**Stress: Uncertainty can cause us more stress than inevitable pain can, according to new UCL study**

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**If you thought knowing about impending doom before it happened would be stressful it turns out there's one thing that could be even worse: the uncertainty of not quite knowing.**

Scientists from UCL found that uncertainty was more stressful than knowing something bad was definitely going to happen in a new study published in the journal Nature Communications.

In an experiment, 45 volunteers played a computer game in which they turned over rocks that could have snakes underneath. Volunteers had to guess whether a snake would be under a rock and, if they were wrong, they would receive a mild electric shock to the hand. The odds of where the snakes were most likely to be hiding changed throughout the experiment, which generated fluctuating levels of uncertainty.

Situations in which a subject had a 50 per cent chance of receiving a shock turned out to be the most stressful, while volunteers who had a zero per cent or 100 per chance of receiving a shock were the least stressed.

## Can stress be positive?

"When applying for a job, you’ll probably feel more relaxed if you think it’s a long shot or if you’re confident that it’s in the bag," study co-author Dr Robb Rutledge, of the UCL Institute of Neurology and Max Planck UCL Centre for Computational Psychiatry and Ageing Research, said in a [statement](http://www.ucl.ac.uk/news/news-articles/0316/290316-uncertainty-stress).

"The most stressful scenario is when you really don’t know. It’s the uncertainty that makes us anxious. The same is likely to apply in many familiar situations, whether it’s waiting for medical results or information on train delays."

However, the study also found a potential benefit to stress, as people whose stress responses spiked the most when confronted with uncertainty were better at judging whether or not a snake would be hidden underneath a rock.

"From an evolutionary perspective, our finding that stress responses are tuned to environmental uncertainty suggests that it may have offered some survival benefit," senior author Dr Sven Bestmann, from the UCL Institute of Neurology, said.

"Appropriate stress responses might be useful for learning about uncertain, dangerous things in the environment. Modern life comes with many potential sources of uncertainty and stress, but it has also introduced ways of addressing them. For example, taxi apps that show where a car is can offer peace of mind by reducing the uncertainty about when it will arrive."