

Trading Psychology

Denise Shull, founder of a New York consulting firm, says investors can apply insights from neuroscience to make better decisions. **By JON ASMUNDSSON**

FOR DENISE SHULL, investing is all about one basic question: Down the road—in five seconds, five months or five years—will someone else pay a different price for an asset than you will now? Whether you use fundamental research to try to discover undervalued companies, technical analysis to identify entry and exit points to buy or sell stocks or quantitative modeling to find probabilistic relationships among prices of different securities, it all boils down to the same thing. “Everyone forgets that it’s fundamentally a question of predicting other people’s behavior,” she says.

Shull is president and founder of Trader Psyches Inc., a New York–based consulting firm that employs neuroscience and psychology to

help traders better understand their own and others’ motives and biases. That starts by focusing on the human or social element in markets, something Shull says many investors tend to do anyway when they refer to the market as if it were a person.

Begun in 2003, Trader Psyches has three psychoanalysts on staff who talk with clients in what Shull likens

to psychoanalytic therapy geared toward learning to make better decisions about risks. Their specialty is modern psychoanalysis, a technique developed in the 1940s that shares with Freudian analysis the basic idea that unconscious patterns can drive behavior.

“It’s helping the person to become conscious of and understand this other data set that’s going on in their heads,” Shull says. The firm’s 75 active clients range from small hedge funds to traders at big banks who hire the firm privately, she says.

Trader Psyches also draws on insights from neuroeconomics, a new field within economics that uses techniques such as scanning with functional magnetic resonance imaging machines to examine what’s happening in people’s

brains when they’re making financial decisions. As a person performs a task such as choosing between risky assets, for example, an fMRI maps the flow of blood and relative oxygenation in the brain, which correlates with neurons firing and indicates which areas are involved in processing the task.

SHULL, 50, WOVE PSYCHOLOGY and trading together in her own career. She was finishing up a master’s degree in neuroscience at the University of Chicago in 1995 when some friends who traded on the Chicago Board Options Exchange told her that she would make a good trader. They persuaded her to join their firm. “I did have a knack for reading the tape,” she says. While the career switch took her off the academic track, where she had intended to pursue a doctorate, her master’s thesis on how unconscious emotions drive compulsive behaviors was later published in updated form in 2003 in the *Annals of Modern Psychoanalysis*.

Shull says that notwithstanding her ability on the CBOE, she found herself making some of the same stumbles that many traders do. “You make a bunch of money and then you lose it and you don’t know why,” she says. The psychology underlying an experience like that interested her. “Psychology became my hobby,” she says.

In 1996, she moved to New York and oversaw traders at market maker Sharpe Capital Inc. and brokerage W.J. Bonfanti Inc. before leaving to trade her own money. Shull is a member of the

‘Everyone forgets that it’s fundamentally a question of predicting other people’s behavior,’ Shull says.

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Shull says trading can be a tick-by-tick assault on your ego.

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Shull says she didn't buy the approach to trading that was in vogue in the early 2000s. "It was all, 'Use your intellect to overcome your emotions,'" she says. That hadn't worked for her or for traders she'd overseen, and it also didn't make sense given what she had learned about neuroscience in Chicago. "So I did some thinking," she says. Because of the constant feedback of trading, some of the basic ideas of psychology about ego and how feeling good about yourself affects emotion and behavior must apply, Shull says. "In the market, you're making money or you're losing money, and you're either smart or you're not smart. All these things go on in people's minds," she says. "I call it the tick-by-tick assault on your ego."

In 2003, an editor asked Shull if she'd write a piece on trading psychology for *Stocks, Futures and Options* magazine. "So I wrote a basic article that said, 'Hey, emotions are part of decisions and they're part of your perception and you're better off to know what they are and the causes of them,

because then you'll be better off making objective decisions," she says. After the article was published in 2004, a number of people approached Shull to talk about what she'd written and how it jibed with their own experiences, she says.

At around the same time, neuroeconomics researchers began pumping out papers saying that in order to make a decision at all, there has to be emotion involved. Studies of people with brain lesions or injuries that damaged their emotional processing showed that it impaired their ability to make choices. "There's a handful of people in the world who have had the unfortunate experience of having the bulk of their emotional network destroyed, and the result is that they can't decide what to wear," Shull says.

LOGIC AND EMOTION may be separate in standard trading psychology, yet researchers looking at brains found the two bound together. In a 2008 survey of MRI studies of emotion, for example, Boston College professor of psychology Lisa Feldman Barrett and her co-authors found that people's emotional networks appear to be inextricably infused into their cognitive processes, Shull says.

"It's not enough to 'know' what should be done; it's also necessary to 'feel' it," Shull, a member of the Society for Neuroeconomics, quotes from a 2005 summary paper by California Institute of Technology economics professor Colin Camerer and his co-authors. "He's basically saying you can have all your probabilities, you can have your model; you won't actually run the algorithm unless you feel like it's going to work." For that matter, feelings of confidence influence the variables you choose and how you build your model in the first place, Shull says. Quantitative analysts often begin with a sense that something should work or not work, she says. "Now granted that they test their ideas, but usually in most algorithms, there's a variable such as volatility that's kind of the catchall variable," Shull says. "You can mess with it to get your model to match your intuitive

Denise Shull

Trader Psyches

Founder and president

EDUCATION

Earned a bachelor's degree in biology and nutrition from the University of Akron in Akron, Ohio, in 1981 and a master's degree in neuroscience from the University of Chicago in 1995.

BACKGROUND

Managed traders at Sharpe Capital and W.J. Bonfanti in New York. Founded Trader Psyches in 2003.

PERSONAL

Age 50. Shares life with Bill Long, director of manager research at New York-based hedge fund investment company Asset Alliance Corp. Enjoys water-skiing and snow skiing.

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sense of what is right.” Behavioral finance research suggests that people prefer the seemingly precise probabilities generated by models, Shull says. “There’s actually evidence that people feel better when it’s just the numbers,” she says.

Neuroscience research is finding that when a person senses ambiguity, the brain actually shifts into a different mode of processing, Shull says. “It basically goes into, ‘What’s the pattern recognition here? I know I don’t have all the data, so let me see if I can put the jigsaw pieces together and fill it in,’” she says. That pattern scanning happens unconsciously and when it does, the brain communicates with us through what seems like intuition and instinct, she says. “Everybody on the planet is actually processing market data like that, and where we go wrong is in this complete belief that the numbers are all we need,” Shull says.

Back in 2007, Shull says, there were probably hundreds of people around the world who were nervous about collateralized-debt obligations—the

sliced-up packages of mortgage-backed securities that later contributed to freezing up the world financial system. Yet as long as the instruments were performing, there were few avenues for people to raise those anxieties. “There’s no institutional way to go in to your trading desk and say, ‘I’m really nervous about this; we’ve got to find a way to scale back,’” she says.

Elevating and incorporating human considerations into risk management—asking how people will react to likely future events—should result in better outcomes, Shull says. “My theory is, if you are asking the real question, you’re actually going to have a better chance of getting to a more accurate answer than if you’re only asking a proxy of the question.” **B**

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