent/assent from the study participants. As mentioned previously, all intake clinicians will complete the University of Pennsylvania's CITI course. Lastly, the treating therapists will need to be reminded to administer, complete and hand in the outcome measures in a timely fashion.

Protection of Human Subjects

In light of the fact that children are considered a vulnerable population, and in accordance with ethical human research principles, safeguards will be put in place to protect the welfare of the study participants. Specifically, written parental permission for the child to participate in the study will be sought, as well as the child's assent to participate. The goal of the assent is to involve the child in a developmentally appropriate discussion about participation in the study. The following components will be addressed and reviewed verbally and provided in writing to study participants as a part of the permission/assent process.

The purpose of the study and how long it is expected to last

The families will be told that the purpose of this study is to explore whether or not massage therapy, when administered while a child is receiving counseling services, is more effective than counseling with an added relaxation component or than counseling alone in reducing behaviors that are difficult to manage. Intake clinicians as part of the consent/assent process will alert families that, among other things, massage therapy can help reduce symptoms associated with anxiety and depression in adults and aggression in adolescents. In addition,

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families will be told that sixty children will be involved in this study. Twenty children will receive six 30-to-50 minute massage therapy sessions in addition to the regular counseling that they came in for, another twenty will receive the counseling plus the relaxation exercise delivered by the guardian at home, and the last 20 will receiving usual counseling. The children will randomly be assigned to the massage therapy plus counseling group, the counseling/relaxation group or to the usual counseling group. Lastly, they will be told that the study will end 12 weeks or 90 days after their child begins the first counseling session and/or if in the massage therapy group, after the six sessions of massage therapy is completed. It will be explained that services will continue past the end of the study period if clinically indicated and requested by them.

A statement about the voluntary nature of the study and options if subjects choose to drop out or not participate at all

The following will be stated to the families: “Your and your child’s participation is VOLUNTARY. Whether or not you/your child choose to participate will not affect your relationship with the agency. If you and your child decide to participate, you and your child are free to withdraw your consent and discontinue participation at any time without penalty. The investigator may withdraw you and your child from this research if circumstances arise that warrant doing so. Reasons for such a decision will be given. Withdrawal from the study will not jeopardize your child’s treatment with the clinic.”

A clear explanation of the compensation for completing the outcome measures

The families will be told that, upon completion of all self-administered assessment tools (including the final one), they will be entered into a drawing for a \$50 gift certificate to Target.

The reasonably foreseen risks and benefits

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Risks:

It will be explained to families that the risks associated with participating in this research are minimal. The guardians will be alerted to the fact that their child may find some of the questions on the questionnaire confusing, tiresome or disturbing. It will also be explained to them verbally and in writing that their child is free to stop answering or not to answer any of the questions that make him or her feel uncomfortable. They will be told that if their child needs help with his or her feelings, the psychotherapist will be there to help. Lastly, they will be told that although treatment is designed to help youth with emotional and behavior problems, there is no guarantee that their child will improve and that they have the right to withdraw from this research project at any time without penalty. All the above-referenced information will also be provided to the child, using developmentally appropriate language designed to engage the child in a meaningful conversation about the risks and benefits.

Benefits:

The guardians and the child will be told that by giving permission to share information about the study, their child may be contributing to the improvement of services for other children with similar problems as their child who access massage therapy. The families will also be told that in fact there may be no visible benefit to their child.

A statement of confidentiality and use of research data

Participants will be told that all of the data that is gathered will be confidential to the extent allowed by law. No child or family name or any information that could identify them will ever be used in any summaries. Instead, any writings about this research study will present findings in terms of groups of children and families. Families will be told that when the information is collected, ID numbers will be used instead of their child's name on all study forms and documents. Following best practice, all of the documents pertaining to client information

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will be kept in a locked, secure location. Only the principle investigator for the study will ever have access to any of the research information, and then only for the purposes to which the family agrees. In addition, all computerized data gathered as part of usual practice will be kept on secured computers or networks. These data will be accessible only to clinicians and the principle investigator, using confidential usernames and passwords.

Data Retention Policies

All information from this research study will be kept indefinitely and may be used by other researchers in the future. For this use, however, neither their name nor any information that could identify them will be included. This means that the information will be de-identified in order to protect the privacy and confidentiality of all participants. In addition, any future use of the research information will be overseen by a human research review committee whose role is to ensure that the rights and welfare of research participants are protected.

