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Accessing traumatic memory through art making: An art therapy trauma protocol (ATTP)

Savneet Talwar, MA, ATR-BC, LPC *

Creative Community Arts Studio, 332 Lincoln Ave., Takoma Park, MD 20912, United States

Abstract

"We use our minds not to discover facts but to hide them." Antonio Damasio

"Art makes the invisible visible." Paul Klee

In this article I propose an art therapy trauma protocol (ATTP) designed to address the non-verbal core of traumatic memory. Trauma theorists [van der Kolk, B.A. (2003). Frontiers in trauma treatment. *Presented at the R. Cassidy Seminars*, St. Louis, MO 2004; Steele, W. & Raider, M. (2001). *Structured Sensory Intervention for Traumatized Children, Adolescents and Parents-Strategies to Alleviate Trauma*. New York: The Edwin Mellen Press] have endorsed alternative treatment methods such as eye movement desensitization reprocessing (EMDR), body-based psychotherapy, and expressive arts therapy as an alternative to verbal psychotherapy. Following an overview of the role of memory and emotions in trauma and theories of art making and brain function, I describe a protocol that has had success in integrating the cognitive, emotional and physiological levels of trauma drawing on EMDR, McNamee's bilateral art and Michelle Cassou's method of painting. A one-session example serves to illustrate its use.

Keywords: Art therapy; Emotions; Memory; Neurobiology; Creativity; Creative arts therapy; Art therapy trauma protocol; Trauma; PTSD

In this article I propose an art therapy trauma protocol designed to address the non-verbal core of traumatic memory. Recent developments in neurobiology have shown that memory is an active and constructive process, and that "the mind constantly re-assembles old impressions and attaches them to new information" (van der Kolk, 2002, p. 2). Most memory researchers "deny that the mind is capable of precisely reproducing the imprints of prior experience," (p. 2) including precisely recalling memories of smells, images or sensations. Individuals diagnosed with post-traumatic stress disorder (PTSD), however, report exact sensations, memories and emotions related to the trauma, and sometimes do so months or even years later. Individuals with PTSD symptoms experience a lack of control, as if they were involuntarily reliving the trauma, even when they may be aware of the disproportionate nature of their reactions. One of the primary challenges for the psychotherapeutic process is regulating the sensory imprints associated with trauma.

In recent years, advances in neurobiology and psychotherapy have informed the practice of art therapy, which has increasingly been utilized when verbal psychotherapy has failed to help clients. Numerous therapists have reported the benefits of creative arts therapies in their settings (Chapman, Morabito, & Ladakakos, 2001; Brett & Ostroff, 1985; Howard, 1990; Klorer, 2000; Rankin & Taucher, 2003; Yates & Pawley, 1987, among others), although few controlled studies have been published. Researchers in the field of art therapy have begun to pay attention to neurobiology and

* Tel.: +1 301 920 2224; fax: +1 866 829 9807.
E-mail address: stalwar@rcn.com.

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its relationship to art making and its implications for art therapists (Chapman et al., 2001; Klorer, 2005; Lusebrink, 2004; McNamee, 2004). Chapman et al. (2001) published a study with pediatric trauma patients. They reported that although the clinical trial did not indicate significant differences in the reduction of PTSD, there was evidence that children receiving art therapy did show reduction in acute stress symptoms. A recent study, however, conducted at Thomas Jefferson University, Philadelphia, provides data on improvement of the quality of life (Monti et al., 2005), and emphasizes the connection between the body–mind and creativity, illustrating the efficacy of art therapy.

In trauma treatment it is not the verbal account of the event that is important, but the non-verbal memory of the fragmented sensory and emotional elements of the traumatic experience (van der Kolk, 2003). Art therapy has long been recognized as a method that constitutes a primary process (Kramer, 1958; Levick, 1975; Naumburg, 1966; Rubin, 1984; Ulman and Dachinger, 1975) that taps into the non-verbal realm of imagery (Cohen & Riley, 2000). Successful art therapy can serve to integrate right and left brain functions that, in turn, help integrate experiences (McNamee, 2003, 2004, 2005), especially on a non-verbal level. In the first part of this article I define "trauma," and review current research into how it acts to subvert, or is a subversion of, normal brain functions that integrate experience and memory. In the second, I survey current thinking on the subject of art making and creativity and how they may involve specific areas and functions of the brain; this is a topic for which considerably more research is needed, so mine is necessarily only an overview of an emerging field. In the third part I describe the art therapy trauma protocol (ATTP), give a one-session example, and relate the technique to the issues raised in parts one and two.

