

Facial Discrimination and Recognition Behavior In Capuchin Monkeys

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Introduction: Discriminating faces is an important aspect of human cognition. This behavioral trait has also been found in many non-human primates, primarily the Great Apes (e.g., *Pan troglodytes* and *Pongo spp.*) and Old World monkeys (e.g., *Macaca mulatta*). Few tests, however, have been conducted on the recognition aptitude of New World primates (e.g., *Cebus apella*) until recently.

Purpose: The purpose of this experiment is to learn more about the facial recognition capabilities of the Capuchin monkey, a highly social primate known for its positive social interactions, even among non-kin.

Method: A convenience sample of 10 capuchin monkeys (6 males, 4 females) that are socially housed at the Language Research Center were placed in individual testing boxes and given a testing apparatus with a computer monitor and a joystick. Each subject was then presented with a simple match-to-sample game that used the faces of other monkeys as visual stimuli. There were three conditions. The first condition focused on matching the faces of monkeys within the subject's social group (In-group), the second condition the faces of capuchins in a group adjacent to the subject's group (Out-group), and the third condition focuses on matching the faces of monkeys never before encountered by the subject (Unfamiliar, photos were acquired from another facility.).

Results: This experiment is still ongoing. Thus far, in all three conditions, subjects are able to discriminate faces at above chance levels (Chance= 25% of answers correct: In-group M= 46%, Out-group M= 46.86%, Unfamiliar M= 31.71%). Additionally, there was a significant difference such that subjects were more likely to discriminate faces of familiar monkeys (both in group and out group) than unfamiliar monkeys (Friedman's test: $\chi^2 = 10.5$, $df = 2$, $p = 0.0052$).

Discussion: Current results show that capuchins are capable of discriminating conspecific's faces, regardless of whether or not the monkey is known to the subject. Future experiments may involve using the faces of familiar and unfamiliar non-capuchin faces (e.g., human researchers) to see whether their face discrimination ability is based on experience (i.e., specific to capuchins and humans) or is a more general adaptation.