

Engaging the Dynamic Equilibrium of the Mind Through Dance/Movement Therapy

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Abstract During the 51st annual American Dance Therapy Association conference, this author participated in a cross-disciplinary panel, "Polyvagal-informed therapy for trauma, attachment and autism," with Dr. C. Sue Carter, Executive Director of the Kinsey Institute and Rudy Professor of Biology at Indiana University and Dr. Stephen W. Porges, Distinguished University Scientist at the Kinsey Institute at Indiana University Bloomington and Research Professor in the Department of Psychiatry at the University of North Carolina at Chapel Hill. This following article reprints the author's remarks on this panel, and explores how mutual dialogue between dance/movement therapy (DMT) and affective neuroscience can enrich both fields. A more nuanced understanding of DMT's impact and potential is afforded by mutual, ongoing dialogue with affective neuroscience colleagues that illuminate the work. This contribution includes a brief experiential and case vignette that illustrates how polyvagal regulation and oxytocin activation are supported and stimulated through DMT.

Keywords Affective neuroscience · Attunement · Dance/movement therapy · Oxytocin · Polyvagal regulation

I'd like to begin with a moment for us to experience the vagus nerve by getting a sense of how it feels inside our bodies. Close your eyes, if you feel comfortable doing so, or just relax your focus and soften your body into the support of chair, sensing gravity, feeling the support of the chair, and finding a comfortable position for your feet to make contact with the floor. Feel your pelvis;

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sense the length of your spine from your lower back through the middle of your back; and sense your skull. Find your breath, and feel the length of your arms, your elbows, wrists, and your fingers. Let your hands find each other, and gently begin to explore one hand with the other, noticing the texture of your skin, the temperature of your hands, the shapes of the bones in your fingers and wrists.

Bring your hands to the back of your neck, and explore a little; and let your hands find the place that your neck meets your skull–feeling the rounded bones there. By lacing your fingers or cupping one hand over the other, make a little cradle for your skull, holding your head. Take a full breath, and allow your head to rest in the comfort and support of your hands.

The vagus nerve, which we have learned so much about this morning, is held in this cradle. It originates about an inch or so in from your hands, its rootlets on either side at the base of the brain. Imagine it, and let's trace the pathway of the vagus nerve from the brain to the body. Let your hands slide down either side of your neck, down the front of your body, one hand coming to rest over your heart and lungs, and the other finding a place to settle on your belly, or your organs, below the diaphragm. Take a few full breaths here, feeling the contact, the warmth, and all the life within you.

Listening with your hands, allow yourself to imagine the vagus nerve connecting like the roots of a tree with your heart and your lungs. Imagine the connections below your diaphragm branching into your stomach and each of your organs. Relax for a moment and let your body receive the connection–just noticing you are here. Listen. Allow. Relax. And Receive. As you gently open your eyes, and as we continue. Listen. Allow. Relax. And Receive.

Dr. Porges and Dr. Carter, I deeply appreciate your involvement, interest, and presentations here today. Your research offers dance/movement therapy (DMT) powerful concepts to describe our known experience. The idea that the functioning of the mind is rooted in the body is a founding principle of our field. It's thrilling to me that over the past 20 years, during the course of our careers, neuroscience research has shifted from a paradigm of mind-body duality to an evolving understanding that the organized complexity of the brain is embedded in the experience of the body. This opens rich new opportunities for interdisciplinary dialogue between our fields. We can now begin to conceptualize how DMT interventions evoke physiological and psychological shifts, and understand its potency from some new perspectives. I'd like to focus on how the two concepts we are exploring today, polyvagal regulation and oxytocin activation, can help us refine and find language for the intuitive and felt experience of our work.

Dance/movement therapy interventions involve shifting attentional states and moving in deeper relationship with oneself and others. Our wide spectrum of clinical practices includes attunement, somatic awareness, interactive dance, imaginative play, and authentic movement. Dance/movement therapy engages at the neurophysiological intersections between mind and body. It activates polyvagal regulation: Within a session, our clients may experience settling into deeply soothing parasympathetic resting states or dance with energetic, sympatheticallydriven abandon within the safe container of a group. Many of my clients regularly use the simple process of touching and tracking the pathway of their own vagus nerves (the way we just did). One client I am currently working with uses this as a somatic resource to sense inside her body when she is "too high" or "too low," and practices using movement to help her reestablish equilibrium. She can picture how the vagus nerve travels and functions as a bridge between her mind and her body, and she traces its pathway through self touch as she senses her own breathing and heart rate, and tunes into her organs, kidneys, and adrenal glands. Visualizing and tracking what is happening inside her own body helps her sense and connect within. "I feel more here," is how she puts it.

Dance/movement therapy helps our clients remember that their bodies belong to them, and that movement can support their own healing, learning, and growth. This process is simultaneously physiological and psychological. Because our work is so deeply relational, it stimulates oxytocin activation, which Sue Carter has so beautifully researched and just described. The attunement of synchronicity and shared joy in relationship feels good, and it feels good for a reason: It is essential to life and growth. A story that a student recently told me illustrates the potent engagement of mind and body in DMT. This student worked with a young female refugee who was seeking asylum after losing a baby due to a forced abortion in her home country. My student spoke English as a second language, and did not share a common language with her client, so an interpreter facilitated their sessions. She called this story "Movement as the mother tongue."

Our movement work started once she discovered she was pregnant again, and perhaps because of her past terror, she was experiencing difficulties with the new pregnancy emotionally and physically. [S]he was concerned because the new baby was not growing. She initially arrived to the sessions anxious and scared, and we often began in silence, just breathing together. After a while, she would let me know she was ready, and she began moving to music, often choosing the soft cello sounds of Yo–Yo Ma. Later, we worked with dances using movement metaphors.

These dances began with seed words such as 'making her belly bigger and bigger' and 'dancing the waters.' I witnessed and sometimes moved with her, mirroring her movements. After a few weeks, I offered her a piece of baby pink tulle which she moved with as her 'baby girl.' She rocked it, talked to it, and danced with it. After a few months, she was feeling consistently better, and we did movement to support breastfeeding (she could not breastfeed her first baby). For this, the 'seed words' were *milk, warm, flooding, river*. She imagined 'moving the milk' as we danced. When the baby girl was born, she invited me to the hospital to see her. It was emotional, and very moving. No one in the room could translate, but we shared gestures, held hands [with me], and she gave me the baby to hold. It was healthy and pretty big! She repeated the gesture of the growing breast, and we both laughed. She was able to breastfeed. (M. C., personal communication, September 5, 2013)

These inspiring stories are not rare in DMT. One reason I love this field is the farranging application of our work—with child soldiers, humanitarian aid workers, with children, families, and adults. Our creative range of intervention strategies reengages the healthy functioning of our clients' psychobiological regulation systems through relational movement. Movement and experiential process involves full, embodied participation in the present moment, which engages the whole brain, disrupts habitual patterns, and cultivates more flexible responses to current circumstances. Dance/movement therapy impacts the implicit neurological processes underlying consciousness, which are at the heart of human vitality, motivation, and self-agency.

Recent inquiry in the field of affective neuroscience has followed the study of human emotion and empathy in the brain and it has led directly to the body. We now have overlapping realms where mutual, ongoing dialogues with our affective neuroscience colleagues can stimulate and support us as we move toward a more nuanced understanding of DMT's impact and potential.

Compliance with Ethical Standards

Conflict of interest This author was invited by the American Dance Therapy Association to participate in the cross-disciplinary panel at the 51st annual conference.

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