

**PS6-- DAN SIEGEL INTERVIEW, "THE NEUROPSYCHOLOGY OF THE PLAYGROUND: PSYCHIATRIST DAN SIEGEL EXPLAINS HOW UNDERSTANDING THE COMPLEXITIES OF YOUR OWN BRAIN CHEMISTRY CAN MAKE YOU A BETTER PARENT", SALON, 6-24-03**

**June 24, 2003 | Harvard-trained psychiatrist Dan Siegel and his colleagues are inventing a new field of scientific inquiry, one that can teach us how to be better parents. The field, known as interpersonal neuropsychology, is based on the idea that interpersonal relationships and communication have a direct impact upon brain development, brain functioning and human behavior. Siegel and his colleagues say that understanding how the brain works can help people improve their relationships, child rearing and emotional life.**

**Siegel's new book, "Parenting From the Inside Out" (co-authored with Mary Hartzell), provides information about the latest research in brain development, but also gives clear, concrete examples of how parents can apply these findings to their own lives.**

**Salon caught up with Siegel at his Santa Monica, Calif., home, down the street from his office near UCLA, where he is an associate clinical professor at the Center for Culture, Brain, and Development.**

**Why do you call your book "Parenting From the Inside Out"?**

**It was a phrase that emerged from an interpersonal neurobiology approach, but it basically just means that if you start from the inside, your outward behavior will follow. As parents, understanding ourselves and how the brain works can help us to repair communication and reestablish our relationship with our children.**

**In your book you tell how you became furious at your son in a toy store, and threatened to ban him from using video games for the next year. All your years of academic training and research were on the line. It was a moment of truth. What did you do next?**

**(Laughter) You know, I was flooded in this parental "low road." I couldn't control my body. My heart rate was going, my breathing was really fast, I was really agitated. I was totally inflexible. I couldn't pull myself out of it, and the things he said just made it worse.**

**I knew I had to take a break. I did a lot of things physically -- stretching, moving around, getting a drink, getting some fresh air -- because I knew that the state of our body directly goes up into our brain and determines our feelings. I gave myself time until I became clear, when my prefrontal cortex, my center for rational thought, started joining together and integrating my whole system. I could feel my emotions become regulated, my body got calm, I was ready to be attuned.**

**The consequences I'd given my son were ridiculous. And I started to become very tearful when I realized that I'd profoundly missed an opportunity to share in his enthusiasm about playing a new video ballgame. I apologized to him, and told him I had been a jerk. You could see his breathing got a little bit calmer.**

**Later on he did this imitation of me, as the crazy person I had been at the toy store, and it was perfect: We all cracked up.**

**In your book, you suggest that something as physically insubstantial as a mother's smile or a father's tone of voice, i.e., interpersonal communication, can affect the physical development of a child's brain, and have a lifelong impact on his or her ability to relate. I find that mind-blowing.**

**It is mind-blowing, literally. It's "contingent communication," and what's important about contingent communication is that it isn't just the sharing of positive, joyful emotions. Even more important than that is the contingency of those responses. Smiles can change the brain, but the smiles have to be also a part of this attuned connection.**

**So, in layperson's terms, contingent communications means that when a child does something, the parent responds appropriately. When the child signals hunger, feed them. Don't put them in bed.**

**Exactly. Contingent response means a response that's tuned in.**

**And you say this communication has a physical impact on the brain and its development?**

**Yes, along with the neuropsychologist and author Alan Schore and others, I believe that attuned communication actually enables the front part of the brain -- especially the prefrontal cortex -- to become integrated with the deeper emotional and bodily centers in the brain itself. That's the overall hypothesis. It's not about exposing a kid to Mozart, or other kinds of early stimulation. It's about this contingent, attuned communication that promotes integration.**

**What would be a concrete example of how "integration" works?**

**Well, ideally, integration helps the kids have flexibility, and adaptiveness. Let's say there's a playground situation, where a girl is playing with her friend, and a third girl shows up to play. An adaptive response would be for the first little girl to say, "OK, you want to play, let's play. Let us finish this game, and then you can play in a minute."**

**And then the three of them play together. But what that girl has had to do to get there is this: She's had to take a deep breath, realizing the sense of closeness and connection she felt with the first friend will still maintain itself even with the third girl. That's a perfect example of a flexible response.**

**What is happening in the brain to make this happen?**

**Well, let's walk in the prefrontal cortex, which is a kind of a manager, allowing for the integration of thought, feeling and memories. When the third girl first appears, the amygdala, or emotional center of one of the girls who is playing, starts firing off in anger. There's a squirt of all sorts of firing, saying, "Get that girl away from here, tell her to go away." Her facial expression starts to get rigid, her jaw becomes tight, her eyebrows start to lower, the classic facial expressions of anger.**

**But at the same time, the prefrontal cortex of the integrated girl, which enables empathy, is able to think about the larger context of what's going on. This is a playground, that girl's in class with them, she has her own internal experience, feelings. She is starting to look disappointed. As the first girl's anger expressions become revealed, she realizes this is not something that ought to happen, it's not right. It's making that girl feel bad, it's a form of selfishness.**

