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Children consider the probability of random success when evaluating knowledge

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Abstract

To infer what others know, we must consider under what epistemic states their actions were both rational and prob-able. We test whether preschoolers can compare the probability of different actions (and outcomes) under different epistemic states—and use this to evaluate what others know. Specifically, four- to six-year-olds (n=90) were asked to help evaluate an agent's knowledge state by asking the agent to complete either an "undiagnostic" task (where success was assured), or a "diagnostic task" (where the probability of random success was low). By age six, children understood that the "diagnostic" task would more likely reveal the agent's knowledge state; four- and five-year-olds had no reliable preference, although children in all age groups understood that the "diagnostic" task was harder. These results sug-gest that, by the end of preschool, children understand how agents' epistemic states and environment jointly determine success—considering whether agents' actions imply knowledge, or just luck.