Facially expressive monkeys are more socially successful and lead better connected social groups, according to research by Nottingham Trent University which shows the benefits of facial communication in
The study focused on nine social groups of rhesus macaques (Macaca mulatta) all consisting of one adult male, multiple adult females, and offspring. The article, "Facial expressivity in dominant macaques is linked to group cohesion," has been published in the Proceedings of the Royal Society B: Biological Sciences.

As social animals, primates are known to use their face to convey information related to identity, family relations, dominance, benign intent, affiliation, and motivation to play.

The researchers analyzed the facial expressions of the dominant male in each group by using a specially designed coding system for studying rhesus macaques, called MaqFACS, to track 17 separate facial muscle movements.

In addition, researchers quantified the social lives of all 66 monkeys across the groups, measuring how often each pair spend time together and how often they engage in friendly grooming interactions.

The males who displayed a greater diversity of facial expressions, perhaps to make their intent clear and reduce uncertainty, were found to be more socially connected within their groups, enjoying stronger social bonds and occupying more central positions within their social networks.

Social connectivity was also more evenly distributed throughout their group members when the dominant male was more expressive, suggesting the increased facial communication was linked to more tolerant leadership styles.

The research has implications for understanding human social behavior, suggesting that facial expressivity has evolved to help us build and
maintain social relationships.

Dr. Jamie Whitehouse, research fellow at NTU's School of Social Sciences and lead author, said, "This research demonstrates how individual variation in expressivity can shape social dynamics for primates, including humans—suggesting that a broader range of expressions might be more effective for navigating complex social relationships than a limited repertoire.

"Facially expressive individuals may be better equipped to build and maintain strong social connections, potentially leading to the range of benefits associated with group cohesion, such as increased access to resources, mating opportunities, and protection from threats."

Professor Bridget Waller, Professor of Evolution and Social Behavior at NTU and research project lead, said, "Humans have evolved incredibly expressive faces with highly complex facial musculature, and these findings help us understand what advantage this has provided over evolutionary time."

**More information:** J. Whitehouse et al, Facial expressivity in dominant macaques is linked to group cohesion, *Proceedings of the Royal Society B: Biological Sciences* (2024). **DOI:** 10.1098/rspb.2024.0984

Provided by Nottingham Trent University

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