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Current Opinion in Psychology

Review

Cure or curse? The role of deliberation in shaping willful ignorance

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There is a widespread tendency to avoid, disregard, or dispute belief-inconsistent information. The role of deliberation (i.e., the investment of cognitive effort) in shaping this tendency is a contested topic in psychological science. While some posit that more deliberation reduces biased information processing, others argue that more deliberation increases biased information processing. We suggest that these conflicting lines of reasoning can be reconciled by considering the underlying processing goal that is dominant in a given situation. In the case of dominant accuracy goals, more deliberation should reduce biased information processing. In the case of dominant directional goals, exactly the opposite should be true. We offer methodological pointers for future studies that could test these predictions.

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Background

There is a widespread and pervasive tendency to avoid, disregard, or dispute belief-inconsistent information — that is, to remain (willfully) ignorant about information contradicting one's preexisting views [1]. More specifically, individuals prefer to expose themselves to belief-consistent (over belief-inconsistent) information [2] and evaluate information more favorably when it is consistent with their beliefs and preferences than when it is not [3]. Such (motivated) rejection of belief-inconsistent information has been used as an explanation for societally problematic phenomena such as reduced trust in science [4] or political polarization [5]. While the existence of the problem itself is widely accepted, a controversy prevails regarding its cognitive and motivational underpinnings. Particularly, there is a strong debate about the role of deliberation (understood as the investment of cognitive effort) in shaping motivated rejection. Two opposing views dominate this debate and over the years, their proponents have produced a host of (seemingly) conflicting findings. Drawing on the results of their empirical studies, one side argues that inaccurate reasoning occurs due to cognitive flaws that are reduced by investing more cognitive effort [6–9]. In other words, individuals who deliberate more will be less likely to willfully ignore belief-inconsistent information and more likely to arrive at unbiased conclusions. Also based on a number of empirical investigations, the other side posits that increased deliberation contributes to finding rationalizations for one's preexisting views and to defend these views with greater intensity [5,10–12]. According to this line of reasoning, individuals who invest more cognitive effort will thus be more likely to willfully ignore belief-inconsistent information and less likely to arrive at unbiased conclusions. Also note, however, that a considerable number of studies did not find clear evidence for a moderating effect of deliberation and, thus, neither supports one or the other view [13–16].

There are at least two approaches for reconciling these inconsistent findings. One may point to *methodological* differences between existing studies. To begin with, the key variables have been operationalized in many different ways. For instance, the cognitive reflection test [7,11,13,17,18], scientific literacy [19–21], numeracy [5,6,14–16,22–27], epistemic needs [28], and political sophistication [29–31] have all been used as indicators of deliberation. In a similar vein, prior attitudes on the topic of interest [19–21,23,24,28–32], political ideology [5,7,11–13,15,18,25], and broader worldviews [6,22,27] have all been used as proxies for an individual's motivation. In addition, one might suspect that the effects of deliberation on the willful ignorance of belief-inconsistent information may also depend on various sample characteristics (e.g., US samples versus non-US samples) or the topic under investigation (e.g., climate

Current Opinion in Psychology 2025, **65**:102082

This review comes from a themed issue on Willful Ignorance

Edited by Shaul Salvi, Susann Fiedler, Fiona Tho Pesch and Anna Baumert

For complete overview about the section, refer Willful Ignorance

Available online 24 June 2025

https://doi.org/10.1016/j.copsyc.2025.102082

change, migration, gun control, health-related topics) [14].

The importance of clarifying these methodological differences notwithstanding, in the present paper we attempt a *theoretical* reconciliation of the available empirical evidence: In the literature, it is usually either assumed that deliberation increases *or* that it decreases motivated rejection. That is, the two perspectives are considered to be mutually exclusive. In contrast, we argue that both perspectives might be valid — depending on the circumstances. Instead of asking *whether* deliberation reduces or increases motivated rejection, we should therefore look at *when* either (or none) of the two possibilities occur. Crucially, we propose that the deliberation effect depends on the *processing goal* that is dominant in a given situation. In the following, we will lay out this idea in more detail, drawing on the literature about motivated reasoning.

