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BASED ON THE RESEARCH OF



# Can Neuroscience Make Your Message Stickier?

A CUTTING EDGE TECHNIQUE  
PINPOINTS HOW OUR BRAINS REACT  
TO FEAR APPEALS IN MARKETING.

Several years ago, the Centers for Disease Control and Prevention launched an advertising campaign highlighting the grisly dangers of smoking. It featured stark, disturbing imagery of the toll that tobacco addiction has take on real smokers' bodies.

The campaign successfully reduced the number of smokers. But while such fear appeals can be effective for public health, environmental awareness, or political campaigns, the method has limitations.

For one, overly strong fear appeals sometimes backfire, causing viewers to mentally and emotionally withdraw from the message. Moreover, some of the biggest risks humans face, like climate change, are very abstract—and try as we might, it is hard to get people to engage at all.

New research from Moran Cerf, an assistant professor of marketing and neuroscience at the Kellogg School, uses a cutting-edge neuroscience technique to identify the sweet spot where fear-based campaigns have the utmost impact. It finds that people can increase the level of fear they experience while watching a piece of

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content if they imagine a specific scary aspect of it before they start watching. This in turn increases the likelihood that content, such as an ad's message, will register, be remembered, and potentially affect future behavior.

Cerf collaborated with Eric Greenleaf, Tom Meyvis, and Vicki Morwitz at New York University. They used electrodes implanted in people's brains to record, in real time, how frightened a person was.

The process, called single-neuron recording, tracks the firing activity of brain cells linked to fear. Single-neuron recording is typically used only in animals. But the technique can be used for human studies in unique situations involving neurosurgical patients being treated for epilepsy.

In such treatment, physicians surgically remove the area of the brain where seizures originate. To find the correct region on which to operate, neurosurgeons implant thin, hollow electrodes directly into the brain. A set of even thinner wires can then be inserted through these electrodes to detect firing from individual neurons. While patients wait in the hospital for doctors to identify the exact onset source of their seizures, they can participate in research studies

"Most of our brain is hidden from us. It operates, and we see the output. Normally, we have no access to whatever is happening under the hood," Cerf says. "Now with single-neuron techniques, we do have access."

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INCREASING FEAR

In their study, neurosurgical patients watched a number of video clips, including one from Al Gore's "An Inconvenient Truth." Climate change was deliberately chosen as something humans have difficulty imagining and feeling viscerally scared of.

Each patient watched the clip in two conditions: as they naturally would and again immediately after mentally focusing on the aspects of climate change that frighten them—like seeing loved ones hurt.

While watching the clip as they naturally would, fear-responsive neurons fired at a rate comparable to baseline levels, meaning the subjects did not feel particularly scared. However, when they imagined specific aspects of climate change, tailored to their own fears, the firing rate of these same neurons increased.

But critically, the researchers find that this tactic is most useful when addressing fears that are abstract rather than more instinctual or innate.

To demonstrate this, the researchers showed the patients another clip, one that was inherently terrifying—a large spider crawling towards the camera. Right off the bat, this clip elicited a much sharper fear response than the climate change video ever did. Asking the patients to imagine something even more frightening about spiders beforehand did not increase their fear.

IMPLICATIONS FOR MARKETERS

The results suggest that we can enhance our fear response to an otherwise abstract threat by identifying an aspect of the threat that is particularly scary to us. And if future research revealed that enough people are frightened by the same aspects of an abstract threat, this information could be used by, say, policymakers to tailor public service announcements accordingly.

Cerf does not see single-neuron recording becoming a widespread method of measurement for market or consumer research any time soon, as it requires the participation of patients and a hospital's neurosurgery department. But he thinks organizations can gain business insights from neuroscience.

"I think that we are in a state right now where neuroscience is answering a lot of the questions that marketing practitioners care about and were unable to fully address quantitatively for years," he says. "It was hard because of the difficulty of quantifying our psychology. Now, with the help of neuroscience, we can start looking at ways to break down complex psychological phenomena using tangible, testable metrics." K