ART THERAPY AND CLINICAL NEUROSCIENCE IN ACTION

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Art therapy is a visual-expressive approach to relational therapies in which non-verbal expressions are made easier by creating simple forms, colors, or cut-outs. Three decades of clinical experience have shown me how the approach can provide clients with sensory integrated experiences that facilitate change and safely counterbalance traumatic environmental influences. The art therapy processes involved in these experiences help regulate and recruit stress and fear-based subcortical right hemisphere quick stress-survival responses necessary for therapeutic outcomes (Bigsiach & Berti, 1990; Leusbrink, 2004; Langhinrichsen & Tucker, 1990; Ledoux, 1996, 2002; Springer & Deutsch, 1989; Martindale, 1990, Schore 2003). Verbal discussion of clients' art products can further help enlist explicit memory and consolidate verbal autobiographies by bringing the left hemisphere and the hippocampus online (Cozolino, 2002; Siegel, 1999). Unique to these art-therapy conversations is that they capitulate on right hemispheric language (Kane, 2004).

Art therapists encourage clients to take action by putting the image forward in a tangible, sensory and visible art expression. This is a concrete, sensory-oriented activity (Ogden & Minton, 2000) within a therapeutic relationship that results in an art product (Achterberg, 1999; Camic, 1999; Naparstek, 1994). The art can uniquely assist necessary therapist-client interpersonal alliance and attachment processes (Main, 2002) as art-making and art products act as a regulatory mechanism that mimics the reiterative dynamics of approach and avoidance observed in mother-child play (Mead, 2001). Art therapists can use this modified therapeutic alliance to *safely* mediate vivid imagery that is congruent with internalized change imagery that the person already has working for him/herself (Anderson, 1997; Naprastek, 1994). Then the art therapist can provide specific feedback in the form of art therapy directives and interpretation (Hass-Cohen, 2003; Riley, 1994).

The art therapist facilitates simple but novel art activities that are easily experienced by the amygdala as interpersonally safer, as well as help generate more active coping responses (Phelps, Delgado, Nearing, & Ledoux, 2004). This benign sub-cortical perception of the art product can stimulate an inwardly attuned, alert state that supports hippocampal processing of new information. Safe symbolic sensory experiences within a therapeutic relationship can bring online a heightened sense of perceived control and well-being (Malchiodi, 1999). The sensory-laden vivid artwork created in session can be experienced as real affective experiences accessible to the relational brain. When attention is sufficiently focused, it is as if the mind does not seem to qualitatively distinguish between a real image and an imagined image (Cappas, Andres-Hyman, & Davidson, 2005; Tart, 1990). This makes sense, as the processing of internal and external imagery share mostly equivalent neurological processes (Faw, 1997; Martindale 1990). It is during these states that art-imagery symbolism also seems to have the unexplained ability to provide symbolic clues about immune system function (Ferencik, Novak, Rovensky, 1998; Ferencik, & Stvrtinova,, 1997). These clues can assist in medical arts therapies practices (Achterberg, et al., 1994; Brigham, 1994;

Dantzer, 1997; Hiramoto, et al., 1999; Glaser & Kiecolt–Glaser, 1998; 1999; Malchiodi, 1993, 1999; Naparstek 1994; Spiegel, et al., 1989; Vick & Sexton-Radek, 2005).

To summarize, it is likely that art therapy can help provide distraction and relief from stress (Sapolski, 1998; Cozolino, 2002), update memory systems (Ledoux, 1998; Dadds, Cutmore, Bovbjerg, Redd, 1997), mediate a compromised immune system (Pennebaker, 1997) and facilitate coherent autobiographical narratives. Foundational to future discussions is the consideration of visual, perceptual, and attentional processes with a tie-in to survival-based responses (Buck, 1992), meaning-making (Siegel, 1999) and forward-functioning executive systems (Faw, 2003). Through relational verbal experiences and concretized art making, memory, emotion and cognition are called into bodily action.

Noah Hass-Cohen, M.A. is the founder and director of the art therapy program at Phillips Graduate Institute, a 60 units masters degree in psychology. The program focus is on the integration of art therapy with clinical neuroscience and marriage and family therapy theories. Noah is in the process of completing a clinical doctorate degree in psychology where she is pursuing her interest in neuropsychological and psychodiagnostic assessment. In her article, she outlines in an isomorphic nutshell the clinical neuroscience areas pertinent to art therapy. She wishes to emphasize that she is looking forward to a time when neuroimaging and other clinical advances will be able to provide empirical support for the ideas and hypotheses presented in her brief article. In her private practice in Encino, Noah provides psychotherapy and consultation. For more information, visit her website www.laiat.com. She can be reached at noah@pgi.edu or 818.386.5611.

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IPNB 101: Reviewing the Basics

"*Mind emerges from patterns in the flow of energy and information within the brain and between brains."** Let's take it step by step. "Mind emerges" makes mind more like a verb than a noun. "Patterns" refers to neural firing patterns, which are the "energy" (synaptic firing itself) and "information" (the mental representations that are the content of the firing). These firings both shape and are shaped by events "within the brain" (other neural firings) and by our interactions with others—"between brains" in the interpersonal system we share with all who cross our path. See if you can sense your own emergent mind by watching the flow of patterns as you shift your attention from one focus to another. Feel the changes in the energy in your body as well as the unfolding content of your awareness.

The corollary is this:
"*Mind regulates the flow of energy and information, changing the structure and function of the brain."**
We'll explore more about this in the summer issue.
*Dr. Daniel J. Siegel in his study groups