

PEOPLE FOR
THE ETHICAL
TREATMENT
OF ANIMALS

March 18, 2021

Richard White
Chief Editor
Scientific ReportsVia email: r.white@nature.com

Dear Dr. White,

Good afternoon. I am writing on behalf of People for the Ethical Treatment of Animals to share concerns about an article recently published in *Scientific Reports*. The article titled [No evidence that monkeys attribute mental states to animated shapes in the Heider–Simmel video](#), authored by Schaforth *et al.*, describes experiments in which rhesus macaques were deprived of water, strapped into restraint chairs and shown videos of shapes engaging in human-like behaviors while experimenters measured their eye movements.

The purported purpose of these experiments was to determine whether rhesus macaques displayed evidence of a theory of mind, as well as to study the potential contribution of language to theory of mind processes. However, after reviewing the paper in great detail, it seems the study described within represents nothing more than the egregious use of nonhuman primates in harmful experimentation.

The Heider-Simmel videos used in this experiment depict shapes moving in ways that simulate behaviors such as chasing, seducing, coaxing, dancing, and fighting. The experimenters measured the degree to which the monkeys preferred viewing videos depicting goal-directed behaviors, theory of mind behaviors, or random behaviors. They found no evidence that the monkeys exhibited human-like preference for goal-directed or theory of mind behaviors over random behaviors. In fact, the monkeys did not appear to have much interest in the videos at all. This is hardly surprising, given that the sorts of behaviors depicted in the videos are not relevant to rhesus macaques. The authors themselves partially acknowledge this limitation by stating:

...the interactions in the Heider–Simmel animations are modeled after human social behavior and may not be ethologically relevant to nonhuman primates. Shape movements suggesting “mocking” or “seduction” may not elicit enhanced social

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processing in monkeys because human-like mockery and seduction are not part of monkeys' social repertoire.

What the authors do not acknowledge is the fact that in even if the videos did depict behaviors monkeys in the wild might recognize they would have little relevance to the six monkeys used in this experiment. The rhesus macaques included in this study lead unnatural, unstimulating, and unsocial lives. They have spent their lives in captivity, socially isolated, with minimal to no normal exposure to social interactions. They have no experience watching humans or conspecifics seducing, mocking, surprising, coaxing or leading one another. They don't know what two individuals dancing together or chasing each other looks like. There is no a priori reason to expect these monkeys to attribute any intent or meaning to the movements seen in these videos. It is hardly surprising that the authors found the monkeys barely attended to the videos, let alone differentially preferred one set of videos over another. This is not merely a limitation of this study. It is a fatal flaw. There is nothing anyone interested in the ability of nonhuman primates to attribute mental states to others can glean from this publication.

The National Institutes of Health's *Guide for the Care and Use of Laboratory Animals* endorses the "U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training," including the principle that experiments on animals should be designed and performed "with due consideration of their relevance to human or animal health, the advancement of knowledge, or the good of society."ⁱ The Shafroth *et al.* study does not come close to meeting these criteria, having failed to prove or disprove the presence of a theory of mind in nonhuman primates, or make a relevant contribution to human or animal health. In fact, the Schafroth *et al.* article only highlights the inherent problems in trying to study complex human social behaviors using ethologically invalid tasks with nonhuman primates who have spent their lives in an impoverished and unnatural environment. It is deeply disappointing that such an irrelevant and potentially misleading study was published in *Scientific Reports*.

We hope you will consider retracting the Schafroth *et al.* paper and that, in the future, *Scientific Reports* will ensure that experiments using nonhuman primates have undergone a robust and rigorous harm-benefit analysis, weighing the harm to animals against realistically evaluated scientific benefits before considering them for publication. For manuscripts describing experiments involving nonhuman primates, enlisting primatologists with real knowledge of these animals' true nature as reviewers would be an excellent way to determine the validity of the behavioral assessments and the potential impact that the specific procedures may have on that validity.

I would be happy to discuss our concerns in further detail and look forward to your response. I can be contacted using the information provided below. Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Katherine V. Roe' in a cursive style.

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ⁱNational Research Council. (2011). *Guide for the care and use of laboratory animals*. National Academies Press.