

SAME/DIFFERENT CONCEPT LEARNING IN MATCHING-TO-SAMPLE TASKS BY CAPUCHIN MONKEYS

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The same/different concept learning in capuchin monkeys has been mostly investigated by requiring them to judge whether two items are the same or different. In contrast, we used Matching-to-Sample (MTS) tasks involving relations of increasing level of abstraction to assess the extent to which tufted capuchins (*Cebus apella*) can use same/different concept. Six capuchins were required to choose which stimulus between two comparison ones matched a stimulus presented as sample. In Phase 1, Identity Matching-to-Sample (Id-MTS) tasks were used to evaluate the capuchins' ability to discriminate between individual items on the basis of the physical features of the stimuli. In Phase 2, Relational Matching-to-Sample (RMTS) tasks were used to assess the extent to which capuchins were able to judge the relation (either same or different) between the items in a sample display and select the comparison display in which the items had the same relation. The use of abstract concepts, both in Id-MTS and RMTS, was inferred from the subject's ability to transfer to novel stimuli. Results showed that capuchins ability to judge physical equivalence (Id-MTS) and to transfer to novel stimuli was strongly increased by the number of stimuli used during training. Moreover, capuchins' ability to judge relational similarity (RMTS) was affected by the increase of both the stimulus-set size and the number of items featuring the stimuli. These findings extend previous ones in identifying aspects of the task that are critical for abstract concept learning in monkeys. Funds: ANALOGY Project (EC-NEST #29088).

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