Young children can use counterfactual simulation to reason about task performance

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Abstract

Young children often need to decide which tasks to pursue and how long to persist. What guides these decisions? In this work, we investigate whether children can use counterfactual simulations to evaluate their performance. Preschool-aged children played a game in which they could launch a ball into a goal; on their final attempt, the ball headed either straight for the goal (Almost condition) or veered for a miss (Miss condition) before the game "froze" such that the final outcome was not observed. More children wanted to keep playing the same game in the Almost condition (N = 12/22) than in the Miss condition (N = 3/22, BF10 = 11.36), suggesting that counterfactual simulations may support evaluation of past outcomes and inferences about expected future performance. Ongoing work examines whether children can go beyond observed outcomes (make vs. miss) to use counterfactual simulations in order to reason about their task performance.

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