Towards a nuanced understanding of the role of deliberation

The willful ignorance of belief-inconsistent information can be interpreted as an instance of motivated reasoning, that is, as a specific instantiation of the fact that "people are more likely to arrive at conclusions that they want to arrive at" [33] (p480). Crucially, research on motivated reasoning usually distinguishes between two types of goals that can guide information processing: accuracy goals (i.e., wanting to arrive at a correct conclusion) and directional goals (i.e., wanting to arrive at a desired conclusion) [33]. These two motivational forces can be considered as conceptually independent from one another [33—35]. That is, an individual who has a strong motivation to arrive at a correct conclusion may or may not have a strong motivation to arrive at a certain desired conclusion at the same time — and vice versa. As a consequence, it can be assumed that the two motivational forces are traded off against each other in a way that either accuracy or directional goals (or none) are dominant when processing information [36]. The dominance of a certain goal depends on characteristics of the given situation as well as the person and determines how incoming information is processed. At least theoretically, deliberation should be widely independent of these different motivations as one could pursue either accuracy or directional goals with differing levels of cognitive effort. Thus, deliberation affects the intensity of processing, which leads to different processing strategies and outcomes depending on the underlying motivation [37].

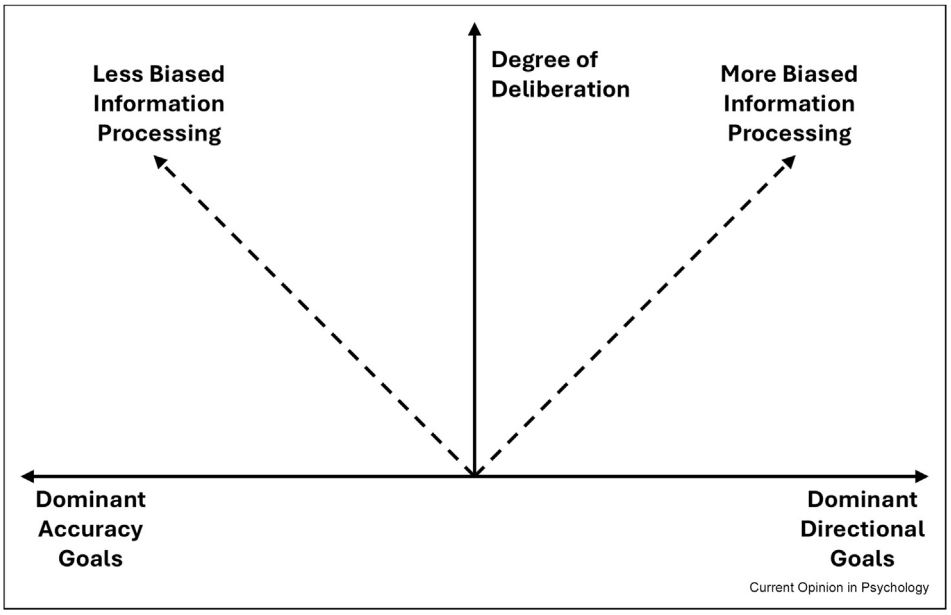
Against this background, we posit that whether deliberation increases or decreases the rejection of belief-inconsistent information depends on the dominant processing goal (for an overview, see Fig. 1). If accuracy goals dominate reasoning, individuals principally want to arrive at a correct conclusion. Despite this goal being dominant, individuals may still differ regarding the amount of effort (i.e., the degree of deliberation) that they are willing or able to invest in processing the available information. If deliberation is low, individuals might follow various heuristic processing strategies, including the heuristic to believe what feels true (truthiness) [38] or the tendency to rely on the perceived credibility and reputation of a source of information [39], resulting in less-than-optimal reasoning and potentially the (premature) rejection of belief-inconsistent information [1]. If deliberation is high, however, individuals will be able to correct for their intuitive biases and to process information more thoroughly, ultimately leading to comparably more accurate and less biased judgements. That is, in the case of dominant accuracy goals, more deliberation should have a debiasing impact on the outcome of the reasoning process.

In contrast, if directional goals dominate, the processing of (belief-inconsistent) information is primarily driven by the desire to arrive at a personally favorable conclusion (e.g., to defend one's viewpoints, to uphold a positive self-image or one's social identity). Again, this does not yet say anything about the amount of effort that individuals are willing or able to invest in doing so. In this case, if deliberation is low, individuals will most likely follow the heuristic to process information in line with their directional goal (e.g., to defend their prior beliefs). Crucially, however, if deliberation is high, this should lead to an even stronger defense of the beliefs under attack and an increased tendency to rationalize one's views, because more cognitive resources can be mobilized to achieve the underlying directional goal. For instance, individuals might construct additional arguments to justify their prior beliefs or construct sophisticated objections to devalue the belief-inconsistent information. That is, in the case of dominant directional goals, more deliberation should have a biasing impact on the outcome of the reasoning process — and, thus, foster willful ignorance.

Clarifying the role of deliberation: Avenues for future research

Most existing research on motivated rejection is not designed to test the effects of different processing goals nor their interaction with deliberation. In most cases, it is only (if at all) possible to indirectly infer which processing goal dominated in a particular study and whether participants were likely to deliberate. Against this background, it seems essential to design future studies that (a) experimentally manipulate — or at least measure — the underlying processing goals as well as deliberation more precisely and that (b) test the interaction between processing goals and deliberation. To our knowledge, there is no prior research that would fulfill all these conditions.