Current views of trauma and brain function

Affect regulation, according to Omaha (2004), is the foundation for an adaptable healthy human, whereas affect dysregulation is the basis for clinical intervention. "Affects are genetically hard-wired, physiological building blocks from which feelings, emotions, and moods are constructed" (Omaha, 2004, p. 4). The individual's self-organization depends on his or her affect and emotion regulation. In the course of our lives, most of us will be exposed to one or more adverse life events, which may include directly experiencing trauma or indirectly witnessing a traumatic event. According to the nature of the event, its impact will ultimately be determined by each individual's ability to cope and regulate affect in the distressing situation. Greenwald (2005) argues that individuals who experience a traumatic event deal with their trauma in two ways. One is the adaptive method, in which the individual processes the stressful event in a supportive environment by moving through the normal stages of grief and loss. The other is the non-adaptive method; here the event is pushed behind a wall in order to seek emotional and affective relief from the distress it causes.

Walled off memories due to trauma retain their power and freshness on an affective level, even years after the event. Trauma creates a state of heightened physiological arousal initiated by a sensory experience, whether sounds, images, sensation of touch, smell or, in rare cases, taste (Rothschild, 2000; van der Kolk, 1994). Memories of the trauma can also trigger or sustain the arousal response (Steel & Raider, 2001). The effects of trauma on the body and the mind are well documented, and are defined in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV, 2000). One of the major symptoms characterizing trauma is PTSD, which is "persistent increased arousal" in the autonomic nervous system. This is called "somatic memory" (Rothschild, 2000; van der Kolk, 1994).

The primary issue in treating trauma clients is that certain sensory experiences related to the traumatic memory do not fade over time. Theorists (van der Kolk & van der Hart, 1991; van der Kolk & Fisler, 1995; van der Kolk, Hopper & Osterman, 2001; van der Kolk, 2003) argue that the effects of trauma persist for months, years or even decades after the event has occurred. "Particularly emotions, images, sensations, and muscular reactions related to trauma may become deeply imprinted on people's minds and the traumatic imprints seem to be re-experienced without applicable transformation" (van der Kolk, 2003, p. 2). It is the failure to transform and integrate these sensory imprints related to the trauma that keeps traumatized individuals at an increased level of hyper-vigilance, a cognitive state that prevents the individual from feeling a sense of psychological well-being and physical safety. We thus confront a particular form of memory dysfunction.

Memory consists of the storage, categorization and recall of information under appropriate circumstances (Rothschild, 2000). In the last decade, a growing body of research has established the importance of the limbic system for understanding emotions and memory and their relationship to trauma (for example: Nadel & Jacobs, 1996; Rothschild, 2000). Known as the "the seat of emotions," the limbic system guides the reactions and behaviors necessary for self-preservation and, ultimately, survival of the species. According to Rothschild (2000), the two areas of the limbic system central to the storage and retrieval of memory are the amygdala and the hippocampus. The amygdala is

most clearly implicated in the evaluation of emotional meaning related "to highly charged emotional memories such as terror and horror, becoming active both during and while remembering a traumatic incident" (p. 12). The hippocampus creates the cognitive map of the experience, "putting our memories into their proper perspective and place in our life's time line" (p. 12). It functions by, first, comparing the events of present experience with events from the past and, second, determining whether and how the events are associated. When placed in perspective, the event becomes an experience with a beginning, middle and end. As a result, the traumatic event is prevented from occupying its proper place in the individual's life history (Nadel & Jacobs, 1996; van der Kolk, 1994; Rothschild, 2000). It continues to invade the present, affecting the integration of the traumatic experiences and memory.

According to Rothschild (2000), experiences are sorted out through a staged memory system in which the main categories are "explicit" and "implicit" memory. Each of these memory systems distinguishes the types of information to be stored and how they are to be retrieved. Explicit memory is generally what we mean by the word "memory," also called "declarative memory;" it comprises facts, concepts and ideas, and engages the left side of the brain. Words in the form of oral and written language are necessary for both storage and retrieval of explicit memory. When clients in art therapy describe the contents of their drawings, giving facts and opinions about family and intimate relationships, they are calling on explicit memories. This memory system has engaged the hippocampus to create the cognitive map of events; it furthermore serves in executing complex operations, in solving problems, and in performing tasks step by step. Explicit memory enables the telling of one's story, narrating events, associating meaning with experience, and constructing a chronology of events. Implicit memory bypasses language and thought. It is a direct response from internal states that are automatic and operate unconsciously. Implicit memory, also called "nondeclarative memory," involves the storage and recall of learned procedures and behaviors. Bicycle riding, doodling, drawing or writing, all things that we perform without thinking and which have become second nature to our everyday living, involve implicit memories. While performing such tasks the explicit memory remains engaged in identifying the facts, creating a cognitive map of the time or place of the event (Rothschild, 2000; van der Kolk, 1994).

