

HOW DO CAPUCHINS STACK UP AGAINST CHIMPANZEES AND HUMANS? ASSESSING COMBINATORY MANIPULATION IN A BLOCK STACKING TASK

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Block stacking has been used as a measure of cognitive development in humans and chimpanzees. Hayashi and Takeshita (2009) compared 2-3.25 year old humans with 5-7 year old chimpanzees, all with prior experience stacking cubic blocks, on a task where two of four cubic blocks were replaced by cubes with large hemispherical bumps on two adjacent sides. Such “bumpy” blocks can only be stacked in particular orders or orientations. Both species developed similar strategies for solving the task, including actively changing the orientation of blocks to one conducive for stacking, and saving for last a block oriented inappropriately for earlier stacking. We presented this task to two captive capuchin monkeys (*Cebus apella*). The subjects first learned to stack four cubic blocks, and then in a test phase, one or two of those blocks were replaced with bumpy blocks. The subjects were given 10 trials per session, one session per day. We coded from video how they placed, combined and re-oriented the blocks. Both subjects became proficient in constructing stacks involving one or two bumpy blocks. They used many of the same strategies as humans and chimpanzees, including active orientation changes, and also indirectly changing the orientation of bumpy blocks by striking inappropriately oriented blocks and then replacing the displaced block. We conclude that capuchins achieve similar performance as humans and chimpanzees on this task while using a different array of manipulative strategies.

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