

Humans' Bias Blind Spot and Its Societal Significance

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Abstract

Human beings have a bias blind spot. We see bias all around us but sometimes not in ourselves. This asymmetry hinders self-knowledge and fuels interpersonal misunderstanding and conflict. It is rooted in cognitive mechanics differentiating self- and social perception as well as in self-esteem motives. It generalizes across social, cognitive, and behavioral biases; begins in childhood; and appears across cultures. People show a bias blind spot in high-stakes contexts, including investing, medicine, human resources, and law. Strategies for addressing the problem are described.

Keywords

social cognition, judgment, decision-making, bias, conflict, self-awareness

A half century of research has identified biases that underlie, guide, and distort human judgment, decision-making, and behavior. Though that work has illuminated parts of human nature, it largely has not changed it. People still show all sorts of biases. And, the costs of those biases have been documented for outcomes as diverse as racial prejudice, financial mismanagement, medical error, political polarization, and relationship satisfaction. Why are people biased decades after psychologists have brought these biases to light? One answer is that people understand that biases exist but fail to see their own susceptibility. This *bias blind spot* (BBS) prevents people from working to correct their biases and leaves them to instead impute bias to others—especially those who disagree with them. The result is that biases persist, and so do the problems they cause.

We begin our review with the basic finding of a BBS and its generality and sources. We then describe evidence of the BBS in consequential domains and assess strategies for overcoming the problem.

The Basic Finding

Since it was introduced (Pronin et al., 2002), the bias blind spot has been replicated dozens of times. As shown in Figure 1, the BBS has been identified for more than 50 different social, cognitive, and behavioral biases. (For descriptions of the biases in the figure and throughout this article, see Supplementary Table 1.)

Generalizability across methodologies

The standard method for assessing the BBS involves participants reading about a bias and then rating their own and others' susceptibility to that bias (typically referred to with the more neutral term “effect” or “tendency”). Using this paradigm, the BBS emerges when people rate themselves and others separately, as well as when they compare self and other on a single scale, and when those ratings involve generic comparisons (e.g., to the “average American”) as well as when they involve comparisons with specific acquaintances, such as classmates or opponents in a particular conflict (e.g., Chandrashekar et al., 2021; Pronin et al., 2002; West et al., 2012). In other research paradigms, individuals are sometimes placed in a situation where they commit an actual bias in the laboratory (or in the field), sometimes alongside another experimental participant, and they then assess whether bias was committed. For example, Pronin et al. (2002) targeted the classic self-serving bias, wherein people who are told they performed well on a test praise its merit, whereas those who are told they did poorly criticize it. Participants took the test in pairs of two, with one participant randomly receiving positive feedback and the other

