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The Role of Causal Information and Perceived Knowledge in Decision-Making

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Abstract

Causal knowledge is key to making effective decisions, yet little is known about how we combine new causal information with what we already know. This scenario, with a mix of prior beliefs and new information is common to many settings, and is pervasive in health decisions. We specifically examine how decision-making with causal models differs in abstract decisions versus those more reminiscent of daily life, and how new information interacts with people's perceived knowledge about the decision-making domains. We found that while people can successfully use causal models to answer abstract questions, causal models can lead to worse choices in everyday decisions, especially when people believe they know a lot about the domain (Experiment 1). We then used an IOED task to determine if showing people how little they actually understand about a domain may improve the use of causal models in decision-making (Experiment 2).