For the trauma patient, "implicit memories not linked to explicit memories can be troublesome. It appears to be the case that traumatic memories are more easily recorded in implicit memory" (Rothschild, 2000, p. 31). Levine (1992 cited in Wylies, 2004) argues that PTDS is a highly activated, incomplete, biological response to threat, frozen in time, and that trauma gets "locked" in the body. Neuroimaging studies of traumatized patients show that dissociation occurs when patients are asked to remember their traumatic experience. The left frontal cortex – particularly the Broca's area, which is responsible for speech – remains inactive. At the same time, the right hemisphere – particularly the area around the amygdala, associated with emotional and automatic arousal – lights up (Rauch et al., 1994; Bremner et al., 1992). From these observations it has been inferred that the imprint of trauma does not reside in the verbal, analytical regions of the brain. Instead, it affects the limbic system and non-verbal region of the brain, which are only marginally employed in thinking and cognition. van der Kolk (2003) states that "when people relive their traumatic experiences, the frontal lobes become impaired and, as a result, they have trouble thinking and speaking. They are no longer capable of communicating to either themselves or to others precisely what's going on" (Wylies, 2004, p. 39).

Current PTSD research shows that traumatic experiences interfere with temporal lobe function (Brinbaum, Gobeske, Auerbach, Taylor, & Arnsten, 1999) and language, which is associated with the Broca's area (Rauch et al., 1994). van der Kolk (2002) further suggests that the

> "subcortical regions of the brain, the primitive parts are not under conscious control and have no linguistic representation, have a different way of remembering than the higher levels of the brain, located in the prefrontal cortex. Under ordinary conditions these memory systems are harmoniously integrated, while, under conditions of intense arousal, the limbic system and brain stem may produce emotions and sensations that contradict one's attitudes and beliefs" (p. 5).

A recent neuroimaging study (Lebedev et al., 2004) suggests that the "dorsolateral prefrontal cortex plays an important role in aspects of attention and other functions instead of, or in addition to, maintenance memory" (p. e365), supporting extensive neuropsychology research that points to a general role of the prefrontal cortex on the maintenance of memory. Similarly, neuroimaging researchers (Bremner, Southwick, Johnson, Yehuda, & Charney, 1993; Bremner, 2001; Rauch et al., 1994) have stressed the importance of the frontal lobes, especially the prefrontal cortex, in PTSD patients processing traumatic memory. The expression of the traumatic memories, however, can be modified by feedback from the prefrontal cortex (van der Kolk, 1994).

The frontal lobe is the part of the brain that is involved in planning, organizing, problem solving, selective attention, personality and a variety of "higher cognitive functions," including behavior and emotions. The anterior (front) portion of the frontal lobe, called the prefrontal cortex, is also known as the seat of executive function, due to its ability to differentiate between conflicting thoughts, determining good and bad, better and best, same and different, future consequences of current activities, working towards a defined goal, predictions of outcomes, expectations based on action and social control (Long, 2006). Traumatized individuals are unable to modulate the incoming stimulation, which interferes with the amygdala and hippocampal functions, bypassing the prefrontal cortex that would normally assist with the cognitive evaluation of the experience. Studies have shown that trauma sufferers process their trauma from the bottom up – body to mind—and not top down – mind to body (van der Kolk, 2002, see also Ogden & Minton, 2000). In order to treat trauma effectively therapists must move beyond words and language to integrate the cognitive, emotional and affective memory.

