Vox

A new brain study sheds light on why it can be so hard to change someone's political beliefs

Why we react to inconvenient truths as if they were personal insults.

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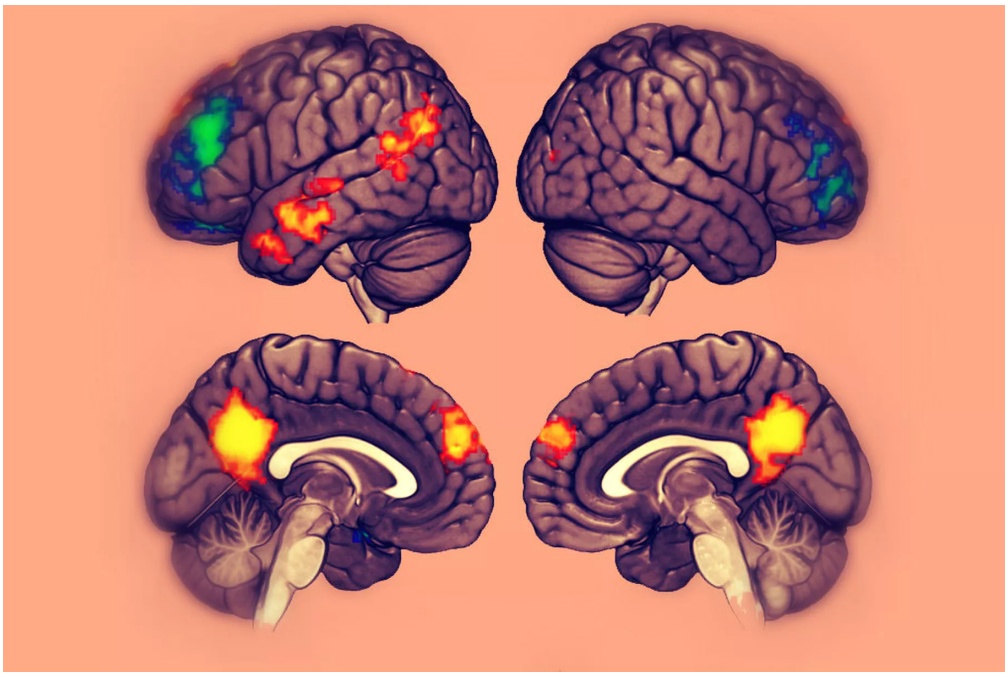

Adapted from *Scientific Reports*

Albert Einstein was one of the most important physicists of all time. His scientific predictions have withstood 100 years of scientific challenges. His thinking fundamentally changed the way we understand the universe. Yet people are more likely to be convinced Einstein wasn't a great physicist than to change their minds on topics like immigration or the death penalty.

It has nothing to do with a person's intelligence (or the quality of information on Einstein or immigration policy). It's due to the fact that we're simply more open to changing our minds on nonpolitical topics. Scientists have been keen to figure out why — because if they can, it may open the door to **the hardest challenge in politics** right now: changing minds.

Psychologists have been circling around a possible reason political beliefs are so stubborn: Partisan identities get tied up in our personal identities. Which would mean that an attack on our strongly held beliefs is an attack on the self. And the brain is built to protect the self.

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"The brain's primary responsibility is to take care of the body, to protect the body," Jonas Kaplan, a psychologist at the University of Southern California, tells me. "The psychological self is the brain's extension of that. When our self feels attacked, our [brain is] going to bring to bear the same defenses that it has for protecting the body."

Recently, Kaplan has found more evidence that we tend to take political attacks personally. In a **study** recently published in *Scientific Reports*, he and collaborators took 40 self-avowed liberals who reported having "deep convictions," put them inside in a functional MRI scanner, and started challenging their beliefs. Then they watched which parts of the participants' brains lit up. Their conclusion: When the participants were challenged on their strongly held beliefs, there was more activation in the parts of the brain that are thought to correspond with self-identity and negative emotions.

The study is limited. But it is intriguing new evidence that we mistake ideological challenges as personal insults. This suggests that to change minds, we need to separate opinions from identities — a task that proves particularly hard with politics.

