

## EXCERPT



### **Relational Spirituality**

*A Psychological-Theological Paradigm for Transformation*

May 25, 2021 | \$45, 312 pages, hardcover | 978-0-8308-5118-8

Human beings are fundamentally relational—we develop, heal, and grow through relationships. Integrating insights from psychology and theology, Todd W. Hall and M. Elizabeth Lewis Hall present a definitive model of spiritual transformation based on a relational paradigm, showing how transformation works practically in the context of relationships and community.

## Created to Connect

We are profoundly relational beings. The absence of close relationships is a health risk factor more important than smoking, obesity, and physical activity in its effects on mortality rates. Close relationships help us cope with stress and meet our needs for social connection. In addition, they are foundational for physical and mental health, and for meaning and spiritual growth into the likeness of Christ. We will consider the scientific evidence suggesting that God created us as prewired to connect. The Bible and trinitarian theology establish a broad framework for this in the concept of the image of God. Likewise, contemporary research from numerous fields is converging on a relational paradigm of human development and fleshing out our biblical understanding of how profoundly relational we are. We are born for loving relationships with God and others.

This prewiring plays out in two ways. First, we are born with the ability to relate. Infant research demonstrates that these capacities for interpersonal engagement are in place from a very young age. Second, early loving relationships are crucial for our development into maturity—emotionally, relationally, and spiritually. Several lines of research are converging in suggesting a new perspective on how the brain functions—namely, that it is dependent on relationships to develop properly and to organize itself.

The evidence from these studies has led to a new paradigm of development indicating that our neural connections synchronize with our relational connections, wiring our relational experiences into our brain circuits. Moreover, when our early relationships are deficient, relationships later in life can lead to significant change in our brains and healing in our souls. We are created for relationships, and relationships remain central to our well-being and spiritual development throughout our lives.

Developmental scientists used to think that infants are basically passive and nonrelational. However, infant research in the last thirty years has taught us several broad principles that paint a portrait of infants as amazingly relational. First, we have learned that infants are born with the capacity to “catch” the emotions of others. Second, they are capable of influencing, and being influenced by, relational interactions. In other words, what happens inside infants’ subjective experience is impacted by what happens between them and their relational partner. In addition, what happens between the dyad affects infants’ experience and ability to regulate their own internal states. Below we consider each principle in turn.

**Emotional responsiveness: catching others’ emotions.** There is growing evidence that human beings are prewired to respond to others’ suffering. Some evidence comes from studies of lab rats and rhesus monkeys, while some comes from infant research and studies of adults using fMRI technology (functional magnetic resonance imaging). For example, when a laboratory rat is suspended in the air by a harness, it screeches and struggles to get free. When one of its fellow lab rats sees the other rat’s plight, it also becomes distressed and manages to rescue it by pressing a lever that lowers the victim safely to the ground.

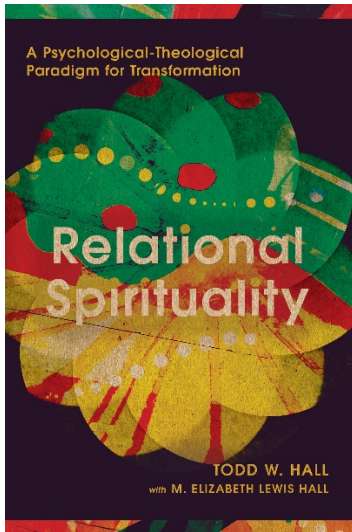


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In another study, six rhesus monkeys are trained to pull chains to obtain food. A seventh monkey receives a painful shock whenever one of them pulls the chain for food, and the other six monkeys see this happening. When they see their fellow monkey being shocked, four of the original six monkeys start pulling a different chain that gives them less food but doesn't administer a shock to their friend. The fifth monkey stops pulling the chain for five days, and the sixth monkey stops pulling it for twelve days. These last two monkeys were literally starving themselves in order to prevent the seventh monkey from being shocked.

Human infants, likewise, show an automatic impulse to attend to others' suffering. From birth, when babies see or hear another baby crying in distress, they start crying as though they were the ones distressed. However, they rarely cry in response to hearing a recording of their own cries. Moreover, after fourteen months of age, babies not only cry when they hear another baby crying, they actually do something to try to relieve the other baby's distress.

**Mutual coordination of internal and relational states.** If you watch a new mother with her baby for any length of time, you will see her make interesting and contorted faces at her newborn. When a mother shows a look of surprise, her baby will raise her eyebrows in a look of surprise. Most parents, when feeding their babies, open their mouths without realizing it as they move the spoonful of food closer to their mouth. Babies imitate their parents' open-mouth expression, which facilitates the feeding process.

In fact, infants as young as forty-two minutes can imitate an adult's facial expression. Infants are able to sense a match between what they see on the adult's face, and what they *feel* in their own faces. This is what infant researchers call "cross-modal matching." This means that infants can translate back and forth between information from the environment (e.g., an adult's facial expression) and information from their own bodies (e.g., the feeling of making a certain facial expression). This is one way in which infants coordinate their inner states with relational states, suggesting that infants are prewired for relationality.