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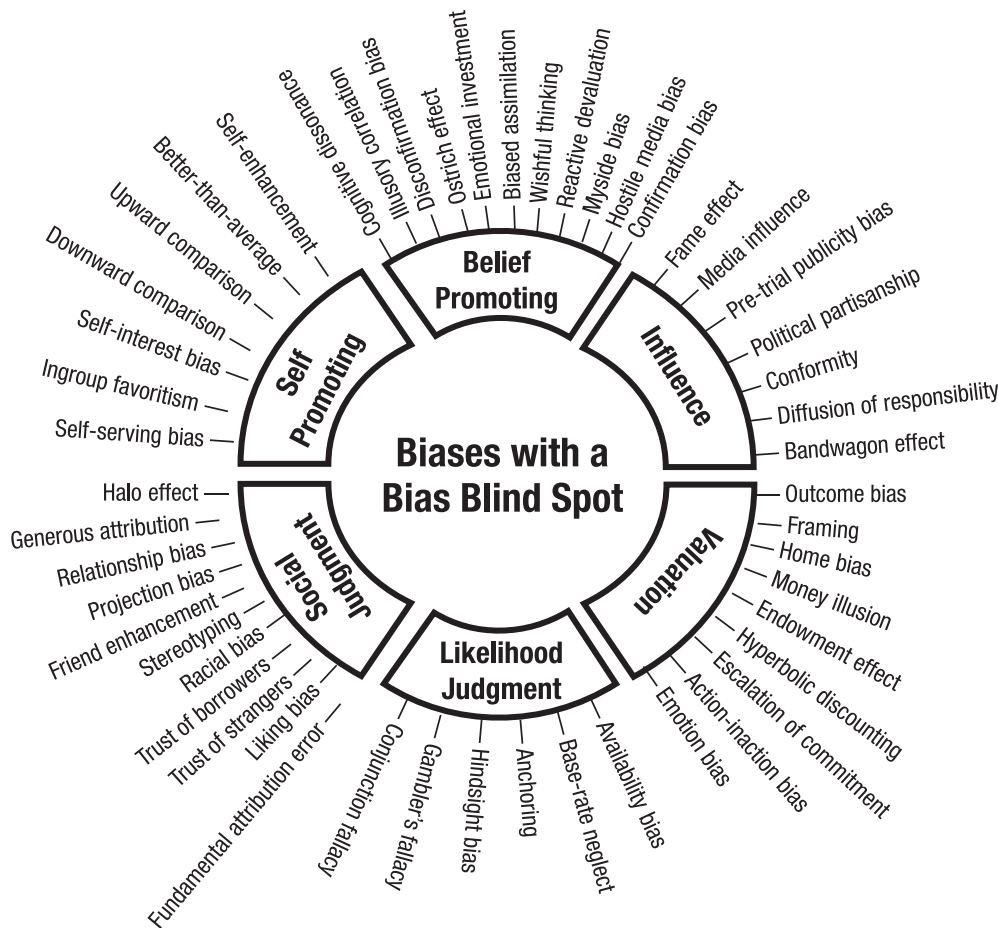


Fig. 1. Graphic depiction of biases that have been shown to have a bias blind spot (BBS). (For descriptions of all biases in Fig. 1, see Supplementary Table 1. For references, see Supplementary Fig. 1.)

negative feedback. After discussing the test with each other (and sharing their scores and opinions about the test), participants were more likely to detect bias in the other participant’s assessment of the test than in their own.

Childhood

Children first show a BBS around age 7 (Hagá et al., 2018). Responding to stories in which a child is biased (e.g., “Sometimes people pick their best friend to be the winner of a contest even though someone else did the best because they want their friend to be happy”), children 7 and older rated a “regular kid” as more likely than themselves to act that way (Elashi & Mills, 2015). Onset of the BBS among children is associated with shifting from assuming that everyone is objective to coming to recognize bias in others. The finding of this developmental shift updates classic Piagetian egocentrism (in which children do not distinguish their subjective perceptions from objective reality) by showing that children’s confidence in their objectivity persists into

adulthood, even as skepticism about others’ objectivity emerges.

Culture

The range of methods that capture people’s BBS show that it is not a by-product of one scientific paradigm and suggest that it adheres to the nature of human perception and judgment. Further support for this conclusion comes from recent studies showing a BBS in Chinese, Japanese, Middle Eastern, Western European, and Eastern European samples (e.g., Chandrashekar et al., 2021; Kambara, 2017; Niszczota et al., 2022).

Cognitive sophistication

Neither performing well on measures of cognitive ability, nor tending to think deliberately, nor enjoying thinking provides protection from the BBS. Indeed, the BBS seems to be *more* pronounced among individuals who score high on these dimensions (West et al., 2012; see also Scopelliti et al., 2015). Could these individuals’

claims of superior objectivity be accurate? West et al. (2012) ruled out that possibility by measuring not only participants' perceptions of their susceptibility to bias but also their actual susceptibility. They found that those with higher SAT scores (and enjoyment of or tendency to think) were not in fact less biased.

