



HEALTH

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Brain 'rejects negative thoughts'

By James Gallagher
Health reporter, BBC News

One reason optimists retain a positive outlook even in the face of evidence to the contrary has been discovered, say researchers.

A study, [published in Nature Neuroscience](#), suggests the brain is very good at processing good news about the future.

However, in some people, anything negative is practically ignored - with them retaining a positive world view.

The authors said optimism did have important health benefits.

Scientists at University College London said about 80% of people were optimists, even if they would not label themselves as such.

They rated 14 people for their level of optimism and tested them in a brain scanner.

Each was asked how likely 80 different "bad events" - including a divorce or having cancer - were to happen.

They were then told how likely this was in reality. At the end of the session, the participants were asked to rate the probabilities again.

There was a marked difference in the updated scores of optimists depending on whether

the reality was good or bad news.

Dr Tali Sharot, lead researcher, gave the example of the risk of cancer being set at 30%.

If the patient thought their risk was 40%, then at the end of the experiment they downgraded their own risk to about 31%, she said.

However, if the patient originally thought their risk was 10%, they only marginally increased their risk - they "leaned a little bit, but not a lot".

Pick and choose

When the news was positive, all people had more activity in the brain's frontal lobes, which are associated with processing errors. With negative information, the most optimistic people had the least activity in the frontal lobes, while the least optimistic had the most.

It suggests the brain is picking and choosing which evidence to listen to.

Dr Sharot said: "Smoking kills messages don't work as people think their chances of cancer are low. The divorce rate is 50%, but people don't think it's the same for them. There is a very fundamental bias in the brain."

Dr Chris Chambers, neuroscientist from the University of Cardiff, said: "It's very cool, a very elegant piece of work and fascinating.

"For me, this work highlights something that is becoming increasingly apparent in neuroscience, that a major part of brain function in decision-making is the testing of predictions against reality - in essence all people are 'scientists'.

"And despite how sophisticated these neural networks are, it is illuminating to see how the brain sometimes comes up with wrong and overly optimistic answers despite the evidence."

Optimism seem to be good for your health. A study on nearly 100,000 women showed a lower risk of heart disease and lower death rate in optimists.

But as Dr Sharot points out: "The negative aspect is that we underestimate risks."

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