Neuroscience has taught us that certain regions in each hemisphere of the adult brain specialize in processing positive or negative emotions. In neuroscience parlance, these brain circuits are lateralized for processing positive and negative emotions. It turns out that by ten months, infants' brains are likewise lateralized for positive and negative emotion. For example, in one study, as an infant watched a video of a laughing actor, his brain registered positive emotion (electroencephalogram or EEG activation of the left frontal lobe). As he watched a video of a crying actor, his brain exhibited a pattern of negative emotion (EEG activation of right frontal lobe). In this study, the infants did not have to match the partner's facial expression to be influenced by it. This suggests that simply perceiving emotion in another creates a resonant emotional state in the infant.

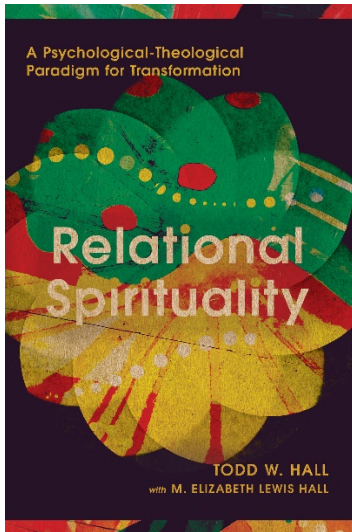
We also see mutual coordination in the way infants respond to interactional events with their mothers. Picture a mother playing peekaboo with her twelve-month-old baby. She holds a pillow in front of her face, and then suddenly moves the pillow, exuberantly exclaiming "peekaboo!" as her gaze reunites with her baby's. Her baby breaks into joyous laughter at the sudden appearance of his mother. This is the way most infants respond to some kind of positive interaction with their mothers—with positive emotions. Not only that, but most infants in this scenario respond by showing a "positive emotion" EEG pattern of left



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frontal lobe activation. However, by ten months of age, infants of depressed mothers show a very different response pattern. The same peekaboo event triggers negative emotions, and a “negative emotion” EEG pattern (right frontal lobe activation) in these infants. These infants’ internal states are still coordinated with relational events, but the way the coordination is organized is reversed compared to infants of nondepressed mothers. However, this demonstrates from another vantage point the close linkage between infants’ internal states and their dyadic interactions.

If you watch a mother and her baby during a face-to-face interaction, you will notice that the baby will periodically look away for a few seconds and then look back. The mother, on the other hand, will look at her baby the entire time. This is very parallel to what happens in psychotherapy. When I see a client in psychotherapy, I tend to maintain eye contact throughout the entire session. Clients regulate their sense of connection by regulating their eye contact with the therapist. Infants do the same thing. They have full control over their gazing behavior, which allows for very sophisticated social interactions. Infant researcher Daniel Stern notes, “When watching the gazing patterns of mother and infant . . . one is watching two people with almost equal facility and control over the same social behavior.” Infants actually regulate their heart rates by visually disengaging from their mothers for brief periods of time. When their heart rate rises above its normal baseline, they process less information from the environment. In order to regulate themselves and decrease their arousal level, they look away from their mothers. After they look away for five seconds, their heart rate returns to its baseline level, indicating that they can process more information. In addition, by six months, infants of depressed mothers have elevated heart rates and higher levels of the cortisol stress hormone. These infants appear to be in a chronic state of elevated arousal and distress. Thus, we see that infants regulate themselves through their social interactions and that their arousal levels match the quality of their social interactions.

Infant research has also taught us that infants have very sophisticated perceptions of emotion expressed through voice and face. By six months, infants can tell the difference between a rising pitch and a falling pitch, and they show a bias toward the positive, rising pitch. By seven months in utero, infants’ facial muscles are almost fully developed. At birth, they are almost on par with adults in their ability to move facial muscles. By six months of age, infants can display the seven basic emotions of interest, joy, disgust, surprise, distress, sadness, and anger. Their perception of facial emotion is so good that neonates can discriminate between expressions of surprise, fear, and sadness on an adult’s face. In addition, they mimic these expressions so well on their own faces that, if you were watching, you would be able to guess which face they were mimicking.

By ten months of age, infants actively seek out emotional information from their caregivers to help them understand their environment. In a classic “visual cliff” experiment, an interesting object was placed on the other side of what appeared to the infants to be a cliff (a glass table). It appeared to the infants as though they would fall if they attempted to cross the cliff. If an infant’s mother displayed a fearful facial expression, the infant didn’t cross. However, if an infant’s mother smiled, the infant would cross the visual cliff. We can see that infants naturally look to interpersonal interactions to help them understand their environment and guide their behavior.

—Adapted from chapter three, “Created to Connect: A Psychology of Being-in-Relation”



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