Understanding the Blind Spot

The BBS may seem primarily driven by the motive to preserve self-esteem, given that bias is generally considered a defect and objectivity a virtue. Although that motive does play a role, another critical and independent source involves the unconscious nature of bias.

Unconscious bias and the introspection illusion

Biases typically operate unconsciously (e.g., Banaji & Greenwald, 2013; Kahneman, 2011). But people nevertheless look inward to infer them (“Was my hiring decision biased? Nope... I was motivated to be objective.” “My political position? Nope... I didn't feel a hint of bias influencing me”). This inappropriate reliance on information gained by looking inward constitutes an *introspection illusion* (e.g., Pronin & Kugler, 2007). The illusion involves people's faith in and reliance on introspective information, such as feelings and intentions, for making self-assessments—combined with their faith in and reliance on observable behavior and base rates for assessing others. When it comes to bias, looking to behavior and base rates is more likely to yield evidence of it. As a result, the introspection illusion, and its associated divergence in information reliance, is a key source of the BBS.

Disagreement and the objectivity illusion

When individuals encounter others who disagree with them, the BBS can be especially pronounced. People take for granted their objectivity and conclude that those on the other side must be biased. This *objectivity illusion* (or *naive realism*) stems from people's egocentric and unwavering confidence that their perceptions directly reflect what is out there in “objective reality” (e.g., Ross, 2018). Even disagreements regarding so-called matters of taste, like food, art, or music, can reveal a BBS as people remain steadfast in the correctness of their perceptions. In recent studies (Cheek et al., 2021), participants claimed that when it comes to artistic preferences, there are no correct views. Yet they also claimed that the art that they preferred was objectively better—arguing that their preferences for

different paintings reflected those paintings' “true quality”—and that those whose preferences differed were biased in their assessments (for example, by social influence or material incentives) and less objective in general. Moreover, participants took these attributions a step further and claimed that those who had different preferences were less principled and would make worse community members and leaders. Disagreements about matters of taste may seem trivial, but the attributions they engender are not.

Fueled by the BBS and the objectivity illusion, disagreements can unleash a spiral of conflict. Individuals disagree; they then attribute that disagreement to the irrationality and bias of their adversary; that attribution then leads them to respond to their adversary aggressively rather than diplomatically; that way of responding, in turn, is perceived by their adversary as uncalled for and irrational, thereby leading the adversary to see them as biased, and the spiral continues (Kennedy & Pronin, 2008; Yan et al., 2016). After all, negotiating with those individuals who disagree with us but are objective may seem worthwhile, but negotiating with “fanatical ideologues” or “self-interested egomaniacs” seems less so.

Real-World Cases

People's failure to recognize their own biases—and their tendency to impute bias to others—has been shown in a host of meaningful domains (see Fig. 2).

Forensics

Examples of biases in forensics include allowing one's liking for a defendant to color one's psycholegal assessment in a trial and letting prior expectations of guilt or innocence guide one's assessment of a fingerprint match. In a study of forensics examiners in 21 different countries, 71% thought that these sorts of biases were a problem for forensic sciences as a whole, but only 26% thought that they were a problem influencing their own judgments (Kukucka et al., 2017). As researchers have begun to reveal the importance of biases in forensics, some have come under attack by forensics experts, perhaps reflecting the stubbornness of the BBS (e.g., Starr, 2022).

Investing

Investor behavior is subject to biases ranging from wishful thinking to escalating commitment in the face of sunk costs (Nofsinger, 2017). And investors show a BBS. For example, in a study of investment-fund managers, even those who recognized the role of behavioral biases in investment behavior (35% of the sample)

