Touch Research & Resources

A companion resource for the article The Role of Touch in Development, Regulation, and Healing.

This resource gathers research themes and references related to touch, early development, attachment, somatosensory experience, nervous system regulation, and trauma-informed care. It is offered for education and reflection only. It is not a substitute for therapy, medical care, supervision, or professional consultation.

How to Read This Resource

- Touch is one of the earliest forms of communication available to the developing nervous system.
- Research on touch includes many different fields, including infant development, nursing, psychotherapy, attachment, neuroscience, somatosensory processing, pain, caregiving, aging, and social behavior.
- Touch can be supportive for some people and complicated, overwhelming, or inappropriate for others. In therapy, touch requires consent, pacing, boundaries, clinical judgment, and attention to each person's history.
- The visible article gives the digestible overview. This PDF holds deeper research and references for readers who want to explore further.

Core Themes

Touch and early development

Early tactile experience can shape regulation, bonding, body awareness, and the felt sense of safety in relationship.

Touch and attachment

Attuned contact, proximity, voice, gaze, rhythm, and repair all participate in the development of connection and regulation.

Touch and the nervous system

Supportive contact may influence arousal, stress physiology, soothing, and the body's sense of being met, protected, or accompanied.

Somatosensory experience

Touch belongs to the somatosensory world, including pressure, texture, vibration, temperature, proprioception, and the body's sense of location and boundary.

Consent and safety

Touch in a clinical setting is never just a technique. It belongs within consent, relationship, pacing, culture, history, power, and choice.

Developmental trauma

For some people, early touch was absent, intrusive, frightening, unavailable, or confusing. Therapeutic work must honor both the longing for support and the body's protective responses.

Transforming Touch and the Larger Research Context

Transforming Touch(R) was developed by Stephen J. Terrell, PsyD, SEP as a regulation-focused approach for working with early, nonverbal, and developmental layers of experience. The older source material for this page described Transforming Touch(R) in relation to developmental trauma, Somatic Experiencing(R), attachment, autonomic regulation, therapeutic centering, somatosensory experience, resonance, and the possibility of nonverbal repair.

This PDF does not present touch as universally appropriate. It preserves a research pathway for readers who want to explore why touch, early contact, and somatosensory experience may matter in development and healing.

Selected Reading Pathway

- Start with broad reviews of touch in early development and socioemotional well-being.
- Then explore attachment research, infant-caregiver interaction, oxytocin, cortisol, and social engagement.
- For clinical relevance, review literature on touch in psychotherapy, nursing, palliative care, trauma, and developmental support.
- For somatic work, pay attention to studies on somatosensory processing, proprioception, affective touch, and body-based regulation.

Extended Touch Research Bibliography

The following bibliography is preserved from the older research resource and lightly formatted for readability. Some items may need updated links or citation review before being used in formal academic writing.

