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## QUESTIONNAIRE

# The psychology of scarcity

Princeton psychologist Eldar Shafir explores how deprivation wreaks havoc on cognition and decision-making.

By Amy Novotney  
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Being poor requires so much mental energy that those with limited means — be they sugarcane farmers in India or New Jersey mall-goers — are more likely to make mistakes and bad decisions than those with bigger financial cushions.

This is the psychology of scarcity, says Princeton University psychology and public affairs professor Eldar Shafir, PhD, who with Harvard University economist Sendhil Mullainathan, PhD, explores how people's minds are less efficient when they feel they lack something — whether it is money, time, calories or even companionship.

This scarcity mindset consumes what Shafir calls "mental bandwidth" — brainpower that would otherwise go to less pressing concerns, planning ahead and problem-solving. This deprivation can lead to a life absorbed by preoccupations that impose ongoing cognitive deficits and reinforce self-defeating actions. Shafir and Mullainathan offer insights into how to ease the burden in the 2013 book "Scarcity: Why Having Too Little Means So Much" (Times Books).

Shafir spoke to the *Monitor* about his research and the implications it could have for policy development.

## How did your interest in scarcity begin?

About eight years ago, Sendhil and I decided to collaborate on the topic of decision-making in the context of poverty because it was a topic no one was exploring.

Historically, there have been two ways to think about poverty: Half of the academic discussion claims that poor people are perfectly rational and make perfectly reasonable cost-benefit decisions based on their circumstances. The other half focuses on this culture of poverty that is based on poor values and lack of planning. We felt that there was a third alternative. We don't think anybody is perfectly rational, and there's no reason to think the poor are terribly pathological or unusual in any special way. What if we just think about them as confused and biased, as we all are, and that when you make those mistakes in the context of poverty, the consequences are much more severe than when you have more comfort.

Over time, we started getting more data and observing cases where the poor seemed to be making more extreme errors than those with greater means. That gradually led us to the idea that there's a very particular psychology that emerges when we don't have enough and that this psychology leads to very bad outcomes.

## How does scarcity lead to these bad outcomes?

Every psychologist understands that we have very limited cognitive space and bandwidth. When you focus heavily on one thing, there is just less mind to devote to other things. We call it tunneling — as you devote more and more to dealing with scarcity you have less and less for other things in your life, some of which are very important for dealing with scarcity. There's a lot of literature showing that poor people don't do as well in many areas of their lives. They are often less attentive parents than those who have more money, they're worse at adhering to their medication than the rich, and even poor farmers weed their fields less well than those who are less poor.

## Tell me about the research that led you to these conclusions.

We started with a series of observations with fruit and flower vendors in a giant market outside Chennai, India. No one can call these women lazy or myopic — they work extremely hard and plan their days very carefully, spending from early morning until evening buying flowers or mangoes for 1,000 rupees, selling them for 1,100 rupees and then giving back to the supplier 1,050 rupees.

Then they get up the next morning and take on this incredibly high interest loan again, every day for an average of about 10 years, and if they saved just a little more or borrowed a little less they would soon be debt-free and could double their income. It seemed to have a logic of its own — this need to focus on the day to day and not having the capacity to adjust over the long run.

We then completed a battery of studies where we saw that manipulating scarcity has an enormous impact on people's cognitive capacity. First, together with Jiaying Zhao, who was then a graduate student, we went to a mall in New Jersey where we asked people to complete tests measuring cognitive control and fluid intelligence, a component of IQ. We had them do these things while they were contemplating a financial scenario — something that's manageable, requiring \$150 to fix a car that broke down, or more demanding, requiring \$1,500 in car-related expenses. We divided the participants by household income and found that the rich people in the mall did equally well on the cognitive tests, whether they were thinking of the challenging or the less challenging scenario related to the car. The poorer people in the mall were equally capable cognitively and did just as well on fluid intelligence as the rich when they were thinking about the manageable scenario. But once they contemplated the more challenging scenario, their scores went way down. Simply being preoccupied with this demanding financial challenge makes them perform worse.

