Using Process Measures to Track Strategy Use in Probabilistic Inference

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Abstract: In probabilistic inference, people choose between alternatives based on several cues, each of which is differentially associated with an alternative's value. For example, an investor uses multiple indicators when deciding between two stocks. Many strategies have been proposed for probabilistic inference (e.g., weighted-additive, take-the-best, and tally). These differ in how many cues they require to enact, and in how they weight each cue. But do people actually use these strategies? One way to answer this question is to consider people's choices. But different strategies often predict the same decisions. Another way is to consider the cues people reveal. But search behavior says nothing about how people use the information they acquire. Here, we use a high-density performance measure, verbal protocols, to study probabilistic inference. The promise of verbal data lay in their use to test detailed information processing models. To that end, we apply protocol analysis along with computational simulations.