

Do your neuroses make you more prone to 'contagious' itching?

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Some people are more prone than others to 'contagious' itching.

(Medical Xpress)—Have you ever experienced the feelings of itchiness while watching someone else scratch? Scientists University of Sussex and the University of Hull have found the part of the brain responsible for 'contagious' itching – and discovered why some people are more prone to it than others.

Psychology lecturer Dr Henning Holle and fellow researchers from the University of Sussex and Brighton and Sussex Medical School wanted to determine why some people are particularly vulnerable to itchiness when they see others scratching.

Healthy volunteers filled in personality questionnaires and then

underwent [Functional Magnetic Resonance Imaging](#) (fMRI) scans while being shown short videos of people either tapping or scratching parts of their arms and chest.

The results, published today (12 November 2012) in the journal *PNAS*, showed that, while contagious itch is experienced by most – around two-thirds of those involved in the study actually scratched themselves while watching the video – the people who experience more negative emotions are more susceptible than others.

The researchers also correlated the volunteers' tendency to scratch with activity in several [brain regions](#) previously identified as part of the 'itch matrix.' Additionally, it is reported that the activity noted in three specific regions of the brain could be linked to subjective ratings of itchiness.

It is thought that this new information could be used to help people suffering from chronic [itching](#) sensations where there is no underlying dermatological cause.

Dr Henning Holle (now at the University of Hull) led the research at the University of Sussex and worked with Professor Jamie Ward (Psychology and Sackler Centre), Professor Anil Seth (Informatics), Co-Director of the Sackler Centre for Consciousness Science) and Professor of Hugo Critchley, who is also co-director of the Sackler Centre and Professor of Psychiatry at the Brighton and Sussex Medical School (BSMS).

Dr Holle says: "Almost everyone has felt that urge to scratch when watching someone else, but no-one has ever really known why.

"It had previously been thought that empathy was responsible. But we found that neuroticism - a measure of the tendency to experience

[negative emotions](#) - was positively linked to contagious itch.

"Highly neurotic people are known to be highly emotionally reactive and vulnerable to stress. We found that participants with higher neuroticism scores are also the ones that are more easily 'infected' by contagious itch.

"Our observed link between activity in prefrontal cortex and neuroticism might reflect that the emotionally more stable participants, with low neuroticism scores, are less susceptible to contagious itch, because they are better at suppressing the irrelevant itch sensation arising from observing someone scratch themselves."

More information: 'The Neural Basis of Contagious Itch and Why Some People are more Prone to it' is available online at www.pnas.org/content/early/2012/11/07/1216160109.short

Provided by University of Sussex

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