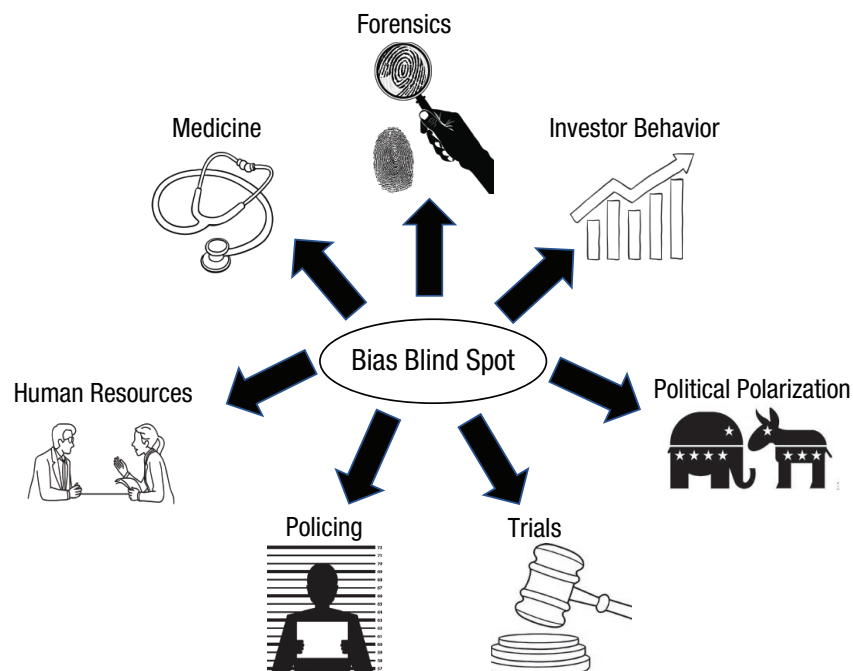


Fig. 2. Real-world cases in which a bias blind spot has been documented.

failed to see the relevance of those biases to their own behavior (Menkhoff & Nikiforow, 2009). Personal investors also believe their own investment choices are rooted in rational analysis but that others are more swayed by biasing influences (Egan et al., 2014). Because value in the stock market derives in part from people's beliefs about others' beliefs, investors' BBS could impact financial behavior and market value.

Politics

Psychological bias can exacerbate political polarization, not just in the echo chambers of social media and the one-sided stream of cable news but even when people are exposed to opposing views (e.g., Bail et al., 2018). Recent research has pointed to the role of the BBS in this. For example, Schwalbe et al. (2020) found that the degree to which political partisans attributed biasing influences to their opponents was predictive of subsequent polarization in their political attitudes over time as well as their displaying closed-mindedness and antipathy toward those opponents.

Policing

Accusations of racial bias in the police force have shaken society. We are not aware of research examining perceptions of objectivity and bias by police officers, though that would be valuable. But Jones et al. (2018) found that people viewed themselves as less susceptible

than the average person to biases that would impact their inferences and memory for a crime. Whether they also saw themselves as less susceptible than police officers who witnessed a crime depended on whether their attitudes toward the police were positive or negative.

Juries and judges

Judges and jurors are required to assess their own capacity for objectivity. But is this realistic? Yokum et al. (2012) reported a BBS among mock jurors evaluating the impact on themselves and other jurors of pretrial publicity that was prejudicial against the defendant. Jurors who asserted their objectivity (after following court guidelines for assessing impartiality) nonetheless were strongly biased against the defendant. This study, and others like it, speak to a problem with judicial systems that rely on judges and jurors to self-diagnose their objectivity.

Human resources

Biases in hiring, promotion, and termination decisions have societal costs by impeding efficiency, fairness, and equity. Recognition of these biases can prompt efforts to eliminate them. An example is symphony orchestras' auditioning candidates behind a "screen" as a way to avoid gender bias (Goldin & Rouse, 2000). The adoption of such procedures is rare, though, and likely to

be hampered by the BBS. For example, human resources officers viewed other human resources officers as more susceptible than themselves to biases that can delegitimize the interviewing process (Thomas & Reimann, 2023), such as in-group favoritism (e.g., preferring applicants who share one's gender or college fraternity), confirmation bias (e.g., evaluating the quality of interviewees' responses in a way that confirms prior expectations), and the halo effect (e.g., viewing physically attractive applicants as also more competent).

