FINDING YOUR OWN BEAT

• Soukous Ta
  African Meditation Drums
RHYTHM OF ENGAGEMENT

Expressive Arts Therapies and Healing Trauma

Elizabeth Grambsch, M.A., egrambsch@yahoo.com

Patricia Lucas, Ph.D., patricialucasphd@gmail.com
DEFINING EXPRESSIVE ARTS THERAPIES

• Using creative arts such as dance, art, drama, and music to foster human growth and repair trauma

• Creative expression and the tapping of the imagination, to examine the body, feelings, emotions and thought processes

• Process rather than product emphasized

• Taps into the deep roots in human evolution to use creative expression, often in connection with community to heal and grow
DEFINING TRAUMA

- Psychological trauma is the unique individual experience of an event or enduring conditions, in which: The individual's ability to integrate his/her emotional experience is overwhelmed, or

- The individual experiences (subjectively) a threat to life, bodily integrity, or sanity. (Pearlman & Saakvitne, 1995, p. 60 as reported in Giller, E. in the Sidran Institute, retrieved September 1st, 2012 at http://www.sidran.org/sub.cfm?contentID=88&sectionid=4)

- Psychological trauma is always physiological trauma.

- Important to remember subjective nature of trauma

- Still issues with DSM classification around PTSD and childhood traumas (symptoms begin after first year of life)
DEFINING RHYTHM

Rhythm, and music, the placement of sounds and time. In its most general sense, rhythm (Greek rhythm is, derived from rhein, “to flow”) is an ordered alternation of contrasting elements.

The notion of rhythm also occurs in other arts (poetry, painting, architecture, sculpture) as well as in nature (e.g. biological rhythms)
THE LAW OF RHYTHM

...the whole universe is a single mechanism working by the law of rhythm.

Harmonious forms are manifestations of a right rhythm, and inharmonious forms are manifestations of a disorder in rhythm.

One person is rhythmic, and his influence is soothing; another is out of rhythm, and he upsets everybody.

The beating of our heart, the pulse throbbing in our wrist or head, our circulation, the working of the whole mechanism of our body is rhythmic.

When this rhythm is obstructed, then disorder and illness come; all discomfort, despair, and disappointment follow the breaking of the rhythm.

Excerpts from *The Music of Life*, pp. 10-14 by Hazrat Inayat Khan
In summary, psychophysiological coherence is a distinctive mode of function driven by sustained, modulated positive emotions. At the psychological level, the term “coherence” is used to denote the high degree of order, harmony, and stability in mental and emotional processes that is experienced during this mode.

Physiologically speaking, “coherence” is used here as a general term that encompasses entrainment, resonance, and synchronization—distinct but related phenomena, all of which emerge from the harmonious activity and interactions of the body’s subsystems.

Physiological correlates of the coherence mode include: increased synchronization between the two branches of the ANS, a shift in autonomic balance toward increased parasympathetic activity, increased heart-brain synchronization, increased vascular resonance, and entrainment between diverse physiological oscillatory systems.

McCraty et al.: The Coherent Heart INTEGRAL REVIEW December 2009 Vol. 5, No. 2 26
CALM EQUALS COHERENCE
Sound Healing is the intentional use of sound to create an environment which becomes a catalyst for healing in the physical, mental, emotional, or spiritual aspects of our being. (Zacciah Blackburn, 2005, www.soundhealing.org)

There is no movement which has no sound, and there is no sound which has no rhythm. (Hazrat Inayat Khan, The Music of Life, pp. 10-14)

KEY ELEMENTS OF CREATIVE ARTS THERAPY FOR ADDRESSING TRAUMA
NON-VERBAL COMMUNICATION

All modalities of Expressive Arts therapies specialize in the use of non-verbal means of communication.

Why is this important in treating trauma?
The biochemistry of survival that floods the bloodstream during trauma actually impedes language and cognition and pumps up the more primitive parts of the brain that process images, sensations, perceptions, emotions and kinetic movement.
WHERE TO BEGIN WHEN HEALING TRAUMA

“THIS is where therapists need to start - with these mid-brain and brain stem processes - before enlisting the higher cortical functioning involved in ‘talking about it’. And, very simply, that's why imagery - which is all about images, sensation, perception, emotion and kinesthetics - is a best practice and treatment of choice for healing posttraumatic stress.” (Perry, 2008)
EXTERNALIZING THROUGH CREATIVE EXPRESSION

• Expressive Arts Therapies allow for less familiar/less practiced ways of experiencing oneself and therefore can provide new insight to the process of relief and recovery from trauma.

• Play=natural means of communicating for children and is central to these therapies. Therapists are trained to not interpret but draw out healing self expression.

• Moving from stagnant play and restorative expression.

• Allows traumatic material to be safely expressed/contained through art, movement, and sound (avoiding re-traumatizing emotional catharsis).

