



The Lifelong Power of Social Touch From Infancy to Education

Social touch is not just a comforting gesture—it is a **biological and relational necessity**. From our first moments of life, touch plays a foundational role in shaping how we feel, think, relate, and grow. It influences emotional regulation, attachment, social behavior, communication, cognitive function, and even gene expression. These effects are far-reaching, extending not just through childhood but across the entire human lifespan (Cascio, Moore & McGlone, 2019).

Research across species—from rodents to humans—demonstrates how **early tactile experiences profoundly influence development**. For example, in prairie voles and rats, offspring raised with more physical contact display reduced aggression, better stress regulation, and stronger cognitive function. These outcomes are mediated by **epigenetic mechanisms**—meaning that early nurturing touch can alter the way genes are expressed, leading to lifelong changes in behavior and brain

structure (Perkeybile & Bales, 2015; Bagot et al., 2012; Caldji et al., 2000).

In humans, **touch is the earliest and most dominant form of communication** between infants and caregivers. Studies show that up to 65% of mother-infant interactions involve touch (Stack & Muir, 1990), which can immediately reduce stress behaviors and lower physiological arousal (Feldman et al., 2010). Even infants as young as nine months show decreased heart rates and increased attention in response to pleasant, **CT-targeted touch**—a specific kind of gentle, affective touch processed by the **C-tactile (CT) afferent system**, which is wired to detect emotionally meaningful tactile signals (Fairhurst et al., 2014; Croy et al., 2016).

Touch is **biologically grounded**, but it is also shaped by context. Cultural values, personal relationships, gender expectations, and social norms all influence how we interpret and respond to touch. A gentle hand on the shoulder from a friend may comfort us; the same touch from a stranger may feel invasive. These **top-down factors** interact with the **bottom-up mechanisms** of touch perception, meaning that social touch is always



both physiological and situational (Cascio, Moore & McGlone, 2019).

The benefits of early nurturing touch are long-lasting. In neonatal care, **skin-to-skin contact** has been shown to reduce pain, improve weight gain, shorten hospital stays, and even boost neural development in preterm infants (Field et al., 1986; Maitre et al., 2017). In parents, affectionate touch elevates **oxytocin levels**, strengthening the bond with their child and providing mutual emotional regulation (Feldman et al., 2010a). As infants grow, this tactile communication helps build **self-regulation, attachment security, and symbolic communication** (Feldman et al., 1999a; Feldman & Greenbaum, 1997).

Moreover, infants are **not passive recipients** of touch. As early as five months, they use touch to express their emotions to caregivers (Moszkowski & Stack, 2007). When maternal depression results in lower tactile engagement, infants may increase self-touch as a coping mechanism (Herrera et al., 2004). Brain imaging studies in animal models even show that suckling activates maternal reward centers more powerfully than drugs like cocaine—revealing just how

intrinsically rewarding caregiving touch can be (Febo, 2011; Ferris et al., 2005).

But when these early touch interactions are disrupted—whether through neglect, sensory aversion, or trauma—the consequences can be severe. **Touch avoidance in infancy is a known predictor of autism spectrum disorder** and other sensory-processing challenges (Baranek, 1999; Lin et al., 2005; Mammen et al., 2015). Without positive touch, children may struggle with emotional regulation, attention, and the development of a clear sense of self versus others (Bremner & Spence, 2017).

This is why touch must not stop at home.

As children grow, their environments expand—and so must the support for their emotional and sensory development. Schools and childcare settings become the primary arenas for social learning. If **intentional, nurturing touch** is absent here, children may miss out on essential opportunities for co-regulation, empathy-



building, and emotional security.

Educational programs like **Mindful-Touch Education (MTed)** are designed to fill this gap. By integrating safe, culturally sensitive, and developmentally appropriate touch practices into the classroom, we can support children's mental health, stress regulation, relational intelligence, and readiness to learn. Social touch is not just part of healthy development—it contributes to a holistic and is part of **healthy education**.

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