Do horses (*Equus caballus*) show a preference for a fair person?

Ayaka Takimoto, Yusuke Hori, Kazuki Tadokoro and Kazuo Fujita
Kyoto University

It is advantageous to identify individuals who are likely to behave fairly and those who are not. This ability to judge others' fairness seems important for social species to interact or cooperate with their partners. Domestic horses (*Equus caballus*) have lived with humans for over five thousand years, hence they might have developed sensitivity to human personality. In the present study, we investigated whether horses would discriminate between a person who behaved fairly and a person who behaved unfairly. Specifically, we asked whether horses show a preference for the former.

We tested 12 horses (11 thoroughbred and 1 Anglo-Arabian horses) at the horseback-riding club of Kyoto University. They were divided into 6 pairs which consisted of a participant and a partner. A participant was picketed between two polls next to a partner at the hoof washing place. Each horse put his/her mouth in an actor's hand when the actor (an unfamiliar person) stood in front of them, and then received food from the actor. A fair actor always behaved fairly and gave a small quantity of hay (low-value food) to both of them in return for the task. An unfair actor always behaved unfairly, giving a small quantity of hay to the participant in return for the task, but always giving a piece of carrot (high-value food) to the partner in return for the task. Both actors always stood in front of the partner first, so the partner always did the task and received food from the actor before the participant. Finally, the participant was offered a piece of carrot by the two actors. The participant indicated which offer was accepted by stretching toward the chosen actor. The latter then moved the hand forward to allow the participant to take the food while the other actor's hand withdrew.

The orders (1st or 2nd) and the positions (left or right) of the two actors varied pseudo-randomly across trials. The color of the clothes of the two actors (white or black) was counterbalanced between sessions. We conducted 8 sessions, consisting of 8 experimental trials, across which the actors maintained their respective roles (fair or unfair) of the fair and unfair person. Furthermore, the two actors switched roles across sessions so that they played both roles the same number of times. One session was run per day.

If horses can discriminate between fair and unfair people and show a preference for the former, they should choose the former significantly more often than the latter when both actors offered food.

The participants showed no overall preference for accepting food from either actor. However, three of six participants showed a side preference. The result of the present study suggests that horses are insensitive to humans' fairness. Horses may not have expectations about fair treatment.

Key words: horses,fairness,horse-human interaction

Corresponding author:
Ayaka Takimoto
Tel: +81-75-753-2759
Fax: +81-75-753-2759
E-mail: ayaka.takimoto@gmail.com