• “When verbal communication is limited after traumatic experiences, it may be that some other form of externalization must be used in addition to verbal therapies such as cognitive-behavioral or other accepted approaches to trauma relief” (Malchiodi, 2008)
RESOURCING CALM STATES

• regulate hyper-aroused states of the nervous system.

• EAT = sensory processes, body sensations, identify and work with physiological and emotional states that feel calm, balanced, and resourced. May stimulate the placebo effect through mimicking self-soothing experiences in play and movement.

• place to rest and oscillate to and from when addressing more distressing states associated with trauma.

• Feeling embodied positive states of being is an essential part of re-patterning a stress response that has been traumatized.

• action oriented such as drawing, moving, or the use of rhythmic expression, very effective in accessing the physiology of the limbic system (Porges, 2011).
• Trauma = highly charged emotional experiences, encoded by the limbic system and right brain as sensory memories (van der Kolk, 2006).

• Expression, processing of memories on a sensory level is an important part of successful intervention.

• Recent theory about trauma supports the effect of childhood trauma on right-left brain integration (Siegal, 2012; Teicher, 2000) and effective right brain sensory-based interventions rather than left-brain language for processing.
Expressive Arts therapies are a way to experience a resourcing and secure relationship with a therapist that addresses and meets an individual on a psycho/sensory level in both mind and body, where meeting and integration is most authentically recognized, felt, and appreciated.
RHYTHMIC NATURE: REPAIRING AND ENHANCING RELATIONSHIP

“The evolving dance games focus on rhythm, timing, space and touch.

These qualities are explored through verbal and full body dances. A vocal pas de deux emerges as Ellie and Aaron create a rhythmic dialogue by playing with the length of their pauses between each of their utterances.

They take turns initiating the game as Ellie learns to stay emotionally present and physically engaged by approaching Aaron with eye contact” (Tortura, 2006.p.7).

“The musicality of the emerging parent – infant relationship is realized on a felt-sense level through the dancing dialogue and emotionally through the improved relationship.”
EMPATHY IS A PSYCHOBIOLOGICAL STATE

• there must be a “psycho-biological holding” by the therapist of the projected, “nonverbal emotions” of the patient (Schore, 1999)

• the patient can vicariously explore and experience these emotions within a safe context.

• The therapist “holds” and “metabolizes” these emotions for the patient within her own body

• Somatic transference and counter-transference
EMOTIONAL REGULATION DANCE

• Constant entrainment of communication mismatches

• Successful **entrainment** (sharing a rhythm) produces a feeling of synchrony (Stern’s moments of meeting) which is associated with positive affective states, ANS balance, higher intelligence

• Social synchrony is human developmental strategy (Reddy, 2008)
**The Law of Resonance:** A stronger vibration will tend to entrain a weaker vibration into the same vibration. (David Gibson, *The Sound Healing and Therapy Reader*, p.6)

**Entrainment:** The rhythmic manifestation of resonance. The process whereby an external, periodic rhythm speeds up or slows down our major body pulses. (David Gibson, *The Sound Healing and Therapy Reader*, p.6)

**Coherence:** ...simply means an ordered, consistent, congruent, harmonious functioning within any system, as with the physical and biochemical systems of our bodies which influence our mental, emotional, physical and spiritual state each moment...the coherence of the brain is determined by the coherence of the heart. (Carla Hannaford, *Awakening the Child Heart*, 2002 p.)
Why pay attention here?

• Embryological development is rhythmical in nature

• Foundational fixed action patterns are set in response to the womb environment

• Embryologically, we respond and grow to the vibratory rhythms of our womb environment
Powerful associations are made during the prenatal development of the brainstem and diencephalon between rhythmic, auditory, tactile and motor activity at 80 beats per minute (i.e. the maternal heart rate heard and felt in utero) and the neural activation mediating the sensation of being warm, satiated, safe, and soothed.

(Perry, 2006, pp. 39-40)
PRENATAL AND PERINATAL INFLUENCES

• Fetal organ systems, neuro-immuno-endocrinological and vasomotor processes involved in both stress/trauma reactions and reproductive processes are programmed in utero. (Wadhwa, Glynn, Hobel, Garite, Porto, et al., 2002)

• early nervous system development, beginning in utero, happens through patterns of repetition, responding and growing to the vibrational heart rhythms of the mother and other internal and external experiences (Perry, 2006, Porges, 2011).

• physiological functions like RSA or respiratory sinus arrhythmia and heart rate variability are patterns that prenates and babies utilize to assess environmental conditions that determine their growth patterns (Porges, 2011)
The stress vulnerability that is established in utero in response to exposure to maternal prenatal stress, anxiety, and depression may ultimately lead to increased risk of psychopathology, long term neurobiological, and behavioral effects. In particular, these in utero experiences impact the HPA axis, brain circuitry, and psychophysiological development (2012. Monk, Spicer, and Champagne).
Implication of sperm RNAs in transgenerational inheritance of the effects of early trauma in mice

Injection of sperm RNAs from traumatized males into fertilized wild-type oocytes reproduced the behavioral and metabolic alterations in the resulting offspring. Though the offspring were not exposed to trauma, their physiology and behavior expressed as though they had been subjected.