Medicine

The decision-making of physicians and other medical providers can be influenced by biases ranging from framing effects (e.g., preferring risky surgical procedures when the alternative is described in terms of "death" versus "survival" rates) to the biasing influence of gifts from pharmaceutical representatives. Not only have these biases been well documented, but a literature has developed around the idea that a BBS among medical professionals creates a barrier to their dissolution. For example, Zipkin and Steinman (2005) reviewed a sizable literature showing that medical residents deny the impact of pharmaceutical gifts on their own patient care while attributing that influence to their peers.

Overcoming Bias and the BBS

The BBS poses an impediment to overcoming bias. Next, we consider the problem and some psychologically wise solutions. By "wise" solutions, we mean ones that are not simply knowledgeable and sensible but, more specifically, take into account the underlying psychology (in this case, the psychology of the BBS) that is involved (e.g., Walton, 2014).

Conscious efforts and self-diagnosis

When it comes to efforts to reduce bias, the most common approach is to consciously try to avoid being biased and to self-diagnose one's success. From hiring managers to scientific investigators to police officers, people are instructed to consciously avoid bias. And many endorse this strategy—in one study, 93% of forensics experts did (MacLean et al., 2019). Such efforts, however, are derailed by the BBS. Looking inward is likely to yield no signs of bias and only to bolster confidence in one's objectivity. Because people are more likely to see bias in others' judgments, a wise alternative could be to infer one's bias by considering how one would judge the bias of another person whose actions resembled one's own. Mata et al. (2013) found that participants who showed a BBS were able to avoid bias

in their own cognitive reasoning—if they first saw the biased responses of another person. They ably detected bias in another's judgments, which alerted them to the potential for bias, which allowed them to avert it. (See Fig. 3.)

Education that works

Educational interventions for reducing bias can sometimes fail because of the BBS (see Fig. 3). Indeed, Scopelliti et al. (2015) reported that the more participants showed a BBS (on an individual-difference measure the authors developed), the less they responded to an educational effort to reduce bias. Such efforts may leave people pleased to learn the names of various biases that they keep seeing around them—and vexed by others' unawareness. But individuals may fail to see the self-relevance of this education. Successful education efforts to reduce bias and the BBS generally do not simply educate people about them. Tomlin et al. (2021) tested an educational module aimed at cognitive biases that perpetuate ethical transgressions in business. Rather than educating students about the BBS, it educated them about some of the psychology behind people's tendency to judge self and others differently. Afterward, students in both the intervention and control groups were aware of bias and intended not to commit it, but only those in the intervention group were more likely to acknowledge their own susceptibility to ethics-compromising biases and to identify actual ethical challenges in a business situation they faced.

By teaching people about what underlies the BBS, educational interventions like this have worked. As another example, Pronin and Kugler (2007) reduced people's BBS not by teaching them about it, or even about biases, but rather by having them read a short scientific article about the importance of unconscious processes. Kambara (2017) avoided explicit, didactic teaching altogether. Participants who were instructed to gaze at various visual-motion illusions subsequently showed a BBS that was half the size of their peers' who had looked at control images. Having experienced that their perceptions could be unconsciously distorted, these participants emerged less prone to deny their susceptibility to a range of higher-order biases.

