Fear and Decisionmaking

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Preoccupations
In Hard Times, Fear Can Impair Decision-Making
By GREGORY BERNS

WORK is feeling more and more like a Skinner box.

Technically, a Skinner box is an operant conditioning chamber — in other words, a cage that automatically trains a laboratory animal to associate flashing lights and levers with rewards and punishments. It was invented in the 1950s by B. F. Skinner, the experimental psychologist, to study learning.

A green light flashes, or the animal pushes the right lever, and it is rewarded with a morsel of food. But some operant conditioning chambers were built with electrified floors: a red light comes on, and zap!

It doesn't take long for a rat to figure out which light goes with the shock and which goes with the food pellet. All animals, including we primates, are good at making these associations. Pretty soon, we don't even need the light — the mere sight of the cage can send some of us into a state of apoplexy.

And while the workplace is not quite an electrified cage, I think I would prefer a brief jolt of electricity over the intermittent shocks of watching the blinking red arrow of the stock market or the jolts of cutback after cutback by businesses.

Everyone I know is scared. Workers' fear has generalized to their workplace and everything associated with work and money. We are caught in a spiral in which we are so scared of losing our jobs, or our savings, that fear overtakes our brains. And while fear is a deep-seated and adaptive evolutionary drive for self-preservation, it makes it impossible to concentrate on anything but saving our skin by getting out of the box intact.

Ultimately, no good can come from this type of decision-making. Fear prompts retreat. It is the antipode to progress. Just when we need new ideas most, everyone is seized up in fear, trying to prevent losing what we have left.

I am a neuroeconomist, which means that I use brain-scanning technologies like magnetic resonance imaging to decode the decision-making systems of the human mind. It is a messy business, but a few pearls of wisdom have emerged about the fear system of the human brain and how to keep it from short-circuiting sound decision-making.

My colleagues and I conducted a brain-imaging experiment with our version of a Skinner box. Instead of a box, our participants were inside an M.R.I. scanner. Instead of using an electrified floor, we attached electrodes to the tops of their feet. Although not unbearably painful, the shocks were designed to be unpleasant enough that the individual would prefer to avoid them altogether.

The kicker was that they had to wait for the shocks. Every trial began with a statement of how big the shock would be and how long they would have to wait for it: a range of one to almost 30 seconds. For many people, the wait was worse than the shock. Given a choice, almost everyone preferred to expedite the shock rather than wait for it. Nearly a third feared waiting so much that, when given the chance, they preferred getting a bigger shock right away to waiting for a smaller shock later. It sounds illogical, but fear — whether of pain or of losing a job — does strange things to decision-making.

Some people showed strong fear conditioning, and their brains displayed it through early and strong deployment of neural resources to deal with the impending shock. Most of this activity appeared in the parts of the brain devoted to processing pain. That makes sense, but the activity rose well in advance of receiving the shock. All of this worrying took energy. It means that these extreme responders had less available neural processing power to deal with other tasks.

Why is this important? The reason has to do with the "endowment effect," the innate tendency to value things you own more highly than everyone else does. A recent brain imaging study showed that the same parts of the brain we observed in our experiment are also active when people must sell something they are attached to. The cause and effect have not

been fully sorted out, but the implication is that when our brains sense pain, or anticipate loss, we tend to hold onto what we have. When everyone does this at once, the result is a downward economic spiral.

The most concrete thing that neuroscience tells us is that when the fear system of the brain is active, exploratory activity and risk-taking are turned off. The first order of business, then, is to neutralize that system.

This means not being a fearmonger. It means avoiding people who are overly pessimistic about the economy. It means tuning out media that fan emotional flames. Unless you are a day-trader, it means closing the Web page with the market ticker. It does mean being prepared, but not being a hypervigilant, everyone-in-the-bunker type.

I DON'T care what your business is, but if you think it will eventually come back to what it was — your brain is in the grips of the fear-based endowment effect. What I am doing is looking for new opportunities. This means applying neuroscience discovery to realms where it hasn't been used before.

I have teamed up with anthropologists to apply brain imaging to understand the biological roots of political conflict. I am starting another project to use brain imaging to predict which teenagers are likely to make fatally bad judgments and, hopefully, train them to make better decisions.

This strategy keeps the exploratory system of my brain active. And right now there are incredible opportunities to do something differently. Yes, they're risky, and some will fail. But while others wait for the storm to pass, I'm busy expanding into new areas. If I wait for money to start flowing again, the opportunities will have passed.

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