

Exploring reactions to inequality

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When primates don't get the same rewards as their peers, they often refuse them. A Georgia State University researcher is exploring why this reaction happens, and how reactions to inequality have evolved in related species, including humans.

Assistant Professor Sarah Brosnan has received a five-year, \$677,462 grant for this research as part of the National Science Foundation's Faculty Early Career Development (CAREER) program, aimed at supporting junior faculty contributions to research and education.

Brosnan has researched how [primates](#) respond when receiving a less valuable reward than their partners. The CAREER award is helping Brosnan follow up on this research in several ways.

"I'm really interested in the factors that lead to the development of their responses," she said. "For instance, do the responses require human interaction, or do they respond similarly when a machine gives the rewards?"

There are fundamental differences in whether a primate's expectations of rewards are based on what a partner or someone else in their group received, or if those expectation happens because of a non-social reason. The research will also look at social and individual factors affecting responses, including individuals' personality and relationships.

"We're also interested in how [social group](#) behavior affects their responses, for instance whether responses vary depending on whether the

group fights a lot or grooms a lot,” she said. “We will also try to test everyone in a group with everyone else to see whether the primates respond differently to different individuals.”

The research will hopefully answer questions about the evolution of responses to reward [inequality](#) — including those responses in humans.

“This behavior has been demonstrated in capuchins and [chimpanzees](#), which might indicate that there is a long evolutionary history,” Brosnan said. “But it also might indicate that species that live in tolerant social groups, and cooperate — like capuchins, chimpanzees and humans — develop these behaviors because of environmental or social constraints, and not because a common ancestor shared them.”

An open question which researchers are trying to answer is whether humans' cooperative and social behaviors emerged due to the complexities of society and the brain, or if there are evolutionary similarities between humans and other species, including non-human primates.

“These behaviors did emerge through the process of evolution, as all traits do, but the question is whether or not there are precursors to these behaviors present in other species,” she said. “By looking at other species, we can begin to address this question.”

Undergraduate and graduate students and postdoctoral fellows will have an opportunity to work in Brosnan’s lab on the research project. The award is funded under the American Recovery and Reinvestment Act of 2009.

Provided by Georgia State University ([news](#) : [web](#))

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