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Learning how to learn: Evidence for an explore-exploit tradeoff in information search

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Abstract

To learn about the world, people must gather information from external sources (e.g., books, the internet, other people). People prefer sources that have been reliable in the past—but how do we seek information when uncertain about a source's quality? We test the hypothesis that these decisions are governed by an explore-exploit tradeoff. Prior work has researched this in reward search. Here, we adapt the tradeoff to information search. We propose that people weigh exploring an information source that is more uncertain with exploiting an information source that is more informationally promising. In one experiment (N = 171), we found evidence for both random and directed exploration in people's choices between information sources. However, people explored uncertain information sources even without the possibility of future exploitation (differing from typical reward search). People may be broadly interested in learning about sources' quality, and they explore to gain this information.

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