Exceptions To Confidentiality

Families will be told the following: “Confidentiality does not extend to information about possible child abuse, or significant risk of harm to self or others. If clinical staff is given such information, they are mandated to take necessary actions. This may include reporting to senior staff and appropriate authorities, including, for example, the Department of Health and Human Services, the police, or any person who might be in danger. In general, necessary measures will be taken to protect you and your child, or someone else from harm.”

Lastly, families will be provided with the following additional protocols and policies pertaining to confidentiality:

1. All individually identifiable information that reveals the state of a client’s physical or mental health, whether oral or written, is considered protected health care information and therefore

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must be maintained confidentially as outlined below.

2. Project staff may not disclose, divulge, or reveal protected client information to unauthorized persons or entities or retain or use the same for the staff person's or another's gain or benefit. This includes, but is not limited to, any disclosures during the performance of job duties, during breaks, or during time away from work.
3. All original records, materials, and documentation relating in any way to a client's confidential health care information, that are generated by a staff member or that comes into a staff member's custody, possession, or control, are the exclusive property of the agency.
4. Upon admission, clients (guardian/legally responsible parent/other legally responsible party) will receive the Notice of Privacy Practices, which includes information on the following:
 - a. how the records will be used;
 - b. when the information may be disclosed;
 - c. how the client may access those records;
 - d. how the client may authorize disclosure of his/her records;
 - e. what happens to the records after care is terminated.
5. All client-related communications, i.e., staff-client, staff-family, staff-other authorized recipients, and staff-staff communications concerning the client, must be conducted in a confidential manner and environment.
 - a. Communication about client health information should occur only where confidentiality of that information can be maintained, i.e., not in waiting areas, hallways, or other areas where other clients or other staff who do not need to know the information are present.
 - b. All project staff will access client information ONLY as needed for performance of his/her work responsibilities.

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- c. Staff will use extreme caution when discussing client related information on cellular phones, and this will be done only when absolutely necessary. Staff will refrain from using client names and discussing diagnosis and treatment matters whenever possible.
- d. No individually identifiable client information may be sent via e-mail unless using an encryption or other security approved measure.
- e. When information must be transmitted via a fax machine, the “Fax Cover Sheet” must explain that the information being transmitted is confidential and should be destroyed if the recipient is not authorized to receive the information. The person sending the fax must take care to ensure that the number dialed is accurate and the intended recipient is available to receive the information.
- f. If it is necessary to leave a message on an answering machine for a client, staff will avoid leaving information that would reveal protected health information if the message is heard by someone other than the client.
- g. Client health information must not be stored on employee-owned personal computers or assistive devices, except as authorized pursuant to the Electronic Systems and Communications Security Policy.
- h. Client health information should not be left where unauthorized persons could see or get access to that information.
- i. When client records are away from the place where they are routinely maintained (i.e., record-storage locations) as mobile records or moving from one location to another, they must be transported in secure briefcase/boxes and locked or maintained within the direct personal control of the project staff member transporting the record.
- j. Paper containing a client name or other confidential information must not be disposed of

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- in regular trash or in paper for recycling. All such paper must be destroyed and so must be either shredded or disposed of in confidential destruction containers.
- k. Clients and other non-project employees should not be left unattended in areas where client information is accessible.
6. The right to confidentiality is that of the client, and, in general, only the client or his or her legally authorized representative (parent/guardian/holder of power of attorney) has the right to release information related to his/her treatment. However, there are exceptions. Release of client information to persons or entities outside the project is governed by other Release of Information Policies.
7. In addition, for all clients seen for substance abuse evaluation and/or treatment, client health information will be maintained in accordance with 42 CFR Part 2.
8. In the event that a project staff member becomes aware of a disclosure of protected client information that is not in accordance with these policies, client's rights, HIPAA, or other laws, s/he will notify the Chief Privacy Officer, the Quality Review Coordinator, or designee, who will investigate this notification and will coordinate reasonable steps to mitigate the known harmful effects of any wrongful disclosures.
9. Violation by a project employee or subcontractor of the policy or other laws/rules related to client privacy is grounds for discipline, up to and including immediate discharge.

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