Theories of art making and brain function

In all its forms – literature, music, painting, sculpture, film, dance or theater – art represents the mind of its creator. This is no less true in treatment of psychological and neurological disorders than it is in the analysis of established artists or exceptional ones such as Willem de Kooning and Pablo Picasso (Ziadel, 2005). The major areas of clinical research in creativity have centered on neurological disorders, especially with frontotemporal dementia (FTD), stroke and aging (Miller, Cummings, & Mishkin, 1998; Ziadel, 2005). Although researchers had identified the right hemisphere of the brain as the creative hemisphere, Ziadel (2005) suggests that there is no evidence to support the view that creativity (in art or music) uniquely resides in one hemisphere. She argues that locating creativity in the right hemisphere is an "old notion, originally formulated only as a working hypothesis in left–right hemisphere research" (p. xvi). A consensus among researchers using the neuropsychological evidence from artists with brain damage holds that some assignment of functions to the right and left hemispheres remains valid, but the factor relevant here is the function of the prefrontal cortex. They agree that brain damage may severely impair language ability while artistic skills are minimally affected or not affected at all. Bogousslavsky (2005) states that brain activity shows that when carrying out an art task – a "complex combination of sensory, cognitive and motor activities – immediately emphasizes the holistic functioning of the brain in creativity, while it shows that specific, focal brain lesions may alter or disrupt the process" (p. 106). Bogousslavsky studied the connection between changes in artistic styles and brain lesions. He suggests that a link exists between increased creativity and decreased frontal lobe functioning in FTD cases of non-artistic individuals embarking on artistic careers. He further argues that the brain's frontal-anterior subcortical loops are activated during the execution of artwork. In the case of abstract painter Willem de Kooning, he notes that even though the artist's late works, created during his time of senile dementia, reveal a progressive simplification, they nonetheless maintain a high level of sophistication. Implicit in this observation is the argument that in his late works de Kooning is drawing upon the non-verbal hemisphere of the brain; in other words: creativity may be maintained even while the neurology of an individual is being transformed or degraded through dementia.

Ziadel (2005) reports, based on her research on neurological patients, that both left and right hemispheres are involved simultaneously in the production of visual art. When observing the production of art with a specialized tracking device, Ziadel found that most often artists worked the tilt, shape, size, form and height of the elements in relationship to the theme of a picture. In some rare cases she found that the artist, rather than starting from the global contours of the subject (associated with the right hemisphere), started with the details first, working his way outwards. Similar observations were made in the case of two autistic savant artists (Nadia and EC) who had exceptional artistic skills in rendering realistic figure drawings. On the basis of her observations, Ziadel (2005) affirms the significant roles played by both the right and left hemispheres in the production of visual art. McNamee (2004) designed the "Bilateral Art" protocol and argues from her observations with clients that art therapy involves both left and right brain functions, and integrates both verbal and non-verbal processes. She describes bilateral art as a process of using "both hands in an effort to stimulate memories and experiences that reside in both sides of the brain" (p. 232). This process of creating facilitates the integration of experiences. The rationale for her work comes from the seminal publications of Ganzzaniga (1998) and Kandel (1985), who made contributions to cognition studies as well as to an understanding of the interactions between the right and left hemispheres.

The research cited has positive implications for art therapists in the relationship between brain and creativity. Although the relationship between creativity and the brain has not been fully defined, it is reasonable to assume

that creativity involves multiple brain regions. Ziadel along with other researchers points in the direction of "skill preservation" (p. 19) in the event of brain damage or sensory compromise and its relationship between creativity and frontal lobe activity (Bogousslavsky, 2005; Ziadel, 2005). Although research has not yielded any precise explanation for art production after the onset of FTD or dementia, Ziadel (2005) suggests that "cognitive abstraction can be viewed as a type of invariant human ability that survives extensive neuroanatomical damage" (p. 85). Bogousslavsky (2005) explains this as the "function of the frontal lobe structure, which is based on the 'extraction–abstraction processes"' (p. 106). He argues that a particular relationship is established between the sensory and prefrontal cortices after neuroanatomical damage, which Ziadel (2005) also supports. The view proposed here is that the automatic skills and procedures required in everyday life have shared components with artistic skills. The "shared skills are somehow resistant to brain damage, possibly due to repeated use, over-practice, and redundant representation in the brain" (Ziadel, 2005, p. 82). This means that localized brain damage may not necessarily prevent the individual from art expression. For example, a dementia patient unable to communicate with his caretaker by means of words communicated effectively through drawings, transferring the skill of communicating to abstract cognition (Ziadel, 2005). Extraction–abstraction interactions necessitate the integration of internal representations, which are generated and maintained through frontal lobe activity (Bogousslavsky, 2005).

The studies in neuropsychology, art and PTSD that I have cited present significant findings for art therapists engaged in accessing traumatic memory through image making. In light of neuropsychology research on creativity, neuroimagining research on trauma and current art therapy studies, it is possible to infer that art making involves the brain's hemispheres in accessing memories and processing emotions. The left hemisphere is responsible for language, speech, analytical thinking and sequential processing, including confabulation, the process of creating narrative (McNamee, 2004, 2005). A confabulation may be based in fact or be a complete construction of the imagination. In an art therapy session the left hemisphere offers an explanation to the right hemispheric output in the form of a created image. The right hemisphere deals with visual motor activities, intuition, emotions, body, sensory, automatic skills and the procedures involved in what we call creativity (Bogousslavsky, 2005). It is directly linked to the subcortical regions of the brain, such as the brain stem. It is the non-verbal, creative aspect that is evoked when clients are asked to draw in an art therapy session.