The experiment

The question of the study was this: What happens in the brain in the moment when we're confronted with an argument that runs counter to our partisan identities? To answer it, Kaplan and colleagues — including neuroscientist and author **Sam Harris** — **set up an experiment**.

"We didn't set out to understand partisan stubbornness per se," Kaplan said. "We wanted to understand what happens in the brain when we resist changing our minds."

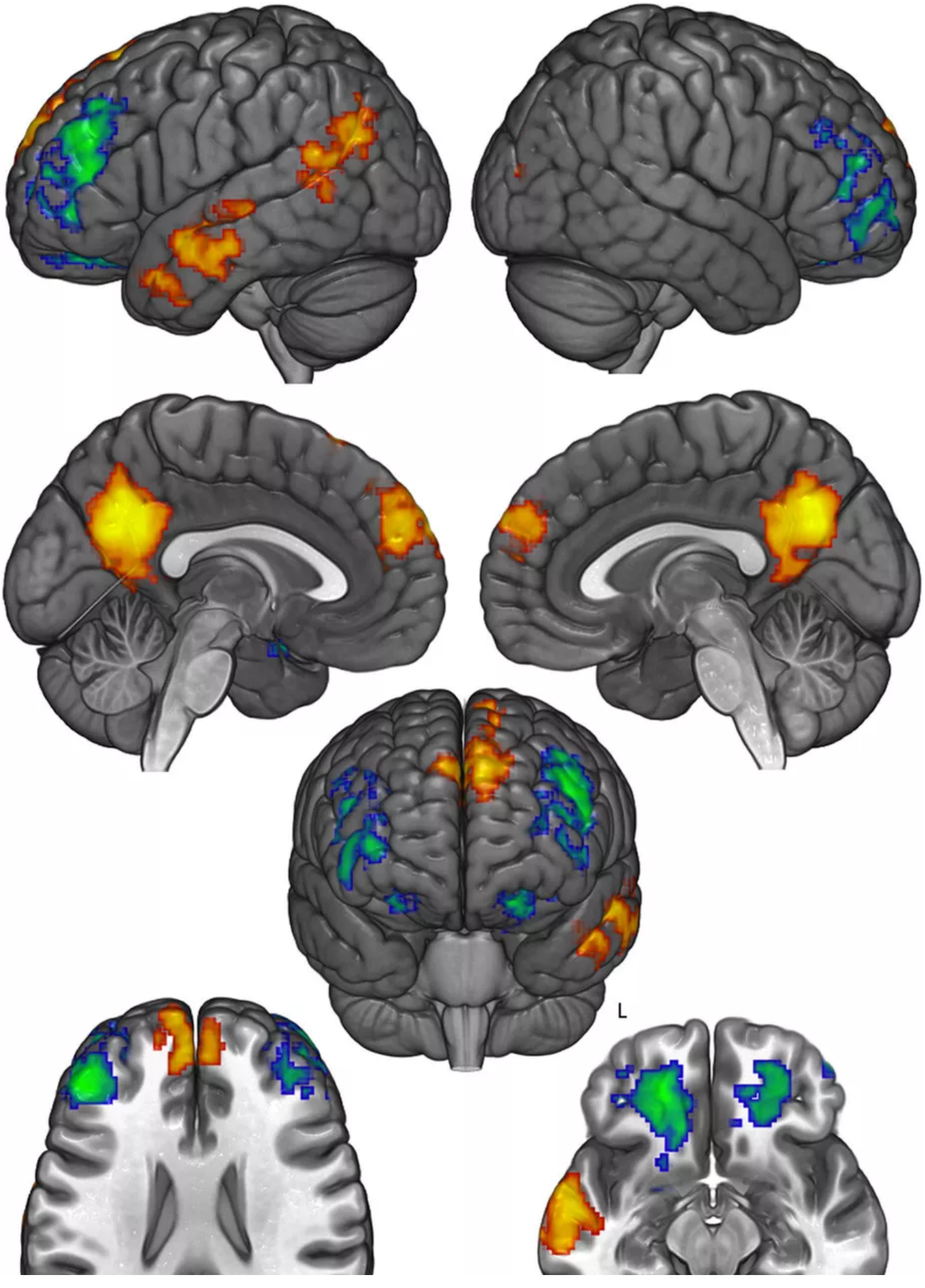
The participants were shown a string of statements they were sure to agree with, like, "The US should reduce its military budget."

