

# Positive, negative thinkers' brains revealed

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Thinking positively and negatively may be at least partly a function of biology, a new Michigan State University study finds. Credit: Michigan State University

The ability to stay positive when times get tough—and, conversely, of being negative—may be hardwired in the brain, finds new research led by a Michigan State University psychologist.

The study, which appears in the *Journal of Abnormal Psychology*, is the first to provide [biological evidence](#) validating the idea that there are, in fact, positive and negative people in the world.

"It's the first time we've been able to find a [brain](#) marker that really distinguishes negative thinkers from positive thinkers," said Jason Moser, lead investigator and assistant professor of psychology.

For the study, 71 female participants were shown graphic images and asked to put a positive spin on them while their brain activity was recorded. Participants were shown a masked man holding a knife to a woman's throat, for example, and told one potential outcome was the woman breaking free and escaping.

The participants were surveyed beforehand to establish who tended to think positively and who thought negatively or worried. Sure enough, the brain reading of the positive thinkers was much less active than that of the worriers during the experiment.

"The worriers actually showed a paradoxical backfiring effect in their brains when asked to decrease their negative emotions," Moser said. "This suggests they have a really hard time putting a positive spin on difficult situations and actually make their [negative emotions](#) worse even when they are asked to think positively."

The study focused on women because they are twice as likely as men to suffer from anxiety related problems and previously reported sex differences in brain structure and function could have obscured the results.

Moser said the findings have implications in the way negative thinkers approach difficult situations.

"You can't just tell your friend to think positively or to not worry – that's probably not going to help them," he said. "So you need to take another tack and perhaps ask them to think about the problem in a different way, to use different strategies."

Negative [thinkers](#) could also practice thinking positively, although Moser suspects it would take a lot of time and effort to even start to make a difference.

Provided by Michigan State University

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