During an art therapy session, it is not uncommon for a client to put into pictures a speechless terror that cannot be put into words. It is the trauma that is frozen in the somatic memory (van der Kolk, 2003). Siegel (1999) published research on the effects of early childhood abuse on the developing brain, and Klorer (2005) draws on his ideas when she argues that the right hemisphere of the brain controls the sensorimotor perception, integration and social-emotional input. She points out that art making and creative processes tap into the sensorimotor perception. In doing so they activate the amygdala in the limbic system, which is responsible for the social emotional input that links with the prefrontal cortex for integrating and planning, activating the physiological, emotional and cognitive processes.

The integration of traumatic experiences is dependent upon the bilateral stimulation of the frontal lobes, especially within the prefrontal cortex. Non-verbal expressive therapies such as art, dance, music, poetry and drama all activate the subcortical regions of the brain and access preverbal memories. Each of these creative arts modalities is a "powerful tool" (Meekums, 1999, p. 257), but each will stimulate the left and right hemispheres and the recall of emotional/traumatic material in a different way. While implicit memory can be accessed through all expressive therapies, each modality is highly specialized in its training and how it addresses and integrates emotional material. Table 1 charts the memory activation during trauma and its intersection with different expressive therapies. Dance and drama work directly with the body through movement, activating the right hemisphere and limbic material, while art and music activate non-verbal material through kinesthetic and sensory pathways (Lusebrink, 2004). The goal of each of these modalities is to "lead people to emotions and feelings that have long been forgotten" (Klorer, 2005, p. 218). To process traumatic memories successfully, each of the modalities must employ an approach that integrates the cognitive, emotional and physiological memory towards positive adaptive functioning.

An art therapy trauma protocol (ATTP), its practice and theoretical basis

The proposed ATTP is designed to address the non-verbal, somatic memory of traumatized clients using right- and left-brain methods based on a positive adaptive functioning model. This protocol is influenced by Shaprio's (2001) Eye

Table 1
Memory activation during trauma and expressive therapies

	Explicit =Declarative Memory = Left hemisphere functioning= words/language	Implicit = Nondeclarative Memory = Right hemisphere functioning = Autonomic Nervous System (ANS) = Images/non-verbal
Psychological process	Conscious	Unconscious
Information processing	Cognitive Facts Mind Verbal/semantic Description of operations Description of procedures	Emotional Conditioning Body Sensory Automatic skills Automatic procedures
Information processing accessed using expressive therapies	← Art, Poetry Constructs narrative	← Dance & Movement Music → ↔ Stimulates the subcortial regions and accesses images though automatic skills and procedures.
Mediating limbic structures accessed during expressive therapies	Hippocampus – sequence of events - beginning/middle/end	Amygdala – emotional significance
Maturity-developmental level	Around 3 years with the formation of speech	From birth
Activity during traumatic event and/or flashback	Suppressed	Activated
Language	Constructs narrative	Speechless

Adapted and modified from Rothschild, 2000.

Movement Desensitization and Reprocessing (EMDR), McNamee's (2003) bilateral art protocol and Cassou's (2001) Point Zero method of painting.

The foundation of EMDR treatment lies in Shaprio's (2001) adaptive information processing system (AIPS), which proposes that each individual has the innate ability to construct adaptive resolutions to negative experiences and to integrate positive and negative emotional schemata. Trauma, she believes, blocks the normal adaptive functions that AIPS will automatically restore. The EMDR protocol asks the client to identify specific traumatic memories; these memories may include images associated with the event, the emotions and affective memory. The client identifies the negative self-representation or the negative cognition associated with the traumatic memory; he or she then identifies the desired, positive self-representation or the positive cognition for that memory. After the negative cognition is located in the body as a sensation, the client is asked to concentrate on the disturbing traumatic memory. While keeping the negative cognition and physiological sensation in mind, the client moves the eyes rapidly from side to side. The goal of the eye movement is to stimulate both hemispheres of the brain. After each set of 10 to 20 eye movements the client reports what new images, memories or sequence of events has emerged. The client continues to work through the memory until the reprocessing is complete, and recall of the traumatic event no longer prompts feelings of disturbance (Chemtob, Tolin, van der Kolk, & Pitman, 2000). Although EMDR continues to gain

popularity as a method of treatment, it has generated some controversy as a way of treating trauma (Devilly, Spence, & Rapee, 1998; Dunn, Schwartz, Hatfield, & Weigele, 1996; Pittman, Orr, Altman, Longpre, Poire, & Macklin, 1996).