The researchers then countered with statements making such assertions as, "Russia has nearly twice as many active nuclear weapons as the United States." (Note: The counterarguments, like this one, weren't all factual. They were exaggerated or

manufactured to be extra compelling, Kaplan said. For the sake of the experiment, he says, it doesn't matter if the participants knew some were lies. Being skeptical "is definitely part of the process we were studying.")

The participants also saw a series of nonpolitical statements like, "Thomas Edison invented the lightbulb," and, "Albert Einstein is generally acknowledged to be one of the greatest physicists of all time"; those were also challenged with follow-up statements (which were also exaggerated or manufactured at times). The point of these experiments was to compare reactions: Was there a difference in the way the participants' brains processed the challenges to their political beliefs versus something presumably less emotional like Edison's legacy?

There was. Notably, Kaplan and colleagues saw increased activation with the political arguments in what's called the "default mode network." That's a collection of brain structures implicated "in mind wandering, in memory, in thinking about yourself and your identity," Kaplan says. The study also found increased activation in the amygdala, a region of the brain that correlates with negative emotions.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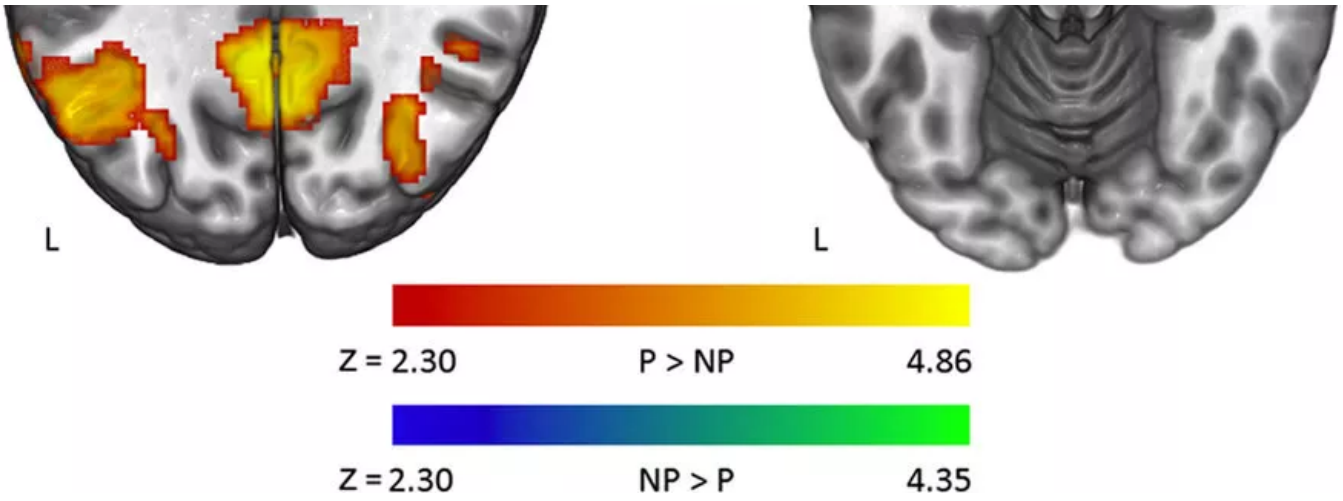
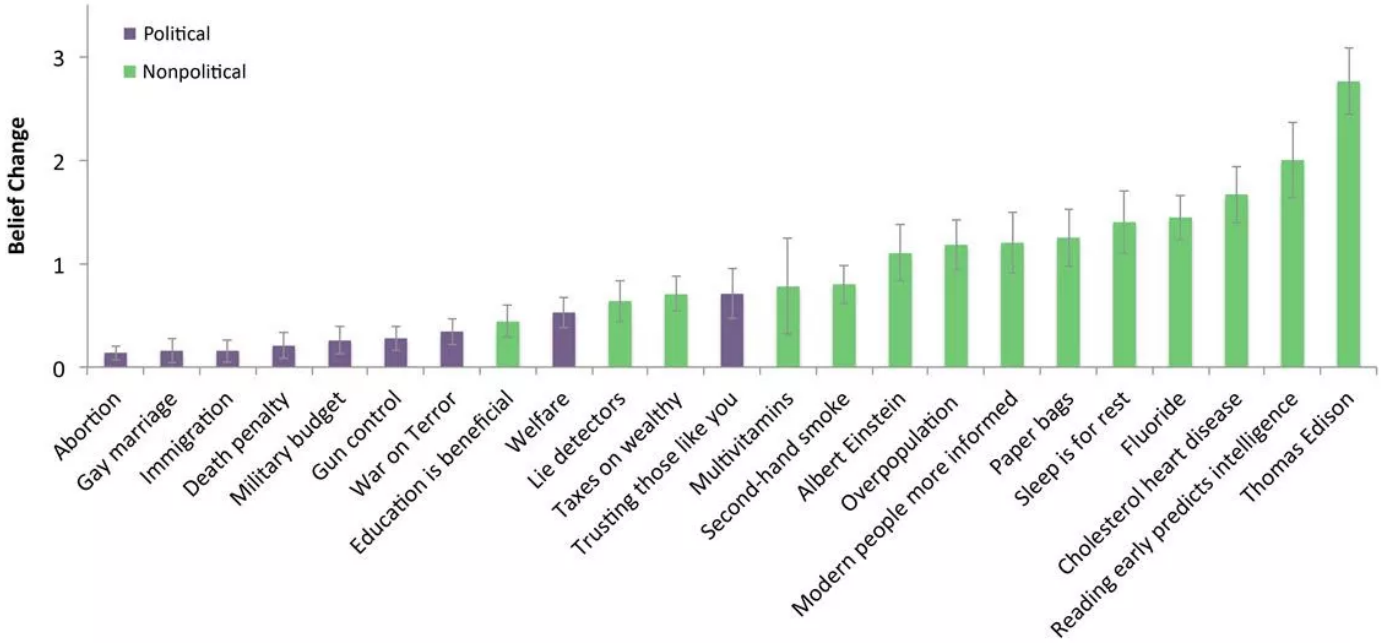