Other researchers have had some success reducing the BBS with educational computer games and videos. These seem to work best when paired with strategies that are wise to the problem described here. For example, knowledge of and susceptibility to the BBS decreased with repeated play of a video game that not only taught about the BBS but also helped players gain insight into their unconscious commissions of bias by

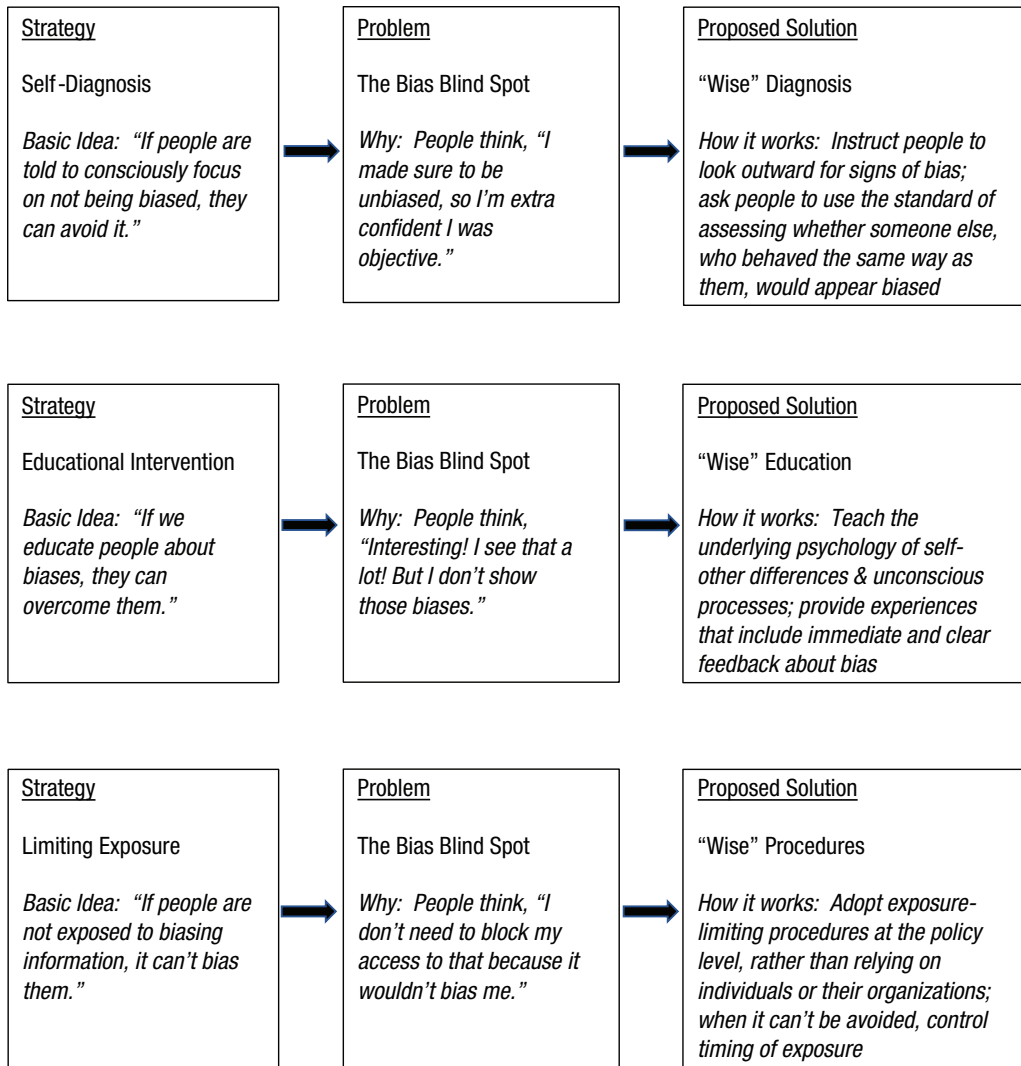


Fig. 3. How the bias blind spot prevents bias-reduction strategies from working, and research-based recommendations for tackling the problem.

having their game performance take a hit every time they were biased (Bessarabova et al., 2016).

