

I Never Even Considered That!: Investigating explanations for adults failures to learn conjunctive causal rules

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Abstract

Despite having sophisticated causal reasoning skills, there are a variety of cases in which adult learners consistently ignore the available evidence and make an incorrect inference. Here, we focus on a specific case in which adults fail to infer and apply a conjunctive causal rule (Lucas et al., 2014), and examine two explanations for this failure. In Experiment 1, we manipulate information about the probabilistic nature of the events to test whether adults failure results from an endorsement of noisy relations. In Experiment 2, we manipulate the physical design of the causal system to test an alternative account: that this phenomenon is due to a failure to consider the correct, conjunctive hypothesis. Taken together, our results suggest that failures to learn the conjunctive rule may not be entirely due to a noisy prior that affords discounting of the evidence, but instead results from a failure to generate the relevant hypothesis.