

First research to suggest scratching may have evolved as a communication tool to help social cohesion

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A macaque monkey on Cayo Santiago, Puerto Rico. Credit: Jamie Whitehouse

Scratching is more than an itch—when it is sparked by stress, it appears

to reduce aggression from others and lessen the chance of conflict.

Scratching can be a sign of [stress](#) in many primates, including humans.

Research by Jamie Whitehouse from the University of Portsmouth, is the first to suggest that these stress behaviours can be responded to by others, and that they might have evolved as a [communication tool](#) to help social cohesion.

The research, published in *Scientific Reports*, raises the question whether human scratching and similar self-directed stress behaviours serve a similar function.

Jamie said: "Observable stress behaviours could have evolved as a way of reducing [aggression](#) in socially complex species of primates. Showing others you are stressed could benefit both the scratcher and those watching, because both parties can then avoid conflict."

The research team conducted behavioural observations of 45 [rhesus macaques](#) from a group of 200, on the 35-acre island of Cayo Santiago, Puerto Rico. The team monitored the naturally occurring social interactions between these animals over a period of eight months.

The researchers found that scratching in the [monkeys](#) was more likely to occur in times of heightened stress, such as being close to high-ranking individuals or to non-friends.



Macaque monkeys on Cayo Santiago, Puerto Rico groom each other. Credit: Jamie Whitehouse

Stress scratching significantly lowered the likelihood of a scratching monkey being attacked.

The likelihood of aggression when a high ranking monkey approached a lower ranking monkey was 75 per cent if no scratching took place, and only 50 per cent when the lower ranking monkey scratched.

Scratching also reduced the chance of aggression between individuals who did not have a strong social bond.

Jamie said: "As scratching can be a sign of [social stress](#), potential

attackers might be avoiding attacking obviously stressed individuals because such individuals could behave unpredictably or be weakened by their stress, meaning an attack could be either risky or unnecessary.

"By revealing stress to others, we are helping them predict what we might do, so the situation becomes more transparent. Transparency ultimately reduces the need for conflict, which benefits everyone and promotes a more socially cohesive group."

The researchers expect the findings will lead to a better understanding of stress and the evolution of stress in humans as well as how we manage stress in captive animals.

Provided by University of Portsmouth

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