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People's motivations bias how they gather information

A person will gather less data before reaching a conclusion they wished was true all along

Date: June 27, 2019

Source: PLOS

Summary: A new study suggests people stop gathering evidence earlier when the data supports their desired conclusion than when it supports the conclusion they wish was false.

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FULL STORY

A new study suggests people stop gathering evidence earlier when the data supports their desired conclusion than when it supports the conclusion they wish was false. Filip Gesiarz, Donal Cahill and Tali Sharot of University College London, U.K. report in *PLOS Computational Biology*.

Previous studies had already provided some clues that people gather less information before reaching desirable beliefs. For example, people are more likely to seek a second medical opinion when the first diagnosis is grave. However, certain design limitations of those studies prevented a definitive conclusion and the reasons behind this bias was previously unknown. By fitting people's behavior to a mathematical model Gesiarz and colleagues were able to identify the reasons for this bias.

"Our research suggests that people start with an assumption that their favored conclusion is more likely true and weight each piece of evidence supporting it more than evidence opposing it. Because of that, people will find no need to gather additional information that could have revealed their conclusion to be false. They will stop the investigation as soon as the jury tilts in their favor" said Gesiarz.

In this new study 84 volunteers played an online categorization game in which they could gather as much evidence as they wanted to help them make judgements and were paid according to how accurate they were. In addition, if the evidence pointed to a certain category they would get bonus points and if it pointed to another category they would lose points. So while there was reason to wish the evidence pointed to a specific judgement, the only way for volunteers to maximize rewards was to provide accurate responses. Despite this, they found that the volunteers stopped gathering data earlier when it supported the conclusion they wished was true than when it supported the undesirable conclusion.

"Today, a limitless amount of information is available at the click of a mouse," Sharot says. "However, because people are likely to conduct less through searches when the first few hits provide desirable information, this wealth of data will not necessarily translate to more accurate beliefs."

Next, the authors hope to determine what factors make certain individuals more likely to have a bias in how they gather information than others. For instance, they are curious whether children might show the same bias revealed in this study, or whether people with depression, which is associated with motivation problems, have different data-gathering patterns.

Story Source:

Materials provided by **PLOS**. *Note: Content may be edited for style and length.*

Journal Reference:

1. Filip Gesiarz, Donal Cahill, Tali Sharot. **Evidence accumulation is biased by motivation: A computational account.** *PLOS Computational Biology*, 2019; 15 (6): e1007089 DOI: 10.1371/journal.pcbi.1007089

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