

# Researchers unlock snake and spider mystery

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University of Queensland researchers have unlocked new evidence that could help them get to the bottom of our most common phobias and their causes.

Hundreds of thousands of Australians count snakes and spiders among their fears, and while scientists have previously assumed we possess an evolutionary predisposition to fear the unpopular animals, researchers at UQ's School of Psychology look to have proved otherwise.

According to Dr Helena Purkis, the results of the UQ study could provide an unprecedented insight into just why the creepy creatures are so widely feared.

“Previous research shows we react differently to snakes and spiders than to other stimuli, such as flowers or mushrooms, or even other dangerous animals...or cars and guns, which are also much more dangerous,” Dr Purkis said.

“[In the past, this] has been explained by saying that people are predisposed by evolution to fear certain things, such as snakes and spiders, that would have been dangerous to our ancestors.

“[However], people tend to be exposed to a lot of negative information regarding snakes and spiders, and we argue this makes them more likely to be associated with phobia.”

In the study, researchers compared the responses to stimuli of

participants with no particular experience with snakes and spiders, to that of snake and spider experts.

“Previous research has argued that snakes and spiders attract preferential attention (they capture attention very quickly) and that during this early processing a negative (fear) response is generated... as an implicit and indexed subconscious [action],” Dr Purkis said.

“We showed that although everyone preferentially attends to snakes or spiders in the environment as they are potentially dangerous, only inexperienced participants display a negative response.”

Unprecedented in its field, the study is the first to establish a clear difference between preferential attention, and the accompanying emotional response: that is, that you can preferentially attend to something without a negative emotional response being elicited.

Dr Purkis said the findings had the potential to add significantly to understanding about the basic cognitive and emotional processes involved in the acquisition and maintenance of fear.

“If we understand the relationship between preferential attention and emotion it will help us understand how a stimulus goes from being perceived as potentially dangerous, to eliciting an emotional response and to being associated with phobia,” she said.

“[This] could give us some information about the way people need to deal with snakes and spiders in order to minimise negative emotional responses.”

Researchers are now seeking volunteers for a follow-up study, which will test their theory that love and fear, or phobia, involve the same basic attention mechanism.

“We are interested in testing animal stimuli for animal lovers to see whether these stimuli, a dog for a breeder for instance, have access to preferential attention [in the same way as snakes and spiders do for those with phobias of them].

“I am also interested in the difference that we saw in our previous work between preferential attention, and the emotional response that is elicited after this initial processing.

The study calls for volunteers who work with or own dogs, cats, horses, cattle, snakes and spiders and also general members of the public who will form a control group.

“I also need people who are allergic to dogs or cats, people who are apprehensive of snakes and spiders, and people who have no fear of snakes and spiders but don't explicitly work with them,” Dr Purkis said.

“[Additionally, we're looking to get in touch with] people who are willing to have their pets (dogs, cats, horses, cattle, snakes, spiders) photographed for use as experimental stimuli.”

Source: University of Queensland

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