McNamee (2003) was also influenced by EMDR. She, however, modified the works of Cartwright (1999) on neurologically based artwork and developed a bilateral art protocol in an effort to stimulate the memories of experiences that reside in both sides of the brain. McNamee describes detailed steps for the use of her bilateral protocol. She uses one sheet of paper that is divided into two sections to represent the left and right sides of the brain. On it the client draws two images identifying the conflicting emotion, situation or belief. The client is instructed to choose the hand that is most connected to the conflicting element of experience and make an image of it. After the first drawing is complete McNamee moves the materials to the client's other hand and has the client draw the opposing element of experience. She has modified this procedure by having clients trace over the drawing, in any manner they wish, with their opposite hand to promote bilateral stimulation.

Clients in the ATTP use both hands to process traumatic memory, but the conceptualization of the process, including use of art materials, differs from McNamee's. Cassou's (2001) Point Zero method of painting has been modified to assist clients in processing and integrating experiences. Cassou explains that her goal with participants is to gain a deep understanding of creativity by dissolving creative blocks and self questioning, to achieve healing. The use of negative and positive cognition, scaling the negative cognition and locating the cognitive emotion in the body are adapted from Shaprio's (2001) EMDR methodology. The process of painting with dominant and non-dominant hand, use of paints and use of cognitive interweaves to facilitate the art process come from my art therapy training and clinical practice. The major difference between the EMDR protocol and the ATTP is what constitutes a target memory. In EMDR the target memory must be an event on a life events list. This requires the client to have sufficient recollection of the event to be able to talk about it. Clients come to art therapy, however, because they find that images reflect or express their state of being more clearly and directly than words. The visual image captures their somatic memory and stands as a testimony to their felt experiences.

The ATTP is a method to target specific traumatic memories in a larger theoretical framework. The ATTP training (Talwar & Kaiser, 2006) teaches participants to use a combination of client-centered and cognitive behavioral approaches in which the ATTP protocol addresses the affective distress experienced by the client. A client-centered approach emphasizes the experiences, feelings and values of the client, while recognizing that perceptions of reality vary from individual to individual. The cognitive behavioral approach refers to the client's ability to change his or her self perception, while advancing towards positive adaptive functioning (Shaprio, 2001).

After a detailed evaluation of the client's history is obtained, the ATTP becomes the framework to prepare the client for trauma work. The client is assisted in exploring ways of problem-solving specific to him or her. This leads to an understanding of their affective responses and accessing images of safety. Through this process the client begins to develop an understanding of the underlying negative feelings and self-perceptions, and the affective responses evoked by these emotions. Clients are encouraged to keep affective logs to become aware of their affective regulation outside of the therapy session. Learning to cue into their negative cognitions and accessing images of safety and positive cognition outside of the therapy sessions, the client begins to develop a sense of mastery and self confidence over their affect regulations and emotions. Rating the validity of positive cognition (VoC), while indicating how true the cognition feels at that present moment, promotes cognitive functioning while lowering the client's distress.

This protocol has been employed only with adult clients. Modified versions have been used in supervision and with children and adolescents, but issues surrounding treatment with children and adolescents lie outside the scope of this paper.

Materials and procedure

In this method, a large sheet ($22'' \times 29''$) of Bristol board is taped on the wall or easel. The participant paints while standing and the workspace is arranged to permit full use of the body. The tempera paints are laid out in open jars on a table in a variety of colors ranging through a continuum from white to black. The space should allow the participant to walk back and forth between the painting and the paint jars (Fig. 1).

The walking back and forth is particularly important in creating a process that flows. The flow, in turn, allows proprioception and suspension (Bohm, 1996; Lark, 2005), which encourage dual processing or bilateral stimulation

Fig. 1. Layout of materials for session with client.

