LETTER

Interpretative problems with chimpanzee ultimatum game

In an effort to compare fairness preferences in chimpanzees and children, Proctor et al. (1) have devised experiments aimed at replicating the essential features of two common experiments, the dictator game (DG) and the ultimatum game (UG). Here, we present both methodological concerns and broader interpretative issues.

In order for an UG to be meaningful, both players must have a clear understanding of the responder's role. However, in the experiments that Proctor et al. (1) conducted, "neither species was explicitly trained that refusal was an option." In fact, the authors considered it "unlikely" that chimpanzee responders would reject, and no refusals actually occurred. Despite this, the authors argue that the proposers—unlike the responders—understood that rejection was an option and adjusted their behavior in anticipation of this threat.

If the chimpanzees did not understand the contingencies of the authors' UG game, it is difficult to interpret any performance differences between the games. One possible explanation of the differences is that the UG was more confusing than the authors' DG. In the DG, the proposer chose between two tokens that provided different payoffs, and handed the token to the experimenter, who distributed the rewards. Here, chimpanzees consistently chose the payoff-maximizing token. In the UG, the proposer chose one of the tokens, and then handed it to the responder, who in turn handed it to the experimenter. Confusion about what influences her payoffs, and a reluctance to give away the "more valuable" token to the "responder," may have shifted proposers' offers toward chance (50:50) offers. In fact, in two of the three unique pairs tested, the proposers' offers could not be distinguished from 50:50, so any fairness claims hinge on a single dyad.

More broadly, Proctor et al.'s (1) argument is that the pattern of differences between their games reflects the same pattern found among adult humans in the DG and UG. The authors claim that in the UG humans typically offer half but the DG offers are lower. This characterization is wrong on two counts. First, projects that compared the behavior of adults from diverse societies in the DG and UG show that both offers and rejections vary immensely across populations. More 50:50 offers are found in more market-integrated societies (2). People in the smallest-scale human societies often make low offers and rarely reject. Thus, the UG pattern that Proctor et al. (1) refer to mainly describes game play in modern societies, a world rather unlike that of our ancestors. A second problem comes from the authors' claim that typical DG offers are significantly lower than UG offers. Even in Western societies, this is only true among students. Experiments with older nonstudents have repeatedly shown no differences between DG and UG offers (3–5). This finding means that, even if we accept Proctor et al.'s (1) findings at face value, they have curiously demonstrated that chimpanzees are similar to undergraduates, and rather unlike other human populations, including Westerners over age 25.*

***Joseph Henrich*[a,1] *and Joan B. Silk*[b]**

[a]*Department of Psychology, and Department of Economics, University of British Columbia, Vancouver, BC, Canada V6S 1V9; and* [b]*School of Human Evolution and Social Change, Arizona State University, Phoenix, AZ 85004*

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[1]To whom correspondence should be addressed. E-mail: henrich@psych.ubc.ca.

*Detailed expositions of these issues as well as four other concerns are available (see http://ssrn.com/abstract=2250049).