A Narrative Example of Trauma Center Trauma Sensitive Yoga (TCTSY) as an Intervention for Behavioral Health Outcomes in Children and Adolescents

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Post COVID-19 pandemic, mental health clinics and practices have seen an increase in the number of children whose parents are seeking services to mitigate behavioral issues at home, in the community, and at schools. At our study site in Maryland, there was a 30% increase from 2022 – 2023 in children and adolescents seeking services compared to the two-year period prior to COVID-19 shutdowns. The challenges reported by parents included an increase in symptoms of depression, anxiety, obsessive-compulsive-related disorders, mood disorders, trauma- and stressor-related disorders, anxious rumination, and bodily dysregulation which include physical, emotional, behavioral, and cognitive challenges. Because of this increased need for services and the high levels of trauma exposure and emotional and behavioral dysregulation that were reported, this team decided to introduce the intervention of Trauma Center Trauma Sensitive Yoga (TCTSY) (Emerson, 2015; Emerson and Hopper, 2011; Rhodes, 2015; van der Kolk, et. al. 2014; Zaccari et. al., 2023) to potentially mitigate the significant impact that the COVID – 19 pandemic and adverse childhood experiences had on children.

TCTSY is the first yoga-based empirically validated, clinical intervention for complex trauma or chronic, treatment-resistant posttraumatic stress disorder (PTSD) (traumasensitiveyoga.com; Emerson, 2015; Emerson and Hopper, 2011; Rhodes, 2015; van der Kolk, et. al. 2014; Zaccari et. al., 2023). The TCTSY methodology is based on central components of the hatha style of yoga, in which participants engage in a series of physical poses and movements. Elements of standard hatha yoga are modified to maximize experiences of empowerment and to cultivate a more positive relationship to one's body. Although TCTSY employs physical forms and movements, the emphasis is not on the external expression or appearance (i.e., “doing it right”) or on receiving the approval of an external authority. Rather, the focus is on the internal experience of the participant. This shift in orientation, from the external to the internal, is a key attribute of TCTSY as a treatment for complex trauma (a type of trauma that involves repeated or prolonged exposure to multiple traumatic events, often interpersonal in nature) and PTSD. With our approach, the power resides within the individual, not the TCTSY facilitator (TCTSY-F). Further, by focusing on the felt sense of the body to inform choice-making, TCTSY allows participants to restore their connection of mind and body and cultivate a sense of agency that is often compromised because of trauma (traumasensitiveyoga.com; Emerson, 2015; Emerson and Hopper, 2011; Rhodes, 2015; van der Kolk, et. al. 2014; Zaccari et. al., 2023).

Interoception is a fundamental principle of TCTSY. Interoception refers to the process by which the nervous system senses, interprets, and integrates signals originating from within the body, providing a moment-by-moment mapping of the body's internal landscape across conscious and unconscious levels. (Khalsa, et al., 2018). In TCTSY, interoception is used to help survivors regain agency by inviting them to make choices that feel right for their bodies. Practices that help develop interoceptive awareness have been based on research with adults. How these practices influence healing in the lives of children who have survived trauma is limited.

Thus, we wanted to determine the role, if any, that interoception, or interoceptive awareness, plays in helping children begin to regulate internal physical sensations and how it can be used as both a coping and reset tool. TCTSY has been previously validated as an effective treatment for complex trauma and PTSD in adults (van Der Kolk et al., 2014; Zacarri et al., 2023), but has not been studied in children. One key finding in the TCTSY research has been its relational component which allows for the participant and facilitator to have a shared authentic experience and to share power while engaging in the intervention. In a "typical" yoga class, for example, a teacher does not engage in the practice, but rather cues postures and forms for the students to practice. It is a very directed experience whereby the teacher tells the students what to do and the students are expected to perform. The teacher has the power in this scenario. We were curious about how creating connections through authenticity and power-sharing with children might help resolve some of the challenges they faced, especially because being "told what to do" was a trigger for many children with whom we were working.

A total of 32 children, ages 6-13, participated in an IRB-approved study at our outpatient mental health clinic. Some necessary adaptations to the TCTSY format were made because of the age of the youth engaged in the study. The use of "play" in terms of creating space for "silly expressions" of yoga forms and teach-backs (where the youth teach the form to peers and facilitator) was implemented in this study, but those elements are not part of the original TCTSY methodology. Data from the Adverse Childhood Experiences scale (Felitti et. al 1998) were used as part of the pre-screening for the children involved in this intervention. Children who had a score of 4 or higher on the ten-point scale of the Adverse Childhood Experiences Scale (ACE; Felitti, et. al, 1998) were invited to participate. The symptoms observed in these children included behavioral dysregulation in the classroom which consisted of physical aggression toward others, self-harming behaviors, insomnia, emotional dysregulation, body dysregulation, food hoarding behaviors, decreased attention and focus, and decreased decision-making capability. What we noticed after the intervention was that symptoms of emotional and body dysregulation and physical aggression decreased in the child participants.

One remarkable outcome is that, over time, children were continuing to utilize the TCTSY modality unprompted by adults. For example, during an observation of a group of children who were part of the original study, two children were trying to do an inversion (forms that place the heart over the head, the opposite of the

body's normal upright position). Child One (age 8) did not have any difficulty in getting into and staying in the form of "crow," an arm balance where the elbows are bent, with knees placed on the elbows and the head is off the floor. Child Two (age 9) kept falling out of the form. Child One looked at Child Two and said, "You gotta get out of your head, man. Crow is in the body." Child Two sat on his knees, closed his eyes, and took several slow breaths. When he tried again, he was able to create the shape. Child Two said to Child One, "Thanks for reminding me it's in my body. I was thinking so hard about it and being worried that I'd fall, that I fell."

This anecdote occurred 18 months after these two children participated in the original participant group ($N = 16$). They were able to maintain an awareness of embodiment which was not present before the intervention. In addition, this example illustrates the practical use of interoceptive awareness by two seven-year-old children. In that moment, the children were connected to each other while also being connected to themselves, even though trauma, by its nature, has the potential to break connections between self and others. Young children developing the ability to recalibrate out of rumination and demonstrate regulation over their own bodies leads one to wonder if this intervention will have a significant contribution to children's healing because they become active agents in their own restorative experiences. Through this small study, we gained insight to the ways in which TCTSY as a modality could be used to support children with significant trauma histories. Preliminary results have been promising and may indicate that future research, using randomized clinical trial designs, is necessary.

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