Revue de primatologie

6 | 2015
Varia

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Electronic version
URL: http://journals.openedition.org/primatologie/2201
DOI: 10.4000/primatologie.2201
ISSN: 2077-3757

Publisher
Société francophone de primatologie

Electronic reference
Gladez Shorland, Emilie Genty and Klaus Zuberbühler, « Social learning in bonobos: Learning of individual food preferences and copying despite better knowledge », *Revue de primatologie* [Online], 6 | 2015, document 38, Online since 31 March 2015, connection on 03 May 2019. URL : http://journals.openedition.org/primatologie/2201 ; DOI : 10.4000/primatologie.2201

Social learning in bonobos: Learning of individual food preferences and copying despite better knowledge

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ABSTRACTS

Over the past few decades there has been a growing interest into social learning in animals. The importance of social influence on food choice has been demonstrated across a number of species including humans. Many more recent studies into social learning and conformity have looked into the influence of group social norms on the behaviour of individuals and it's relevance in cultural evolution. The present study's primary aim was to investigate bonobos' capacity for social learning of food preferences from one or two demonstrators. We first wished to test whether bonobos in a captive social group could learn a food colour preference through mere observation of two conspecific demonstrators and the time-scale required for such learning. Secondly, we wished to investigate how these same individuals would perform in a reverse social learning task with one of the same demonstrators. In order to manipulate the demonstrators' food preferences we used pink and blue artificial colouring and sweetening or bittering agents. In experiment 1, the 'simple social learning' task, two demonstrators consistently made a biased food colour choice (pink) in front of the subjects who were subsequently presented with the two, coloured, but palatable food items to choose from. In experiment 2, the 'reverse social learning' task, we used just one of the two demonstrators who consistently made the opposite colour choice (blue) with a different food type. Having observed the demonstrator, the subjects were tested once again. Overall, in the 'simple social learning' task, subjects preferentially chose the colour most consumed by the demonstrators (pink). In the 'reverse social learning' task, subjects preferentially chose the colour most consumed by the demonstrator (blue), but only after the

additional 4 days of exposure. The results from experiment 1 followed our predictions and are in accordance with the literature on social learning and social facilitation of acceptance of novel foods. The results from experiment 2 showed that longer exposure was necessary in order to achieve a similar result, indicating that the 'reverse social learning' task was more difficult for the bonobos to manage. This corresponds nicely with previous studies of bonobos in which experimental paradigms were reversed. Furthermore, and perhaps of more interest is the fact that despite gaining knowledge that both colours were palatable during testing, subjects chose to eat more of the food consumed by the demonstrator. We discuss these findings in light of previous studies and considering influential factors such as the social status of the demonstrator.

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Subjects: anthropologie, éthologie
Keywords: bonobo, food choice, food preference, Pan paniscus, social learning

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