

CONSISTENCY IN RIGHT-HANDEDNESS FOR GESTURAL COMMUNICATION ACROSS TIME AND ACROSS DIFFERENT GROUPS OF CAPTIVE BABOONS AND CHIMPANZEES

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Predominance of right-handedness has historically been related with the emergence of language and human evolution. Whether nonhuman primates exhibit population level manual bias remains a controversial topic. There is a growing body of evidence showing a predominance of right-handedness in nonhuman primates, particularly captive chimpanzees, for complex manual tasks such as coordinated bimanual actions, throwing and gestural communication. In baboons, population-level right-handedness has been reported for both coordinated bimanual action and communicative gestures. However, some authors remain skeptical of these findings on both methodological and theoretical grounds. Here, we demonstrated the robustness and the consistency across time of the patterns of right-handedness for communicative gestures in both captive baboons (species-specific hand slap threat gesture) and chimpanzees (human-directed food beg gesture). First, in two species, we showed significant correlations in the same individuals between the measures of hand preferences of the first session and the measures of the second session collected 3 years later by an observer blind to the previous handedness data (58 retested chimpanzees, $r(58) = .68$, $p < .001$; 24 retested baboons, $r(24) = .44$, $p < .05$). Second, the two sets of data exhibited similar degree of right-handedness (In chimpanzees, first session 2004: M.HI = .34, N = 227; second session 2007: M.HI = .37, N = 74. In baboons, first session 2006: M.HI = 0.32, N = 60; second session 2009: M.HI = 0.31, N = 68). The implications of the findings are discussed within theoretical about the origin of hemispheric specialisation for language.

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