Figure. 1



The Interplay Between Processing Goals and Deliberation. *Note*. The impact of deliberation on the evaluation of (belief-inconsistent) information depends on the dominant processing goals. This idea can reconcile the (seemingly) contradictory findings regarding the role of deliberation in shaping willful ignorance.

As far as the manipulation of the dominant processing goals is concerned, previous research has identified ways for manipulating accuracy goals as well as directional goals. On the one hand, accuracy goals can be strengthened simply by asking participants to consider the presented information carefully and objectively or through offering (financial) incentives for correct answers [29,40]. On the other hand, directional goals are usually strengthened through some kind of identity salience manipulation, that is, by comparing a group of participants for whom identity has been made salient (e.g., by asking them to write about how their group differs from another group or by writing about the characteristics and values of their own group) to a control group [41–44]. In addition, directional goals can be strengthened by threatening the participants' social identity, thereby creating a stronger need to defend this identity in subsequent tasks [45,46]. Note, however, that the clean manipulation of processing goals can be challenging and requires careful experimentation. For instance, instructing participants to consider the presented information carefully and objectively in order to strengthen their accuracy goals might simultaneously increase their level of deliberation. In addition, such a manipulation relies on participants actually following the instruction to be more accurate — which might or might not be under their volitional control.

Importantly, there are also several ways of experimentally manipulating the degree of deliberation. That is, instead of merely measuring potential indicators of (trait-like) deliberation (such as numeracy or the cognitive reflection test, see above), it is possible to systematically vary the amount of cognitive effort that individuals are able or willing to invest within a specific study setting. More specifically, deliberation can be manipulated by creating time pressure (versus no time pressure) and/or by increasing (versus not increasing) the participants' cognitive load while completing the experimental procedure [17,27]. For instance, in one study [17], participants were provided with a strict response deadline for completing a task (i.e., indicating their agreement with belief-consistent and belief-inconsistent arguments), while simultaneously performing a working memory task (i.e., memorizing a dot pattern), which arguably reduced their opportunity and ability to deliberate carefully on the presented information. Employing clean experimental manipulations of deliberation is important to be able to derive clear conclusions and preferable over trait-like measures of deliberation. Such measures (e.g., cognitive reflection, numeracy) can only approximate the level of deliberation that is exerted in a given situation and might at times be conflated with the underlying processing motivation. For instance, numeracy could reflect both cognitive effort and accuracy motivation in tasks that involve the processing of numbers (as in the "motivated numeracy" paradigm [25]). At the same time, numeracy might not be a good indicator of deliberation when evaluating (non-numeric) arguments on a specific political topic.

In sum, there are promising approaches in the existing literature that might help to design studies suitable to test the outlined predictions about the interaction between deliberation and processing goals. At the same time, several refinements are needed. Our suggestions mentioned above provide some guidance on how such studies could be designed.

Conclusion

Understanding the role of deliberation in shaping willful ignorance, that is, resolving the conflict between those who claim that deliberation *increases* biased information processing and those who claim that it *decreases* biased information processing, is crucial for at least two reasons. First, it helps to advance theorizing on motivated reasoning and to overcome the deadlock created through the (seemingly) conflicting findings. Second, it potentially informs the design of interventions aimed at enhancing the consideration of belief-inconsistent viewpoints [47–50]. In times in which many countries across the world are struggling with polarization and unprecedented levels of misinformation, achieving this would be no small feat.

Credit author statement

Fabian Hutmacher: Conceptualization, Writing – Original Draft, Writing – Review & Editing, Visualization. **Marlene Sophie Altenmüller**: Conceptualization, Writing – Review & Editing, Visualization. **Kevin Winter**: Conceptualization, Writing – Original Draft, Writing – Review & Editing.

Declaration of competing interest

The authors declare no conflict of interest.

Data availability

No data was used for the research described in the article.

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* of special interest
** of outstanding interest

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Further information on references of particular interest

1. Theoretical paper providing a detailed and nuanced discussion of
** belief-consistent information processing

17. Exemplary study employing an experimental manipulation of
** deliberation

20. Empirical study including a detailed discussion of the debate
* regarding the role of deliberation

24. Exemplary study using numeracy as a proxy for deliberation
*

32. Exemplary study investigating the role of dispositional differences
* in shaping belief-consistent information processing, using attitudes as proxy for directional motivation.

40. Exemplary study employing an experimental manipulation of ac-
** curacy goals