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## Lying feels bad at first but our brains soon adapt to deceiving



Fibs become as normal as the nose on your face

Valentina Bielli/EyeEm/Getty

By Jessica Hamzelou

Little white lies have a tendency to snowball. Now we've found out why – the more we lie, the more our brains seem to become desensitised to the act of lying. Could this discovery help prevent dishonesty spiralling out of control?

It isn't difficult to think of someone who has ended up in a tangled web of their own lies. "The examples are everywhere you look, whether it's scientific, political or financial fraud, or infidelity," says Tali Sharot at University College London. In many cases, the lies start small, but escalate.

Sharot and her colleagues wondered if a person's brain might get desensitised to lying, in the same way we get used to the horror of a violent image if we see it enough times. Most people feel guilty when they intentionally deceive someone else, but could this feeling ebb away with practice?

To find out, Sharot and her colleagues set up an experiment that encouraged volunteers to lie. In the task, each person was shown jars of pennies, full to varying degrees. While in a brain scanner, each person had to send their estimate to a partner in another room.

## Equally untrue

The partner was only shown a blurry low-resolution image of the jar, and so relied on the volunteer's estimate. In some rounds, a correct answer would mean a financial reward for both the volunteer and their partner. But in others, the volunteer was told that a wrong answer from the partner would result in a higher reward for them, but a lower reward for their partner – and the more incorrect the answer, the greater the personal reward. In other rounds, incorrect answers benefited the partner, but not the volunteer.

Sharot found that her volunteers seemed happy to lie if it meant that their partner would benefit. On each of these rounds, the volunteer lied to the same degree. But when it came to self-serving lies, the volunteer's dishonesty escalated over time – each lie was greater than the one before. For example, a person might start with a lie that earned them £1, but end up telling untruths worth £8.

Brain scans showed that the first lie was associated with a burst of activity in the amygdalae, areas involved in emotional responses. But this activity lessened as the lies progressed. The effect was so strong that the team could use a person's amygdala activity while they were lying to predict how big their next lie would be.

“When you lie or cheat for your own benefit, it makes you feel bad,” says Sophie van der Zee at the Free University of Amsterdam in the Netherlands. “But when you keep doing it, that feeling goes away, so you're more likely to do it again.”

## Dangerous dishonesty

“This highlights the danger of engaging in small acts of dishonesty,” says Sharot. Frequent liars are also likely to be better at lying, and harder to catch out, she says. That's because the

amygdala is responsible for general emotional arousal, and all the clues we would normally look for in a liar, such as nervous sweating.

Sharot hopes that her research will help us avoid the spiralling of lies. “If you can understand the mechanism, you might be able to nudge people away from dishonesty,” she says.

One way could be by playing on a person’s emotions to boost the level of activity in the amygdala, says Sharot. “For example, if a government wants people to pay their taxes, they might want to make an emotional case for doing so,” she says.

Van der Zee is working with insurance companies to encourage their customers to file honest claims. In her own research, she has found that people are more likely to lie if they feel they have been rejected, so she is working on ways to reduce the number of failed claims. She has also found that people are more likely to fill in claims forms honestly if they sign their name at the top of the page, before they start filling it in, rather than at the end.

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