

**RESPONSES TO INEQUITY IN SQUIRREL MONKEYS, *SAIMIRI SPP.***

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Several primate species respond negatively to inequitable outcomes, yet it is unknown how this reaction evolved. Responses to inequity may be homologous within primates. Alternatively, this response may have evolved as a mechanism to promote cooperation. Thus far, the primates in which inequity responses have been documented are all cooperative and gregarious (*Homo sapiens*, *Pan troglodytes*, *Cebus apella*), making it impossible to distinguish between homology and a convergence based on these traits. We tested four pairs of socially-housed adult male squirrel monkeys (*Saimiri boliviensis* and *S. sciureus*), a gregarious new world species which share a phylogenetic family with capuchin monkeys, but are not known to be cooperative. Subjects had to exchange a token with a human experimenter for a reward. There were four conditions: an equity control in which both monkeys received the same reward; an inequity test in which subjects received a medium-value reward and their partner received a high-value reward; a high-value visible control in which subjects saw a high-value reward, but were given a medium-value one; and a no-exchange control in which subjects got unequal rewards without exchange being required (e.g. rewards were handed out for 'free'). Subjects varied in their willingness to participate in the different conditions (Friedman's Test:  $X^2=26.020$ ,  $DF=3$ ,  $P<0.001$ ). However, participation did not vary between the inequity test and the equity control ( $T+=43.5$ ,  $N=16$ ,  $P=0.203$ ). This indicates that the response to inequity evolved due to convergent pressures, possibly due to cooperation, rather than being a homology shared among primates.

Keywords: Inequity, Cooperation, Convergent Evolution, Squirrel Monkey.