Bias-limiting procedures

When it comes to eliminating bias, attempts to overcome it via conscious effort and educational training are not ideal. A different strategy is worth considering, when possible: preventing people’s biases from having a chance to operate in the first place, by limiting their access to biasing information. Examples include conducting auditions behind a screen (discussed earlier) and blind review of journal submissions. If fully blocking access to potentially biasing information is not possible or carries more costs than benefits, another less stringent option is worth considering, that is, controlling

when the information is presented so that potentially biasing information comes late, ideally after a tentative judgment is made (e.g., “sequential unmasking”; Dror, 2018; “temporary cloaking”; Kang, 2021).

Because of the BBS, people can be resistant to procedures like this that limit their access to biasing information (see Fig. 3). For example, forensics experts prefer consciously trying to avoid bias over being shielded from even irrelevant biasing information (Kukucka et al., 2017). When high school teachers and ensemble singers were asked to assess blinding procedures (in auditioning and grading), they opposed them more for their own group than for the other group and even more for themselves personally (Pronin et al., 2022). This opposition is consistent with experiments showing that people are unconcerned about the effects

of biasing decision processes when it comes to their own decisions (Hansen et al., 2014). In those experiments, participants made judgments using a biasing decision procedure (e.g., judging the quality of paintings only after looking to see if someone famous painted them). They readily acknowledged that the procedure was biased, nonetheless made decisions that were biased by that procedure, and then insisted that their conclusions were objective. This unwarranted confidence is a barrier to the self-imposition of bias-reducing procedures. It suggests the need for adopting procedures like this at the policy level rather than counting on individuals or their organizations to do so.

A different bias-limiting procedure that may induce resistance for these same reasons, and that therefore may also benefit from institutional or policy-level implementation, involves precommitting to decision criteria (e.g., Norton et al., 2004; Uhlmann & Cohen, 2005). For example, the human resources officer who precommits to judging job applicants more on the basis of industry experience versus educational background cannot then change that emphasis after seeing that their favorite candidate has unusually impressive academic credentials. This logic is incorporated, for example, into the system of allocating donor organs in the United States, which has explicit and predetermined criteria for making those allocations in order to avoid the possibility of bias in this high-stakes arena. When decision makers are instructed to provide objective criteria for their decision not before making that decision but rather when providing it—that is, the more typical request made of them—this not only makes bias more likely but also, because of the BBS, may even leave decision makers more confident in their objectivity than if they had not been asked to provide those criteria at all.

Future Directions

We have a couple of recommendations for how to build on recent advances involving the BBS in a societally beneficial way. First, research should move beyond identifying the BBS in real-world domains by emphasizing measures of meaningful consequences when it does emerge. Second, relying on individuals to overcome their BBS, and the biases it perpetuates, is unrealistic. Sometimes policies and practices are needed, such as those that limit practitioners' access to potentially biasing information. The BBS occurs because bias itself often operates unconsciously. Thankfully, as a society we need not let the unconscious nature of this process prevent us from being conscious of its costs and how to address them.

Recommended Reading

- Cheek, N. N., & Pronin, E. (2022). I'm right, you're biased: How we understand ourselves and others. In N. Ballantyne & D. Dunning (Eds.), *Reason, bias, and inquiry* (pp. 35–59). Oxford University Press. <https://doi.org/10.1093/oso/9780197636916.003.0003>. A recent overview of research on differences in how people see themselves versus others, including a review of research and theory on the bias blind spot.
- Hagá, S., Olson, K. R., & Garcia-Marques, L. (2018). (See References). Provides experimental investigations that document the emergence of the bias blind spot in childhood.
- MacLean, N., Neal, T. M. S., Morgan, R. D., & Murrie, D. C. (2019). (See References). Focuses on bias, blind spot, and the usefulness (and perceptions of usefulness) by forensics practitioners.
- Pronin, E., Lin, D. Y., & Ross, L. (2002). (See References). The initial empirical paper identifying and demonstrating a bias blind spot in surveys and experiments.

Transparency

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Supplemental Material

Additional supporting information can be found at <http://journals.sagepub.com/doi/suppl/10.1177/09637214231178745>

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