

The new science of feelings

By Richard J. Davidson and Sharon Begley, Newsweek

If you believe most pop psychology, you probably assume that most of us react to life events in just about the same way—there is a grieving process, a sequence of events when we fall in love, a standard response to being jilted.

But these one-size-fits-all assumptions are not true. In decades of research into the neurobiology of emotion, I've seen thousands of people who share similar backgrounds respond in dramatically different ways to the same experience. Why does one person recover quickly from divorce while another remains mired in self-recrimination or despair? Why does one sibling bounce back from a job loss while another feels worthless for years? And why can one father shrug off the botched call of a Little League umpire who called his daughter out while another leaps out of his seat and screams at the ump until his face turns purple? The answer that has emerged from my research is that these differences reflect what I call Emotional Style—a constellation of reactions and coping responses that differ in kind, intensity, and duration. Just as each person has a unique fingerprint and a unique face, each of us has a unique emotional profile.

That may seem as obvious as stating that everyone has a unique personality. But personality is not grounded in identifiable neurological mechanisms; it has not been traced to specific patterns of neural activity in the brain. This is where the theory of Emotional Style breaks new ground: through neuroimaging and other methodologies, I have traced Emotional Style—and, specifically, the six components that make it up—to patterns of activity throughout the brain.

In making those discoveries, I have found that, in contrast to the longstanding scientific orthodoxy, Emotional Style arises

partly from activity in regions involved in cognition, reason, and logic—functions that textbooks tell us are as unrelated to emotions as apples are to squid. That has come as a shock to defenders of the view that cognition—which many psychologists and neuroscientists consider the most exalted human capacity—and emotion (viewed as a lesser, almost animalistic trait) run on separate, mutually independent brain circuitry: the former in the “highly evolved” frontal cortex and the latter in the limbic system, which in humans is not much different from that of other animals. In showing that cognition and emotion are not so separate after all, these discoveries have rehabilitated emotion. From a behavior that was, as recently as the 1970s, studied for the most part only in rats and other lab animals, human emotion has now assumed as important a place in neuroscience as thinking.

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