Stress created to fathers of mice was at birth, repeated separation from their mother. This created mice that showed signs of depression and diminished fear responses to open spaces and bright lights.
**RHYTHMIC NATURE: RESPIRATORY SINUS ARRHYTHMIA**

Salmon, et al, 2009 respiratory sinus arrhythmia

- The phrasing of music = short inhalations and extended durations of exhalations.
- Found in distance runner, cyclist, etc
- Excellent for the regulation of the nervous system
- Breathing “gates” the influence of myelinated/ventral vagus on heart.
- Inhale: the influence of the vagus is attenuated and heart rate increases.
- Exhale: the influence of the vagus is increased and heart rate decrease.
- Musicians and singers, yoga breathers are engaging this neurologic exercise
“Modulation of the acoustic energy within the frequencies of human voice that characterize music, similar to vocal prosody, will recruit and modulate the neural regulation of the middle ear muscles, calm behavioral and physiological state, and promote social engagement” (Porges, 2005, p.8).
It is proposed that neuroglial cells play a pivotal role throughout life as the major pathway for neuropeptide messenger molecules. It is neuropeptides which carry messages to coordinate almost all physiological and emotional processes of the body on a cellular level. Neuroscientists agree that CSF is one of the major pathways or medium for neuropeptides circulating around the brain and spinal cord, and that neuropeptides also circulate in the blood and extra cellular fluid and spaces. (Pert 1997)
RHYTHMIC NATURE: CEREBRAL SPINAL FLUID

In 2007, Zappaterra and Walsh performed the first comprehensive analysis of embryonic human CSF.

It holds hundreds of different proteins that are involved in a variety of tasks, including cell growth, transport, support, and signaling.

"We were amazed at the diversity of substances that we identified in there, many of which people had no clue would be there," Walsh says.

“It presents mechanisms about how different parts of the body are talking to each other in ways that I hadn't really conceived of before." (Walsh, 2011, Howard Hughes Medical Institute, accessed, 4-19-13: http://www.hhmi.org/news/walsh20110304.html)
LUCAS’S STORY

Video of Elizabeth working with Lucas

• Lucas has Lissencephaly “smooth brain” and is unable to speak

• Modeled the use of rhythm in non-verbal dialogue with Lucas
The impact of women’s anxiety (and/or depression) during pregnancy has been found to extend into childhood and adolescence, and to affect the hypothalamic-pituitary-adrenal (HPA) axis, predicting attention deficit hyperactivity disorder symptoms in 8 to 9-years-old children as well as alterations in HPA axis activation in 4-months-old in our laboratory and in 10, and 14 to 15-years-old (Kinsella & Monk, 2009).
“When the body is set in oscillation by the rhythmic movements weak electromagnetic fields are created which transmit information to all parts of the body, especially the nervous system and brain” (2011, Bloomberg, Dempsey, p.22).

It is hypothesized that Rhythm gives alternating stimulation to the brain, which inhibits habituation and is more efficient in promoting growth.
My experience of the use of rhythm as a therapist is that it helps clients make the content to process shift. They learn to track themselves more fully rather than just paying attention to the content of their thoughts.
Prenatal Reflexes and Trauma

- The earliest reflexes are some form of withdrawal from a stimulus or “freezing” if withdrawal from the physical threat is not possible.

- These reflexes can become active again at any age when the person is under severe stress or suffers a traumatic event.

- People who have experienced prenatal or perinatal trauma are less resilient and may experience more inner disruption in crisis or trauma.
RESTORING RHYTHMIC COHERENCE

• The pulse - - connecting with the heartbeat/drumbeat, with the forward movement of the feet, restoring trust and security in the pulse of life;

• The rhythm - - connecting with the different rhythms, engaging the hands in expressing, restoring willingness to move again in synchronicity with another

• The voice - - connecting with the others through dialogue, singing and nonsense syllables that echo pulse and rhythm, restoring connection with family/community, integration, experiencing wholeness
WORLD WIDE TRADITIONS OF COMMUNITY SONG AND DANCE

• Linkage + Differentiation = Integration

Concept from *Mindsight* by Daniel Siegel, M.D.
rhythmicity, appears to be a universal phenomenon observed in all living forms, from the simplest particle to the most profound compound.

- the beating of the heart, the cadence of inhalation-exhalation, the contractions of the womb, the peristalsis of the digestive system, ...... every human movement, rhythm is believed to be an attribute of central nervous system patterning (Berrol, 1992, p.25).
Technology is not social engagement we will adapt but it won’t be fun!
Encumbered by pharmaceutical model
We will change our lives by neurologic exercises such as music and movement. This message is the purpose of Porges’s life
Music and movement are what best engages the nervous system in accessible manners
These are the models that are most effective
Why are schools taking these out when they are critical to our optimal development: Question Porges asks