(Omaha, 2004; Shaprio, 2001). Engaging in the creative process, making decisions and letting the image emerge with the client activate the mind and body. Suspension occurs each time the client makes the decision to move from verbal language to the visual, kinesthetic and sensory language, brush to paint, paint to image, intended to activate dual processing of the left and right hemispheres of the brain. Observing one's intention and action through the creative process promotes self-perception, or what Bohm (1996) and Rothschild (2000) call "proprioception." In this work,

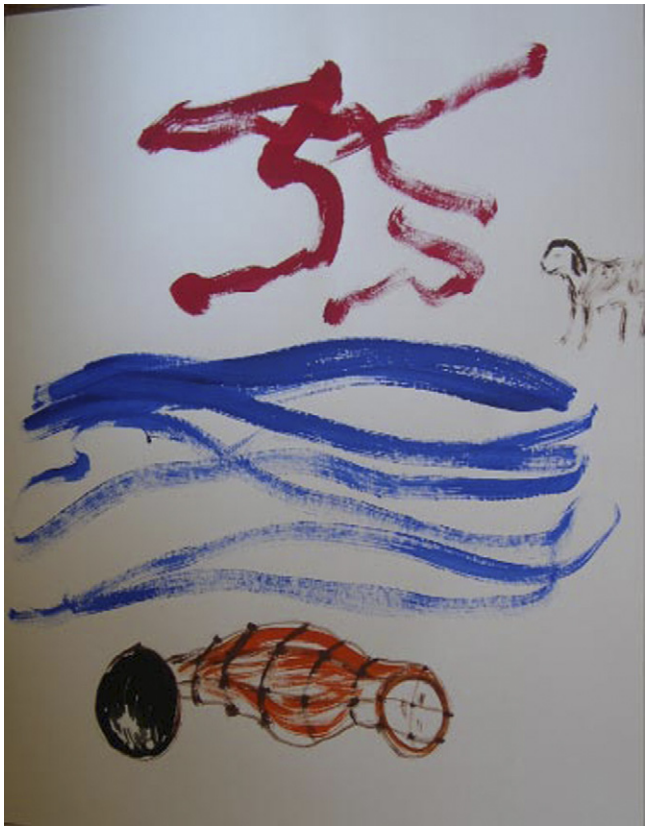

Fig. 2. Client A's first image with dominant hand.

"The point of suspension is to help make proprioception possible, to create a mirror so that you can see the results of your thoughts" (p. 25).

After the client has verbalized a memory of a traumatic event, presenting the facts and events of the memory, he/she is instructed to:

Phase 1

Suspend all thoughts and associations and begin painting. When the client is finished, he/she is asked to put into words the dominant emotion associated with the painting or element of the painting. The client typically represents either literally or metaphorically the earlier conversation or incident reported verbally.

Phase 2

The client is then asked to identify the negative self-representation or the negative cognition ("I am not valuable," "I am not loved" or "I am a bad person") along with the alternate, desired, positive self-representation or the positive cognition ("I am a valuable human being," "I am loved" or "I am a good person") for each memory. The client rates the validity of positive cognition to indicate how true the cognition feels to the client at the present moment on a scale of 1 to 7, where 1 represents completely false and 7 represents completely true. The positive cognition is typically low. The negative cognition is then located in the body as a sensation. The client, painting with the non-dominant hand, is asked to concentrate on the disturbing traumatic memory, while keeping the negative cognition and physiological sensation in mind. The client paints the new images and memories as they emerge on a new sheet of paper.

Fig. 3. Client A's second picture with non dominant hand.

Phase 3

The client continues painting, switching between dominant and non-dominant hand and using a new sheet of paper each time. The client thus works through the memory until there are no longer any feelings of disturbance at the recall of the traumatic event.

Session with client A

A was a 58-year-old woman who worked in the field of mental health. She had participated in verbal psychotherapy, examining various aspects of her life and identifying areas of early childhood trauma for several years. At the same time **A** had utilized art as a modality of expression and attended various art workshops. She was extremely articulate and used intellectualization as a primary defense when explaining her art and areas of pain in her life. She was aware, however, that talk therapy has been inadequate as a way to address her issues of trauma. She sought art therapy to reach the non-verbal, somatic memory, stating, "I need to work with the image; words are not enough."

In one session, **A** had a flat affect and facial expression. Her shoulders were hunched over in a depressed body posture. She spoke of being stuck in a dead-end relationship with one of her own clients and struggled with her projective identification. Her client was blaming her for preferring another client, being partial towards her in group therapy sessions. In individual sessions, the client was blaming her for not being "good enough," rejecting **A** in her role as a therapist. This situation had brought up old memories of rejection and inadequacy from **A**'s early experiences

Fig. 4. Client A's third image with dominant hand.

