a persistent effect of ID on brain maturation. Significant differences in CSF neurotransmitters support that theory. Support: HD39386.

204. WHEN TO USE END-STATE-COMFORT: THE EFFECT OF HANDLE ORIENTATION ON GRIP SELECTION IN RHESUS MONKEYS (*MACACA MULATTA*)

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Prior research has shown that monkeys differ in the way they grip a handle depending on its direction of movement. Whereas all monkeys used an overhand grip to move a handle downward, three out of five monkeys used an underhand grip to turn a handle upwards. This use of an underhand grip suggests that some monkeys show motor planning and alter the trajectory of their hand. Because the hand begins in an awkward position and ends in a comfortable position once the handle has been rotated, this phenomenon is referred to as "end-state-comfort." Previously, monkeys learned to open boxes with a handle that either turned upwards or downwards with the handle oriented to the monkey's preferred hand (right-preferent=4; left-preferent=1). In the current study, monkeys were tested on the same task with the handle oriented to their nonpreferred hand to assess whether motor planning was affected. Data were analyzed with binomial probabilities [α=0.05]. All monkeys continued to use their preferred hand significantly above chance. Two monkeys relied solely on the overhand grip and were not affected by the change in handle orientation. However, two of the three monkeys that had previously turned the up-handle with the underhand grip began using an overhand grip significantly more than chance when the handle orientation was changed. Thus in some monkeys, grip selection is based on feedback and planning and is not the result of a trained response.

205. CAPUCHIN MONKEYS (*CEBUS APELLA*) DEMONSTRATE KNOWLEDGE OF SOCIAL GROUP MEMBERS VIA AN ODDITY TASK

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The ability to distinguish individuals within one's group from those outside is critical for survival, as outsiders pose a threat to a group's food and mating resources. In humans, faces indicate the identity of an individual, allowing one to distinguish between familiar and unfamiliar individuals. The current study investigated whether brown capuchin monkeys (*Cebus apella*) use faces to identify conspecifics and categorize them based on group membership. Three monkeys from two socially housed groups were trained to perform an oddity task on a touch sensitive monitor using digital images of faces of conspecifics. Subjects were required to select the odd stimulus based on familiarity. In the familiar-odd condition, 3 images of individuals unfamiliar to the subject were presented along with 1 image of a familiar individual, this being the correct response. Likewise, in the unfamiliar-odd condition, subjects were to select the unfamiliar individual among 3 images of familiar individuals and 1 unfamiliar individual. The two conditions were initially presented together within a session, but due to less than expected performance, conditions were then presented separately. A Heterogeneity G-test compared performance with random chance, similar to a chi-square, but the G-test takes into account individual contributions. Separating the conditions resulted in performance significantly above chance for all three subjects [Fam-odd:

$Gp_{(1)}$=134.79, p<0.001; Unfam-odd: $Gp_{(1)}$=6.17, p=0.01]. As a group, subjects performed above 25% chance when transferred to a new set of images under both conditions [40 trials each; Fam-odd: Gh=NS, $Gp_{(1)}$=81.24, p<0.001; Unfam-odd: $Gh_{(2)}$=7.05, p<0.05, $Gp_{(1)}$=59.14, p<0.001]. Overall, results suggest that subjects recognize the familiar conspecifics in the images and use this knowledge, as well as a concept of familiarity, to complete the task. Results will be compared to a control subject familiar with the oddity task and rewarded for any response.

206. SOCIAL TRANSMISSION OF EXPERIMENTAL FORAGING TECHNIQUES IN CAPUCHIN MONKEYS (*CEBUS APELLA*)

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It has been reported that wild capuchins have group-specific social behaviors, or 'traditions'. It remains uncertain how these traditions are acquired and maintained socially. The present study investigated whether capuchins are capable of learning a novel foraging task from a conspecific and then transmitting that behavior along a chain of individuals. The study used a two-action task paradigm to control for independent learning. Two methods (lift and slide) were always possible for opening the door of a foraging device to retrieve food. Two chains were tested (n_1=4; n_2=5), each beginning with a trained model who demonstrated its group-specific method for opening the foraging device. After the demonstration, the observer was allowed to interact with the device. If the observer was able to open the device twenty times by either method, he or she then became the demonstrator for a new subject, thus simulating the spread of a foraging tradition among 'generations' of group members. An additional control group (n_3=4) was tested without seeing demonstrations.
The method used was recorded for each food-retrieval. Lift-group subjects performed over 90% lift, while slide-group subjects performed over 95% slide. Control subjects showed no overall preference for either method [Kruskal-Wallis test, $H_{(2)}$=8.78, p=0.012]. These results suggest capuchins can copy foraging techniques from group members and support claims for group-specific traditions.