Do eternally optimistic people just have malfunctioning frontal lobes?

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From an evolutionary perspective, excessive optimism is generally a bad idea. After all, if you're constantly assuming good things will happen, you'll probably be ill-prepared when bad things inevitably come along. Now scientists have an explanation...which isn't exactly flattering to the eternally optimistic.

Researchers at University College London set out to find out exactly how the brains of optimistic people work. The basic mental mechanism of unrealistic optimism isn't *too* hard to explain. Some people have a view of the world that is fundamentally very positive, and they only learn from experiences that reinforce that worldview.

nine times the team suffered heartbreaking losses. (As a Michigan fan, I can relate to this... and don't get me started on the Cubs, who I'm absolutely certain will win the World Series any decade now.)

But why would people develop such extreme levels of optimism? It might not make that much of a difference if you're worried about stuff like your sports team's chances, or whether your favorite show will get canceled — which most of you are probably all too familiar with — but in the life-and-death situations that early humans had to deal with constantly, optimism could be dangerous, even fatal.

UCL researcher Dr. Tali Sharot explains the pros and cons of excessive optimism:

> "Seeing the glass as half full rather than half empty can be a positive thing — it can lower stress and anxiety and be good for our health and well-being. But it can also mean that we are less likely to take precautionary action, such as practising safe sex or saving for retirement. So why don't we learn from cautionary information?"

To answer that question, Dr. Sharot, fellow UCL researcher Dr. Ray Dolan, and Christoph Korn of the Berlin School of Mind and Brain designed an experiment in which 19 subjects were placed in an MRI and presented with a series of negative scenarios, such as having their car stolen or developing a degenerative disease. The subjects had to estimate the probability that such an event would occur to them in the future. They were then informed what the actual probability was. After seeing all 80 images, the participants were asked to again estimate how likely the various maladies were, as well as fill out a questionnaire on how optimistic they were.

The researchers found that the participants were only likely to adjust their initial

would probably lower their second estimate to around 32%. But if they had initially placed the odds of getting cancer at 10%, they were unlikely to change their second estimate at all.

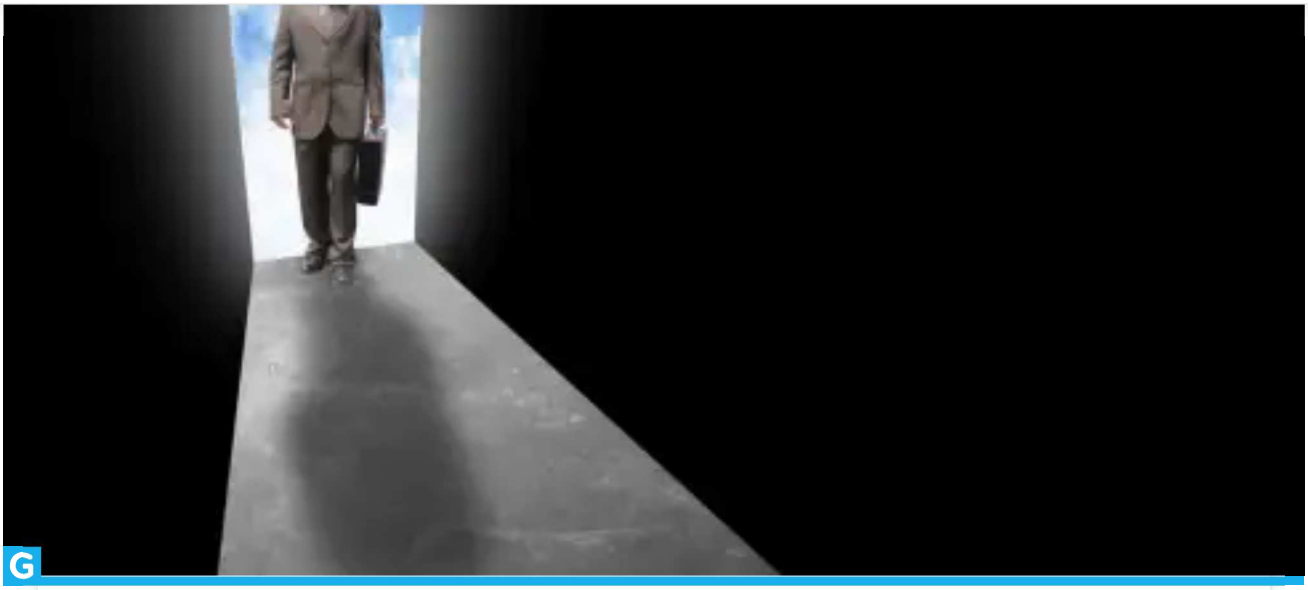
The researchers found that the frontal lobe of the brain played a part in this phenomenon. When the participants found out that the actual percentage was more favorable than their initial estimate, then part of the frontal lobe showed increased activity, indicating the brain was actively processing this information. But if the real figure was worse than expected, those who displayed high levels of optimism on their questionnaire showed greatly reduced activity in the frontal lobe. It's as though their brain was refusing to process this new, unwanted information.

Dr. Sharot explains:

> "Our study suggests that we pick and choose the information that we listen to. The more optimistic we are, the less likely we are to be influenced by negative information about the future. This can have benefits for our mental health, but there are obvious downsides. Many experts believe the financial crisis in 2008 was precipitated by analysts overestimating the performance of their assets even in the face of clear evidence to the contrary."

So then, those of us blessed with an eternally sunny disposition *also* have a brain that doesn't process unwanted information correctly. I *would* go ahead and warn all my optimistic friends about this, but I have the sinking suspicion that they'd just find the bright side of a malfunctioning frontal lobe.

For more, read our interview with Dr. Sharot, from a few months ago, here.



Via Nature Neuroscience. Image by Brian Teutsch via Flickr.

From a strictly evolutionary perspective, optimism is a bad idea.

I know this is pop science reporting on a rigorless blog, but would you please, please stop writing things like this, Alasdair? At least as unconditional, blanket statements? After your enormous gaffe about the role of group selection in evolution a couple weeks ago, this is turning into a trend. Promoting literacy about evolution is important and I wish you wouldn't obfuscate that task.

'Optimism' is a useful trait in a number of evolutionary behaviors.

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