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### **Title**

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# **Potential for cumulative culture in capuchin monkeys (*Sapajus apella*) in a simulated transmission chain study.**

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## **Abstract**

We investigated whether capuchin monkeys could use information about rewarded and unrewarded stimuli such that chaining of their response patterns would in principle generate increasingly successful performances, indicative of potential for cumulative culture. Two populations of tufted capuchin monkeys were tested using a touchscreen stimulus-selection task requiring subjects to learn the strategy of repeating rewarded, and avoiding unrewarded selections following demonstrations of varying success. Although capuchins outperformed demonstrations of chance-level performance (simulating performance of a nave individual), they did not consistently outperform demonstrations of above-chance-level success. This suggests that, in a social transmission scenario, the accumulation of beneficial information over successive transmission events would be relatively limited. Despite mastering the task contingencies, the capuchins did not use the information optimally, limiting the potential for cumulative culture. Our data may provide insights into factors constraining cumulative culture in the natural behaviour of non-humans.