Obviously, in that experiment, we controlled for everything we could, but at the end of the day, these are rich vs. poor and you could say that they differ in things like health and education. So then we went to India and studied sugar cane farmers, who earn the bulk of their income once a year after they harvest, and then have to make sure their funds keep them going until the following harvest. These are people who are basically rich after the harvest but poor before, so we conducted these cognitive tests on the same farmers, two months before and two months after harvest. It's the same person, same education and values, but they, too, scored the equivalent of 10 IQ points less before harvest compared to after harvest.

## What effect do these cognitive shifts have on behavior and decision-making?

One of the classic errors that poor Americans are criticized for is taking "payday loans," those very high-interest loans that at the moment seem like a good solution but two weeks later cause them to owe high interest. So, we decided to run a study with Princeton undergraduates, who nobody would say are unsophisticated. Working with Anuj Shah, we had them play a "Family Feud"-like computer game and randomly assigned them to be rich or poor in the amount of time they had to answer questions, giving the rich 50 seconds per round and the poor 15 seconds. Half of the participants were also given the option to borrow time, but every second they borrowed cost two seconds from the entire bucket of time they had available for the game.

We found that when people were rich with time they were very judicious, needed it less, and only very occasionally took a loan. But when they were time-poor, these sophisticated Princeton students grabbed these available loans to try and do well in the game and ended up making less money than the time-poor students who weren't given the option to borrow. These students made the same mistakes that we observed among poor people.

## What surprises you most about scarcity?

What's most striking is that these findings make a very strong case for the idea that people who look very bad in conditions of scarcity are just as capable as the rest of us when scarcity does not impose itself on their minds. What's interesting about a lot of behavioral research is that we don't have full intuitive access to it. For example, research on the use of cellphones in cars has been striking because we all have the illusion that we can manage calls just fine. But the findings are clear that when you are on a cellphone in the car, even when it's not hand held, your reaction time is comparable to being legally drunk. That's not intuitively available to us because most of us just don't feel it. The same thing happens here. People know they're busy and distracted, but the impact and the consequences of that distraction are much more impressive than we realize.

## What effect is scarcity having on America?

There's a very large proportion of Americans who are concerned and struggling financially and therefore possibly lacking in bandwidth. Each time new issues raise their ugly heads, we lose cognitive abilities elsewhere. These findings may even suggest that after the 2008 financial crisis, America may have lost a lot of fluid intelligence. People are walking around so concerned with one element of their lives that they don't have room for things on the periphery.

## Are there any solutions?

To the extent that you can afford to, give yourself some slack. When you pack your life too tightly and don't leave slack, the slightest unexpected event leaves you stuck. You don't know what will happen but inevitably something will — a water pipe will break, the car will break down, you'll get a parking ticket — or if you're busy and packed your time too tightly, you may get an unexpected phone call or hit a traffic jam on the way to a meeting.

How do you create slack? When you're dealing with a scarcity of time, plan a few moments of slack throughout the day — a half-hour here or there intentionally left open so that if anything comes up you can avail yourself of that unaccounted-for time and take care of the thing you hadn't anticipated. I call it having a meeting with yourself. When you're poor, of course, that's not easy. But building savings for a rainy day can help you deal with an unexpected bounced check or parking ticket, giving you somewhere to draw from so that life can continue.

We also have lots of ideas about how to "scarcity-proof" the world when it comes to arranging policies for the poor. We wouldn't charge people \$200 or \$300 to join a benefits program such as food stamps, because the whole point is they have no money. But when you give them a very complicated form or demand that they be somewhere exactly on time three days in a row, you're imposing a massive bandwidth tax. Instead of taxing them money, you're taxing them bandwidth, which is also something they don't have enough of. So, you are creating a situation where they're bound to fail. We propose that policymakers do all that they can to make the world a place where when I fail for a moment because of mismanaging my scarcity, there is a way to climb out, rather than sink further.

# What would you most like other psychologists to take away from your work?

With the White House realizing the importance of behavioral research, now is the time for psychologists to really get involved in informing and influencing policy. When I was appointed to be on the President's Advisory Council on Financial Capability in 2012, it was very much a consequence of this work. That was a rare case where you can really bring some of psychology's fundamental insights about limited cognition, limited attention and behavior that's driven by biases and mistakes to a forum where people typically don't think that way.

Behavioral researchers are having an impact — it's happening slowly, but more than ever before, and the interest continues to grow.

Amy Novotney is a writer in Chicago.

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