**And she is then able to modulate her emotions by literally having the prefrontal cortex release GABA -- which is gamma amino butyric acid -- and it's going to now fire off these GABA fibers, which signals the amygdala to calm down. There are also indications that there may be a firing of mirror neurons, which allow us to have emotional resonance, to feel the feelings of another person within ourselves.**

**That requires neural integration, which is totally different than if the first girl had been fragmented and couldn't integrate her neural processes.**

**So parents should above all teach their children to have flexible and adaptive responses, which requires helping them integrate their rational and emotional brain functions. How can parents achieve those results?**

**To achieve neural integration in your child, you have to first achieve it in yourself. Neural integration in yourself is self-understanding. It's like what Robert Firestone talks about in his book "Compassionate Child-Rearing," the notion that how we understand ourselves can actually deepen our ability to be compassionate with other people. For parents, what that means is you need to do some self-reflective work and not just respond in knee-jerk ways. The new area of brain research builds on the findings of attachment research, which clearly demonstrate that self-understanding is the No. 1 predictor in a parent of how the child will be attached to that parent.**

**For example, let's say when you were a child you were bullied by other kids. And then you find your own child is very assertive and it pisses you off. So rather than understanding her experience of longing to be**

**close with one friend, you just see her as the bully who attacked you. And so you have no patience for understanding her. That wouldn't really promote integration in your child.**

**You still don't want her to be bullying other kids, but you want to understand. What is she feeling that she would be so assertive as to not allow a third child to play with her? You'd want to always start with attunement, to understand and resonate with your child's experience.**

**What are some of the things new parents should know, say, as they're sitting with their infants?**

**The first thing a parent should understand is the difference between right brain and left brain. So much of what happens in our culture promotes left hemisphere emphasis: language, logic, linear thinking. The right hemisphere, in contrast, is about your body, it's about nonverbal signals: eye contact, facial expression, tone of voice, your gestures, the timing and intensity of your response, how you hold the posture of your body. One of the exciting things about having a baby is that babies are almost totally dominant in their right hemispheres. And you're going to relate to them nonverbally. So it's an opportunity actually to start increasing your awareness of your own sensations, your nonverbal cuing into your child.**

**Emotional attunement begins with nonverbal communication: eye contact, facial expressions, tone of voice, gestures, timing and intensity of response, your posture, the way that you align those nonverbal signals to someone else's signals.**

**But then as the child gets older, it absolutely can involve words, for example, "reflective dialogues" in which you actually talk about what she's feeling and thinking. You talk about what she remembers about her experiences, her perceptions, the sensations in her body, her intentions, beliefs and attitudes. This allows you to show and share an empathic understanding with your child.**

**How do parents you've worked with respond to the message that they need to face their own emotional pain if they want to truly help their child?**

**When people understand themselves via brain mechanisms, it actually alleviates a sense of shame and guilt, opens the door to self-compassion, and guides them to a process of connection with their children that I never would have predicted would happen. For example, Mary [Hartzell] and I were teaching a course in her preschool. We talked about this amazing finding that the prefrontal cortex, this front-most part of the brain which is just behind your eyes, has been associated in cognitive neuroscience studies with processes like regulating the body and emotions, attuning to other people, being flexible, having empathy and self-awareness, being in touch with your intuition and morality, and losing your fears.**

**When you have a meltdown as a parent, you lose many of those nine functions, what we call the "low road." Your emotions become out of control. You're no longer attuned to your child, it's hard to remain in an empathic stance, you can't be flexible, you lose insight into yourself. Then you start having difficulty with your own old garbage, your fears come back. You lose your intuition and, sometimes, morality. When you're integrated, it's "the high road," and you have those nine functions present.**

**When we said this, a number of parents started to cry. One parent said, "Thank you so much, because I thought I was insane because of what I did with my child. You have now helped me understand that my brain is disconnecting inside of myself, and I'm acting in ways I don't want to act."**

**And the next morning she reported, "You know, just understanding the model of the brain, and how I was flipping it, helped keep me from entering the low road. I got away from my child, didn't do anything destructive, took a deep breath. And then I came back on the high road. I realized I could apologize and explain to my child what had happened to me. I had never made a reconnection like that before."**

**It also brings us into the here and now. We don't have to feel that we are doomed to repeat our parents' mistakes with our own children.**

**Absolutely. The great news is not only that the brain makes new connections throughout the life span, but there's some evidence to show that you can grow new integrative pathways. And when you give people that scientific fact, that the brain may be able to grow integrative fibers, they realize that even if they have unresolved issues of trauma or loss, or a lack of a prefrontal integration, they can still parent successfully.**

**Repair occurs because the shame is dissolved. And one of the most important things for a child is that the parents can make a reconnection after a disruption. There is always room for repair and healing -- inside of ourselves, and with our children.**

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**About the writer**

**Fred Branfman is a writer based in Santa Barbara, Calif.**