Fig. 5. Client A's fourth image with non-dominant hand.

with her own family, especially with her mother. The intensity of the feeling was present in the level of disturbance in her affect, which was depressed with low energy. **A** had struggled to find various ways to work with this client, but was feeling helpless to make sense of the situation. **A**, who was also a storyteller, narrated the Russian fairytale of Alionushka and Ivanuska as a metaphor for her current situation. When asked to paint she created a scene from the story; in it Alionushka is tied up at the bottom of the ocean (Fig. 2). She was most struck by the image of Alionushka and choose to focus on her in the painting. She identified the negative cognition for Alionushka as "feeling trapped." When asked to identify the positive cognition or the desired state of being, she said that Alionushka "would like to feel whole and free again." The VoC on a scale of 1 to 7, where 1 is completely false and 7 completely true, was 1. She located the sensation of "feeling trapped" in her chest.

She then painted with her non-dominant hand (Fig. 3). After a few quick brush strokes she said that she was done. She looked at the painting and stated, "she turns up again" (referring to a sorceress that had appeared in her earlier paintings). She moved to her dominant hand (Fig. 4) and replicated the swirling lines with the image of the sorceress showing up again. She layered paint with a wide sumi brush, tracing out the figure of the sorceress in red and blue. When she was finished she sated, "this is messy business."

She then moved to her non-dominant hand and painted a solid blue surface with the wide sumi brush (Fig. 5). When she was done, I suggested that she add a color she had not used or a color she disliked in order to introduce the polarity between her positive and negative cognition through materials and emotions.

The cognitive interweaves led her to add pink patches on the sides of the paper and she then stopped. I suggested that she use a finer brush to further push the cognitive polarity through the materials she was using. Changing materials immediately shifted the image process, and a woman and baby emerged from the edges. After she finished, she moved to her dominant hand and tried to continue with the fine brush, but stated, "This brush feels too small."

She returned to the wide brush and painted a green surface and began to work paint with a plastic knife (Fig. 6). She moved to the smaller brush and the image of the horse appeared in an open field. While painting this image, **A** began

Fig. 6. Client A's fifth image with dominant hand.

to smile, her body seemed lighter; standing upright, she stated, "I don't need to say anything, but I have hope for my client. I am free and this horse will lead her to wholeness." She rated her VoC as 7.

Although **A** reached her intended positive cognition there seems to be an element of fusion between herself and her client in the last statement. In this session the horse represented the symbol for freedom, strength and wholeness for **A**. Meekums (1999) observed in her research with victims of child sexual abuse that "shifts appeared to be associated with a shift in self-perception from child to adult self, from victim to assertive survivor, enabling a new integration of the child and adult selves" (p. 256). The shift that occurred here was a movement towards an adaptive functioning of the self, whereby **A** was able to shift her self perception from "feeling trapped" to "feeling free," both for herself and her client.

Projective identification is a defense in which the individual gets caught in the anger and devaluation of another individual without being able to separate the self from other. The situation for **A** was reminiscent of an earlier relationship, in this case, that with her mother. To deal with the complexity of projective identification it is imperative that the individual be able to reach a place of empathy for the self and other. In my opinion, the last statement made by **A** not only shifted her self-perception from victim to survivor, but also enabled her to change her perception of her own client. By having empathy for herself, she in turn was able to have "hope" for her client. This new perspective provided her with greater clarity about her relationship with her client and the residual memory of her mother.

Conclusion

The ATTP described grew out of my clinical practice. Although no research study has been undertaken, clients report positive results in processing speechless traumatic memories. This article has focused exclusively on processing somatic memory. Addressing the full spectrum of trauma treatment lies outside the scope of the paper. During the therapeutic sessions the therapist must carefully evaluate the client's readiness to confront a specific event or somatic

memory. Considerable time must be spent getting the client ready through emotional and cognitive processing and by creating an awareness of the somatic memory on the affective and emotional level.

The type of processing described gives the client tools to create sensory awareness, which promotes affect and emotional regulation. The process of creating the image helps the client to observe his/her thoughts and actions while becoming aware of the sensorimotor experience, promoting propriception. The walking back and forth allows for activation between left and right brain process. In creating the image, left brain processes, of deciding between colors, brushes, and sequential decisions using analytical thinking, alternate with right brain processes, activating the spatial, visual motor, emotions, and sensory regions. During this process, the mediating limbic structures, the hippocampus and amygdala, are creating a sequence of events and assigning the events their emotional significance. The bilateral stimulation through art making, engages the integrating and planning functions of the prefrontal cortex as the memory is assigned a narrative of beginning, middle and an end by the hippocampus, using left brain functions. The ATTP is a method that has an integrative approach offering a positive adaptive functioning model, but successfully using this method depends on each individual's internal self representation. Omaha (2004) emphasizes the importance of the therapeutic relationship in strengthening internal representation of the individual. I concur with him that restructuring early developmental milestones to increase ego strength and internal representations is imperative before processing the trauma blocks.

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