

Can Optimism Change Reality?

Educators have long been aware of self-fulfilling prophecies. Recent research on brain activity from Dr Tali Sharot's book 'The Optimism Bias', clearly illustrates why our expectations of our students are so important.

Working in schools can be stressful!

These articles are intended to help the great people who work in schools to reduce their stress and increase their sense of satisfaction.

Key Notes

Our expectations of our students are important

Negative expectations shape outcomes in a negative way

Students performed better after being primed with an affirmative message.

Brain activity research demonstrates that brains responded differently to the mistakes they made depending on whether they were primed with the word clever or stupid

"You have to expect things of yourself before you can do them"

Michael Jordan

The problem with pessimistic expectations, such as those of the clinically depressed, is that they have the power to alter the future; negative expectations shape outcomes in a negative way. How do expectations change reality?

To answer this question my colleague, cognitive neuroscientist Sara Bengtsson, devised an experiment in which she manipulated positive and negative expectations of students while their brains were scanned and tested their performance on cognitive tasks. To induce expectations of success, she primed college students with words such as smart, intelligent and clever just before asking them to perform a test. To induce expectations of failure, she primed them with words like stupid and ignorant. The students performed better after being primed with an affirmative message.

Examining the brain-imaging data, Bengtsson found that the students' brains responded differently to the mistakes they made depending on whether they were primed with the word clever or the word stupid. When the mistake followed positive words, she observed enhanced activity in the anterior medial part of the prefrontal cortex (a region that is involved in self-reflection and recollection). However, when the participants were primed with the word stupid, there was no heightened activity after a wrong answer. It appears that after being primed with the word stupid, the brain expected to do poorly and did not show signs of surprise or conflict when it made an error.

A brain that doesn't expect good results lacks a signal telling it, "Take notice – wrong answer!" These brains will fail to learn from their mistakes and are less likely to improve over time. Expectations become self-fulfilling by altering our performance and actions, which ultimately affects what happens in the future. Often, however, expectations simply transform the way we perceive the world without altering reality itself. Let me give you an example. While writing these lines, my friend calls. He is at Heathrow waiting to get on a plane to Austria for a skiing holiday. His plane has been delayed for three hours already, because of snowstorms at his destination. "I guess this is both a good and bad thing," he says.

Waiting at the airport is not pleasant, but he quickly concludes that snow today means better skiing conditions tomorrow. His brain works to match the unexpected misfortune of being stuck at the airport to its eager anticipation of a fun getaway.

A cancelled flight is hardly tragic, but even when the incidents that befall us are the type of horrific events we never expected to encounter, we automatically seek evidence confirming that our misfortune is a blessing in disguise. No, we did not anticipate losing our job, being ill or getting a divorce, but when these incidents occur, we search for the upside. These experiences mature us, we think. They may lead to more fulfilling jobs and stable relationships in the future. Interpreting a misfortune in this way allows us to conclude that our sunny expectations were correct after all – things did work out for the best.

Dr Tali Sharot

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Dr Tali Sharot is the director of the Affective Brain Lab (funded by a fellowship from the Wellcome Trust) and a faculty member of the department of Cognitive Perceptual and Brain Sciences at UCL. My lab investigates how motivation and emotion determine our expectations of the future, our everyday decisions, our memories and our ability to learn. By understanding the brain mechanisms that mediate these effects we aim to identify ways to encourage behavioural change that enhance well-being. Dr Sharot's latest book, 'The Optimism Bias' is available at good book stores.

