Humans have a strong sense of fairness that sometimes runs to counter our short-term interests. We can illuminate its evolutionary trajectories by studying a precursor behavior, inequity aversion, in animals. Inequity aversion (negative responses to unequal outcomes) is thought to help establish and maintain cooperation because such behavior prevents exploitation and ensures equitable partnerships. Until now it has only been investigated in pairs of animals. We studied two primate species in a group setting to assess how social and ecological contexts affect behavior.

We tested three groups of capuchins (19 individuals) and six groups of chimpanzees (22 individuals) in four condition of a token-exchange task that was freely accessible to all group members during sixty minute test sessions. Subjects handed inedible tokens to an experimenter in exchange for a food reward of low, medium, or high value. In the equity conditions, all the subjects received the same reward either after seeing a better one (contrast) or without another reward present (control). In the inequity conditions, a focal subject either received a better reward than the other group members (advantageous inequity) or a lesser reward (disadvantageous inequity).

Both Species traded more tokens for higher value rewards and fewer for lower value rewards. Inequity predicted task participation beyond this effect of reward quality. As in studies on pairs, chimpanzees showed an effect of disadvantageous inequity; they exchanged fewer tokens for a food reward when others received a better one, compared to the control in which everyone received the same reward. In contrast, capuchins did not differ in participation when they received same or less, but showed increased participation in the advantageous inequity conditions, in which they received a better reward than others.

These results suggest that chimpanzees’ responses to inequity are robust across social settings, whereas capuchin monkeys in the group setting did not show inequity aversion and, in
fact, exploited situations that benefited them but not others. One possible explanation for this difference is that capuchins moved around more frequently, thus, group members may not have been able to judge the presence of inequity because information gathering may have been limited.