



This mining report invites play therapists into the exciting links between our work with children and the ever-growing knowledge base from neuroscience. According to the latest research, one can argue that play therapy interventions, because they are not limited to verbal communication and expression, are well-suited to traumatized children. *Clinical Editor Jodi Ann Mullen, PhD, LMHC, RPT-S*

Mining Report – July 2008

Neuroscience and Play Therapy

By Richard Gaskill, EdD, LCP, LCPC, RPT-S

Early play therapy pioneers developed much of the current theory of treatment from 1900 through the 1960's. Many excellent play therapy modalities were developed. Subsequent research supported the developmental qualities of play (Elkind, 2003; Hawley, 2000) as well as the efficacy of play therapy (Bratton and Ray, 2002). Most of this work evolved prior to current knowledge of neuroscience. Little understanding existed regarding the effects of psychosocial trauma on low brain regions (brainstem and diencephalon). Most techniques impacted higher brain regions (cortex and limbic areas). Today, knowledge from the field of neuroscience promises to improve play therapies for traumatized children. The challenge for the future is to create treatments for low brain trauma. Traditional concepts and practices must be re-examined and expanded as play therapists enhance their appreciation of neurobiological principles and their influence on treatment.

Psychosocial trauma negatively impacts all areas of brain development and functioning (Perry, 2000, 2008; Van der Kolk, 2006). The brain was historically viewed as hierarchically organized, feeding information from the brainstem to the cortex (McLean, 1990). This is not entirely so. Low brain regions respond long before information reaches the cortex. In fact, social-emotional trauma arouses low brain structures inhibiting the CNS, affecting sensory input, motor output, and language (Perry, 2000, 2008; van der Kolk, 2006). The rational executive brain (cortex) is largely inadequate to control emotional arousal or change fixed low brain patterns (van der Kolk, 2006). Finally, traumatic experiences can permanently alter basic brain function (Perry et al. 1991; Perry, 1998; Perry, 2001, 2008).

Traditional play therapies emphasizing awareness, verbalizations, behavior, and problem solving techniques are well suited to higher brain region problems (van der Kolk, 2006). Low brain regions, being nonverbal, are unresponsive to language, insight, or logic. Thus, brain regions not activated don't change. When traditional play therapies focus on emotional material, they often promote cognitive functioning through strategies intended to increase awareness and understanding. Questioning, for example, increases cortical processing and anxiety (Perry & Szalavitz, 2006). Severe trauma related disorders

don't respond completely with traditional treatments (Perry, 1999; van der Kolk, 2006). Severely traumatized children require interventions that address both low brain and high brain functions affected by trauma.

Recent treatment initiatives have explored alternative treatments to address persistent, low brain trauma. Most focused on movement, breathing, music, and sensory activities. van der Kolk (2006) suggested non-western healing traditions such as yoga, tai chi, focusing, sensory awareness, mind-body centering, and somatic experiencing. van der Kolk found yoga significantly improved PTSD symptoms. Miranda et al. (1998) reported using massage, music, movement, yoga, and dance in a healing arts project. Again Miranda et al. (1999) in a preschool pilot project used brief music and movement activities. Both projects produced encouraging outcomes. Finally, Gaskill (2007) protocolized intervention strategies by brain level using the Neurosequential Model of Therapeutics (Perry, 2006) This intervention strategy produced significantly positive outcomes with seriously disturbed preschoolers (Barfield, et al. 2006), earning a promising practices designation in Kansas (Barfield, 2004).

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Author



Richard Gaskill, EdD, LCP, LCPC, RPT-S

Gaskill is the Clinical Director and Deputy Director of the Sumner Mental Health Center in Wellington where he has developed child development classes, parenting classes, Child-Parent Relationship Training (Filial Therapy), Infant-Parent Relationship groups, attachment enhancement treatment groups, therapeutic alternative schools, therapeutic preschools, after school programs, and juvenile offender programs. He is also a Fellow of the ChildTrauma Academy in Houston and an adjunct faculty member at Wichita State University where he teaches play therapy, child psychopathology, and supervises play therapy practicums. A former Kansas APT president, Gaskill has presented workshops on play therapy interventions and the Neurosequential Model of Therapeutics applications throughout the Midwest and Canada. rgaskillsmhc@hotmail.com

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