

**“If You Understand How the Brain Works, You Can Reach Anyone”
By Alison Beard**



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The Theory: Helen Fisher’s research on the brain systems that drive human personality, attraction, and love has been featured in academic journals, TED conferences, and the dating website Match.com. It is now finding business-world applications at companies such as Deloitte. Affiliated with the Kinsey Institute and Rutgers University, Fisher also coaches executives, and in 2015 she launched the corporate consultancy NeuroColor in partnership with leadership and innovation adviser David Labno.

How did you make the leap from personal relationships to professional ones?

My work on personality styles had been getting some attention, and Dave Labno, who I didn't know at the time but who would eventually become my partner, heard me in an interview on National Public Radio. He called me up and said, "You know, Helen, you don't study love. You study relationships." And instantly I could see that he was right. The questionnaire I'd developed to help people pair off romantically could be applied to understanding family, friends, colleagues, clients. Dave had worked in business for years and knew all the currently available personality tests, and he felt that mine was a disruptive technology.

Why is it better than other assessments such as Myers-Briggs and Big Five personality tests?

Because it is based on brain chemistry. I looked at neurological research to develop the questionnaire and then, with colleagues, used functional magnetic resonance imaging to validate it.

We all have two parts to our personalities that are in constant interaction: culture (which is what your upbringing teaches you to believe, do, and say) and temperament (which comes from your biology, genes, hormones, and neurotransmitters). I study temperament. Most brain systems keep the eyes blinking, the heart beating, the metabolism running. But when Match.com asked me, "Why does someone fall in love with one person rather than another?" I tried to find a neurological answer. I spent two years studying the literature and found, over and over, that four biological systems—dopamine/norepinephrine, serotonin, testosterone, and estrogen/oxytocin—are each linked to a particular suite of personality traits. I found this in research not only on humans but also on doves, lizards, and monkeys.

What links did you find?

People who express certain genes in the dopamine system tend to be curious, creative, spontaneous, energetic, and mentally flexible. They are risk-takers and seek novelty. People who have high serotonin activity (or who take SSRI antidepressants) are more sociable, more eager to belong. They're quite traditional in their values and less inclined toward exploration. People expressive of the testosterone system are tough-minded, direct, decisive, skeptical, and assertive. They tend to be good at what we called rule-based systems—engineering, computers, mechanics, math, and music. And people who are expressive of the estrogen/oxytocin system tend to be intuitive, imaginative, trusting, empathetic, and contextual long-term thinkers. They are sensitive to people's feelings, too, and typically have good verbal and social skills.

Working with a statistician, I created a questionnaire to measure the degree to which a person expresses the traits in each of these four systems. Then we put it on Match.com and Chemistry.com and watched who was naturally drawn to whom.

How did you test its accuracy?

I did two fMRI studies—one with young couples, the other with older couples. The subjects answered my questionnaire and then went into the scanner. It turned out that people who scored high on my scale measuring the traits linked with the dopamine system showed a lot of activity

in dopamine pathways of their brains. Those who scored high on my serotonin scale had increased activity in an area linked with “social norm conformity.” In people with high testosterone scores, brain activity was highest in areas related to visual and mathematical perception and in areas built by fetal testosterone. Those who scored highest on my estrogen/oxytocin scale showed more activity in the mirror neurons linked with empathy and other brain regions built by fetal estrogen. That, in itself, is different from any other questionnaire. I was able to validate that mine is measuring what I say it’s measuring.

So should we throw out those other tests?

I don’t have any problem with other good questionnaires that are based on psychology or linguistic studies or even intuition—but I don’t think they’re as accurate, because they’re not drawn from hard science. Let’s look at the Myers-Briggs, which is probably the best known. It’s measuring four things: extroversion versus introversion, intuitive versus sensing, thinking versus feeling, and judging versus perceiving behaviors. Well, the feeling/thinking questions are really measuring the estrogen/oxytocin and testosterone system traits. The perceiving/judging scale focuses on dopamine- versus serotonin-linked traits. So in those areas, they’ve got it right. But the intuitive/sensing scale measures estrogen-linked traits versus serotonin-linked traits; that suggests that those traits oppose each other, which they don’t in the brain.

As for extroversion/introversion, Isabel Myers, one of the creators of Myers-Briggs, once said that this scale measures where you get your energy—either from being with others or from being alone. But her questions also measure whether you’re outgoing or reserved, which are totally different things. For example, I and many other people are outgoing introverts—we’re comfortable chatterboxes in social settings—but we recharge when we’re alone.

Another problem with this and most personality tests is that they aim to put those who take them in one category or another. But the brain doesn’t work in cubbyholes. My test measures how strongly you express traits in each neural system. Some might be expressed more strongly than others. But the granularity is there.

Still, at the end of the day you, Match, and Deloitte are labeling people by dominant style. What’s the benefit in that?

