



## Our Biased Minds

Brian A. Nosek, LIFE faculty, Professor of Psychology, University of Virginia  
nosek@virginia.edu

Two revelations from the mind sciences are easy to understand about other people's minds, and difficult to accept about our own: (1) Much of mental life occurs outside of conscious awareness and conscious control, and (2) much of thinking is not objective or rational. Minds — yours and mine — use shortcuts, heuristics, inferences, stereotypes, and expectations to help comprehend what happened before and predict what will happen next. These strategies can be useful and effective on one occasion, and suboptimal or plain wrong on another. And, because of the limitations of conscious experience, we may not be able to tell the difference. Many of these mental operations are implicit — we may not even know that we are doing them.

An employer with a strong commitment to equity and diversity may nonetheless evaluate the same qualifications on a resume differently depending on the race of the applicant. Bertrand and Mullainathan (2004) found that resumes headed with stereotypically White names received 50% more call backs than the same resumes with stereotypically Black names.

Egalitarian medical professionals may recommend different courses of treatment for the same symptoms based on implicit assumptions about the patient. Green and colleagues (2007) found that doctors with greater implicit racial bias were less likely to recommend an appropriate treatment for coronary heart disease to Black patients than doctors with less implicit racial bias. In another study, mental health professionals with greater implicit bias against mental illness were more likely than those with less implicit bias to see patient pathology that was not there (Peris, Teachman, & Nosek, 2008).

Implicit thinking styles can even affect assessments of oneself. Girls who possess stronger implicit stereotypes about science being for men are less interested in math and science, and report less interest in pursuing math and science careers than those who possess weaker implicit stereotypes (Nosek & Smyth, 2008). Similarly, more than 70% of women and men possess implicit stereo-

types associating men with career and women with family (Nosek et al., 2007). Talented women may be self-selecting out of high-achievement careers, in part, because of implicit associations that create a diffuse sense of internal conflict. This might be self-interpreted as a lack of fit, a lack of belonging, or a lack of interest and not recognized as a stereotype that is inadvertently being applied to the self. As a consequence, high-performance business and education sectors may be losing access to substantial talent.

The legal system of the United States implicitly (and sometimes explicitly) uses a model of the mind that assumes people are rational actors, and in full control of their thinking and reasoning faculties. Potential jurors are asked if they can objectively review the facts and not be influenced by any biases as criteria for inclusion on the jury. When inadmissible testimony is presented, a judge may instruct the jury to forget the information and not let it influence their later judgment. Jurors may dutifully attempt to put the information aside, but the mind may not be so accommodating. In an experimental setting, the judgments of jurors who were instructed to put aside inadmissible information were much more like jurors who were allowed to use the information than ones who had never heard it at all (Kassin & Sommers, 1997).

Popular public policies can still fail easily if their implementation does not take into account the strengths and limitations of the mind. Too many choices are overwhelming and, instead of optimizing outcomes, often lead individuals to opt out of making a decision all together (Iyengar & Lepper, 2000; Iyengar et al., 2004). This knowledge could have been usefully applied to the rollout of a prescription benefit plan in the U.S. a few years ago that, with so many choices to assist seniors in creating the best, individualized plan, instead led to massive underenrollment until additional support features and simplifications were installed.

These twin notions — that we do not know our own minds, and that we are less objective or ra-

tional than we believe ourselves to be — have implications for all aspects of human behavior, including topics related to age and aging. Lindner, Nosek, and Graser (2009) had a heterogeneous sample review a mock job application and make a hiring recommendation. For half of the participants, the applicant was 54 years old; for the other half, he was 31. Following research by Uhlmann and Cohen (2007) and orthogonal to the age manipulation, half of the participants were asked beforehand whether they agreed or disagreed with statements such as “Are you objective?” The other half were asked nothing. When asked, essentially everyone agrees that they are objective decision-makers. Ironically, however, those that had just said that they were objective were significantly more likely than the controls to demonstrate age bias in the hiring decision. Stating “I am objective” before making the hiring decision led to a stronger age bias for the younger applicant. Why? Uhlmann and Cohen titled the phenomenon “I think it, therefore it is true.” Thinking of oneself as a rational, objective actor means that one’s thoughts and feelings have an objective basis. Therefore, when I am thinking of myself as objective, then I am much more likely to use whatever comes to mind (stereotypes or otherwise) because I am confident that there is a rational basis for my having such thoughts. People are not aware that they are doing this.

Another experimental condition in the Lindner study presented half of the participants with an equal employment opportunity statement prior to making the hiring decision reminding them that the law prohibits discrimination on the basis of age, gender, race, etc. Participants who were reminded of the law were more confident that they had avoided using the applicant’s age in decision-making compared to those that were not reminded. Their increased confidence was misplaced. The age bias effect was not attenuated by the presence of equal opportunity statements.

One consequence of not knowing our own minds is that effective “debiasing” interventions may not be able to depend on the intentions or goals of the actors to ensure their effectiveness. External structural changes to the decision making context, such as making reviewers blind to the candidate’s age, may be the only mechanism that

can guarantee that age biases will not impact judgment. Such interventions may be difficult or impossible to implement in many important decision-making contexts. The U.S. legal system, for example, considers the presence of the accused for the jury to be a very important feature for distributing justice. Such a stance takes a strong position on the preparedness of our minds to “put aside” features of the accused that should not play a role in deciding whether he or she is guilty or innocent or, even more dramatically (in those countries with the death penalty), whether the person should live or die (Eberhardt et al., 2006). Such a stance does not stand up to the weight of the evidence.

### Bibliography

- Bertrand, M., & Mullainathan, S. (2004). Are Emily and Brendan more employable than Lakisha and Jamal? *The American Economic Review*, *94*, 991–1013.
- Eberhardt, J. L., Davies, P. G., Purdie-Vaughns, V. J., & Johnson, S. L. (2006). Looking deathworthy: Perceived stereotypicality of Black defendants predicts capital-sentencing outcomes. *Psychological Science*, *17*, 383–386.
- Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., & Banaji, M. R. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *Journal of General Internal Medicine*, *22*, 1231–1238.
- Iyengar, S., Huberman, G., & Jiang, W. (2004). How much choice is too much? Contributions to 401(k) retirement plans. In O. S. Mitchell & S. Utkus (Eds.), *Pension design and structure: New lessons from behavioral finance* (pp. 83–95). Oxford: Oxford University Press.
- Iyengar, S. S., & Lepper, M. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, *79*, 995–1006.
- Kassin, S., & Sommers, S. (1997). Inadmissible testimony, instructions to disregard, and the jury: Substantive versus procedural considerations. *Personality and Social Psychology Bulletin*, *23*, 1046–1054.
- Lindner, N. M., Nosek, B. A., & Graser, A. (2009, February). *Age-based hiring discrimination as a function of equity norms and self-perceived objectivity*. Presented at the Annual Meeting of the Society for Personality and Social Psychology, Tampa, FL.
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., Smith, C. T., Olson, K. R., Chugh, D., Greenwald, A. G., & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, *18*, 36–88.
- Peris, T. S., Teachman, B. A., & Nosek, B. A. (2008). Implicit and explicit stigma of mental illness: Links to clinical care. *Journal of Nervous and Mental Disease*, *196*, 752–760.