

# How lying takes our brains down a 'slippery slope'

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Credit: Wikimedia Commons

Telling small lies desensitises our brains to the associated negative emotions and may encourage us to tell bigger lies in future, reveals new UCL research funded by Wellcome and the Center for Advanced Hindsight.

The research, published in *Nature Neuroscience*, provides the first empirical evidence that self-serving lies gradually escalate and reveals how this happens in our brains.

The team scanned volunteers' brains while they took part in tasks where they could lie for personal gain. They found that the amygdala, a part of the brain associated with emotion, was most active when people first lied for personal gain. The amygdala's response to lying declined with every lie while the magnitude of the lies escalated. Crucially, the researchers found that larger drops in amygdala activity predicted bigger lies in future.

"When we lie for [personal gain](#), our amygdala produces a negative feeling that limits the extent to which we are prepared to lie," explains senior author Dr Tali Sharot (UCL Experimental Psychology).

"However, this response fades as we continue to lie, and the more it falls the bigger our lies become. This may lead to a 'slippery slope' where small acts of dishonesty escalate into more significant lies."

The study included 80 volunteers who took part in a team estimation task that involved guessing the number of pennies in a jar and sending their estimates to unseen partners using a computer. This took place in several different scenarios. In the baseline scenario, participants were told that aiming for the most accurate estimate would benefit them and their partner. In various other scenarios, over- or under-estimating the amount would either benefit them at their partner's expense, benefit both of them, benefit their partner at their own expense, or only benefit one of them with no effect on the other.

When over-estimating the amount would benefit the volunteer at their partner's expense, people started by slightly exaggerating their estimates which elicited strong amygdala responses. Their exaggerations escalated as the experiment went on while their amygdala responses declined.

"It is likely the brain's blunted response to repeated acts of dishonesty reflects a reduced emotional response to these acts," says lead author Dr Neil Garrett (UCL Experimental Psychology). "This is in line with suggestions that our [amygdala](#) signals aversion to acts that we consider wrong or immoral. We only tested dishonesty in this experiment, but the same principle may also apply to escalations in other actions such as risk taking or violent behaviour."

Dr Raliza Stoyanova, Senior Portfolio Developer, in the Neuroscience and Mental Health team at Wellcome, said: "This is a very interesting first look at the brain's response to repeated and increasing acts of dishonesty. Future work would be needed to tease out more precisely whether these acts of dishonesty are indeed linked to a blunted emotional response, and whether escalations in other types of behaviour would have the same effect."

**More information:** *Nature Neuroscience*,  
[nature.com/articles/doi:10.1038/nn.4426](https://doi.org/10.1038/nn.4426)

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