Here’s an example from my own life. I was recently working with a man who, like me, is very high on dopamine, but unlike me, very high on serotonin, which is linked with risk aversion. A particular issue cropped up, and although I was convinced that I was absolutely right in my appraisal of it, he was being very cautious. If I didn’t know anything about brain chemistry, I would have thought he was just being stubborn as hell. But instead, I saw that it was what I call a “serotonin gap.” His hesitation had nothing to do with me or the project. It’s just the way he is. This smoothed over what could have been a big misunderstanding and made us a better team. Now I want his serotonin around me because I see the value of it.

Is the idea to not just identify and understand differing personalities at work but also to adjust your behavior to better suit your colleagues?

Absolutely. You can tailor the way you present information, modify your language when responding to questions, and even adjust how you carry your body so that people with other styles are more receptive. Let me give you another example. A senior partner at Deloitte, who'd heard me talk about the styles, was about to give a presentation to an important client. His team had just finished up the slide deck, it was almost midnight, and everyone was on their way to bed. But he suddenly realized that the focus of the pitch—big on theory, few details—wasn't right for his audience of global bank executives, who he suspected were high-serotonin types. So they stayed up most of the night to redo it, and in the morning they closed a million-dollar deal. The point is: If you understand how to size up those around you, you can reach anyone—your clients, bosses, subordinates—far more effectively.

Is it possible to change your style?

We're flexible to a certain extent, but not entirely. For example, math is a skill linked to testosterone. I'm terrible at math, and I'm never going to be great at it. If I'd grown up with a physicist mother and an architect father—in a family culture that valued math—I'd be better at it, but I'd never be great. Could someone make me tough-minded? I doubt it. I might act tough when I have to, but it makes me uncomfortable. Some time ago, after I gave a speech at the Smithsonian, a female executive came up to me and said, "At work I'm decisive and authoritative, but I married a man who wanted me to be soft and sweet at home. And I could do it, but I found it exhausting." She told me that she ultimately divorced him. So yes, we can act out of character, but it's tiring. At NeuroColor, we have people take our questionnaire twice. The first time, they describe their thinking and behavior at work; the second time, how they are "outside work." It's a great measure of authenticity: Where are you most yourself?

Do you see a future in which these tests inform decisions about hiring, promotions, and team building? High-serotonin people in accounting, high-dopamine in business development?

I don't think you'd want to pigeonhole people that way. But I'd certainly add this information to the mix, because it can help you build more-effective teams. The four styles of thinking and behaving evolved in hunter-gatherer societies over many millennia for a reason. Imagine a group of people in Africa, hundreds of thousands of years ago, walking together to look for a new camp. Suddenly, they find some mushrooms. You can't have only high-dopamine types, because they'd all try the mushrooms and maybe be poisoned. You need some high-serotonin types to say, "We shouldn't do this; it's not in our tradition"; some high-testosterone types to say, "Let's experiment: Feed the mushrooms to the dog and see what happens"; and some high-estrogen types to say, "Let's discuss what we know about these mushrooms." We evolved to think differently so that we could put our heads together and come up with good solutions. Complementary styles of thinking make for a more effective team. Unfortunately, it seems that when organizations think about diversity today, they look at race or gender or cultural background—but not diversity of mind. So you have your women and minorities represented, and that's great—but they may all share the same temperament, so the group isn't as diverse as you think.

You've assessed people in many different countries. Have you found more similarities or differences?

The president of Match asked me a few years ago if my questionnaire would work in other cultures, and I told him that if it didn't, I had failed, because I'm studying the human personality, not the American personality. That version has now been used successfully in 40 countries.

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But we have found some interesting regional differences. For example, more Chinese and Japanese people score high on the serotonin scale. When I mentioned this to a geneticist, Lee Silver from Princeton, he wasn't surprised. He told me that there's a gene for social-norm conformity that occurs more frequently in China and Japan than anywhere else. He also told me that there's a gene linked with dopamine that's most common in the Amazonian basin. You could hypothesize that the exploratory, high-dopamine types walked over the prehistoric land bridge from Africa, carrying those genes with them and passing them down, or that people with those traits were the only ones who could adapt to life in the Amazon and survive. You can begin to see how entire cultures—and organizations—take on certain personality styles.

Testosterone and estrogen are sex-linked traits. Do you worry that your framework reinforces gender stereotyping?

It's true that across cultures, many more men score high on the testosterone scale, and many more women score high on the estrogen scale. At the same time, we all are made up of an array of the traits. As I said, I'm high estrogen, and in a group those traits come out: I listen carefully, I try to get along. When I'm alone, at my desk, I'm all dopamine: I'm creative, focused on my work. I'm lower on testosterone: I'm not tough-minded or good at math. But I am logical—certainly in business if not always in love. So in evaluating yourself and others, you have to think about all four biological systems. When you understand where someone lands on each scale, you begin to see the full personality.

Alison Beard is a senior editor at *Harvard Business Review*.