- On The Effects Of Touch
- Written by: Stephen Terrell, developer of Transforming Touch(R)
- ~ Where Intention Goes, Energy FLOWS ~
- Transforming Touch(R) is an attachment-focused, neurophysiological method of hands-on healing for regulating the Physical, Intellectual, Emotional, and Spiritual self with our clients. I see touch as the missing language of Developmental Trauma. After years of using talk therapy with a severely traumatized population without a clear story to match their symptoms, I began to search for a way to communicate with a non-verbal system. I kept hearing in my head, "How do you expect to bring about healing in a system that speaks a different language?"
- As a psychotherapist, my options seemed limited. Most of the scholars of Psychology leaned heavily on talk therapy. I had to look deeper, seek further afield, to find something that was both effective for clients and practicable by me - user-friendly, so to speak. While attending an EMDR conference in Denver, I heard a speaker named Peter Levine. He talked about Somatic Experiencing(R) and healing trauma.
- This was my first introduction to Somatic Psychology. I signed up for the next class coming to Austin and started the training. I wish I could say it was a breeze and everything worked just right, but that wasn't my experience. It was, however, a clear stepping stone that moved me into touch when Kathy Kain taught my final year of training; from her, I got a sniff of touch that resonated for me.
- I moved on to train and assist Kathy in her work and eventually co-developed "Somatic Resilience and Regulation" with her. Later we co-authored "Nurturing Resilience," a best-seller on Amazon, which allowed for the birth of Transforming Touch. Using Transforming Touch with my clients, I continue to grow and learn new ways of using touch to assist my clients with Developmental Trauma with their own healings.
- For most, it seems that they experienced an unavailable caretaker in the nursery, either during the pregnancy or immediate postpartum (first six weeks following birth). Allan Schore, with his extensive research, sees this period as the most important time for someone to begin developing a healthy attachment system. A combination of Schore's work with Stephen Porges' work on Polyvagal Theory, dashes of Somatic Experiencing, and my own work with threat response and autonomic regulation was the force behind the development of Transforming Touch(R).
- Somatic memory holds all of our traumatic experiences within our physical self. If Schore is right about the importance of forming a reciprocal relationship in the nursery, and the significance of relational and physical injuries during that formative non-verbal period, then what better way to communicate than through touch? Transforming Touch(R) is a way of reaching such early and non-verbal traumas repairing a ruptured system.
- When we touch someone, they are naturally touching us back. The subtle repair of early attachment ruptures begins as the body and mind interweave with one another. Transforming Touch(R) allows and holds space for the client who has experienced Developmental Trauma to begin to reorganize and re-pattern the early experiences that are held in their physical self that are affecting their intellectual, emotional and spiritual self.
- As the client begins to move towards a new normal, they begin to feel more awareness and balance within their physical, emotional, intellectual and spiritual self. The relationship formed with Transforming Touch(R) between the clinician and client supports and facilitates this movement. This reparative work is seen as essential for the client to heal from early ruptures.
- Art: Autumn Skye - Healing
- "Where intention goes, energy flows" is a key principle in Transforming Touch(R). Listening to the client, their story, and most of all their desire to heal, we align the practitioner's mindset with the client's sense of healing. In Transforming Touch(R), as we touch into different bodily systems and patterns while holding attention and positive intention for the client, we begin to discover and foster a sense of resonance within our client's autonomic nervous system.
- Transforming Touch(R), which focuses on the resonance and dialogue between the client and practitioner, begins with our own Therapeutic Centering (a quieting of the practitioner's mind during session). The more we are capable of being present in our own bodies, the better are the chances for our client's bodies to reach out and find a connection: an experience that most with Developmental Trauma have never before experienced.
- Transforming Touch(R) is not always about using physical touch. It can also be the intent of Transforming Touch(R) that can effect change in the system. Every intention we have for our clients can be felt in their bodies.and seen in their healing. This mirroring helps to strengthen our client's sense of self and allows their body to find a new pattern of healing. The initiation of intent, based upon what each person is perceiving, may be shared consciously and/or unconsciously by both people. This type of non-verbal repair is necessary for our clients to create a new narrative about their lives.
- Perception and imagination are often-times ruptured and suffer the most in the survival-oriented biological system of a person who has experienced Developmental Trauma. The way we allow the client to "be where they are," in life or the moment, without judgment and to bring a sense of curiosity to the session can begin to heal the body. Seeing the client in their present state of being as being their "normal" and allowing for the possibility of moving towards a new normal.
- Transforming Touch(R) relies on the somatosensory system, which connects with all the sensations we feel, such as hot, cold, rough, smooth, pressure, pain, tickle, itch, vibration and more, to name a few of the sensations recognized in the body. Within the somatosensory system, we are aware of four main types of receptors: mechanoreceptors, thermoreceptors, pain receptors, and proprioceptors. Mechanoreceptors perceive sensations such as pressure, vibration, and texture. Thermoreceptors perceive temperatures. Pain Receptors transmit pain signals. Proprioceptors sense the position of the different parts of the body in relation to each other and the surrounding environment. Transforming Touch(R) stimulates all four type of receptors as we apply supportive touch to the surface of specific locations on the body.

- The power of touch helps to soothe the nervous system, restoring a sense of safety and trust in the moment. Warm, safe touch activates the release of oxytocin-the "tend and befriend" hormone that creates pleasant feelings in the body and is the brain's direct and immediate antidote to the stress hormone, cortisol.
- Oxytocin is one of a cascade of neurochemicals that are part of the social-engagement system of the brain-body. Because being in the presence of other people is so critical to our well-being and safety, Nature has provided this system to encourage us to reach out to others and connect. That's why touch, along with physical proximity and eye contact (if the client can tolerate it), evokes a viscerally-felt sense of reassurance that brings the client's biological system back into the window of tolerance. Transforming the Experience-Based Brain uses Transforming Touch(R) to activate change. Transforming Touch(R) is taught during the classroom process.
- Research
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