Basically, the results suggest the participants are engaging the same regions of the brain where we contemplate our identities and feel threats. And it's presumably within these circuits that the roadblocks to accepting facts lie.

These results were mirrored in a questionnaire. Kaplan found participants were more likely to be influenced by the politically charged arguments than the nonpolitical ones. The topics and the degree to which participants changed their minds are shown in the chart below. It's no sweat to change your mind on the accomplishments of Thomas Edison. But on topics like abortion, same-sex marriage, and immigration, people don't budge.



Participants were much more willing to change their minds on nonpolitical topics. | Scientific Reports

So what does this mean?

Kaplan admits that neuroscientists don't know, precisely, what the "default mode network" does. It likely serves many overlapping functions. Which brings us to a problem with a lot of neuroscience studies: It's easy to see what areas of the brain "light up" **during** a task. It's much, much harder to definitely conclude what those areas of the brain are doing.

But this study is a piece of evidence that this network is involved when it comes to thinking about closely held beliefs. Previously, Kaplan has found the default mode network is active when people **read stories** that reflect their personal values.

The results of the latest paper will need to be replicated in a larger sample, and among self-avowed conservatives, to hold more weight. With 40 participants, this study is small. It's especially small when it comes to questionnaire data in the chart above: It would be better to pose these questions to a sample of a few hundred people. (Studies using fMRI are typically smaller than other psychology studies because the machines cost around $500 an hour to run.)

But these results are an intriguing step: The brain processes politically charged information (or information about strongly held beliefs) differently (and perhaps with more emotion) than it processes more mundane facts. It can help explain why attempts to correct misinformation can backfire completely, leaving people more convinced of their convictions.

The results also jibe with some of Kaplan and Harris's **past work on religious beliefs**. "When we compared evaluating religious statements to nonreligious statements, we [found] some of the same brain regions that are active in the current study," Kaplan said. Which makes sense, because religious beliefs also factor into our identities.

What the new study definitely doesn't show is that "political beliefs are hardwired," Kaplan says. We *can* change our minds. Reflecting on his work and his own experience, Kaplan says a good way to make facts matter is to remind people that who they are and what they believe are two separate things.

Easier said **than done**.

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