

Implicit bias

We all have it. Implicit bias was the shorthand that allowed our distant ancestors to make split-second decisions (friend or foe?) based on incomplete information. It provided a razor-thin reaction-time advantage that could mean life or death. But today, we no longer need to assume that people who do not look or sound like us pose an immediate threat. Instead, successful organizations and people welcome those who do not necessarily look, think, and act like they do. They must overcome that implicit bias wired into the human DNA if they are to reap the benefits of diversity. To explore the extent of implicit bias in peer review, and what can be done to counter it, the American Association for the Advancement of Science (AAAS, the publisher of *Science*) recently convened a day-long forum of editors, publishers, funders, and experts on implicit bias in Washington, DC (see p. 1067).

From the journal perspective, there was some good news from a panel representing major journals. Scientific publishers such as the American Chemical Society (ACS) and the American Geophysical Union (AGU) find that female authors are published either at a rate proportional to that at which they submit to those journals, or at proportionally higher rates, as compared with their male colleagues. One expert on bias in peer review suggested that editors and program managers who make final decisions in single-blind review systems compensate for implicit bias to ensure an equitable outcome.

However, when panelists examined international representation in the journals, they noted that publication rates are not proportional to the rates at which papers are submitted from various nations. Even for the journal *Social Psychological and Personality Science* (SPPS), which conducts double-blind peer review (removing information regarding country of origin, institution, and authors before review), data show that blinding is no assurance that geographic discrepancies will disappear. There are several possible explanations for the continued

persistence of geographic disparities in acceptance rates, other than geographic variations in quality. For example, reviewers might infer the country of origin from other clues in the paper (such as field sites, special facilities, or use of English), even without names, institutions, and addresses.

Moreover, all journal representatives participating in the panel (ACS, AGU, *Nature*, *The New England Journal of Medicine*, and SPPS) agreed that the reviewer pool is dominantly male and from the Western Hemisphere as compared to the author base.

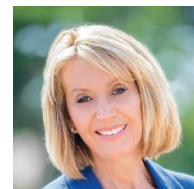
An interesting dichotomy arose among the journals regarding editorial staff. Journals staffed by professional full-time editors (*Nature* and *Science*) reported excellent gender balance, if not a tendency toward more female than male editors. The opposite situation exists for journals staffed by volunteer editors, likely driven by the greater demands on women's discretionary time.

One possible direction, suggested by the forum, to reduce implicit bias is for journals to broaden, diversify, and internationalize

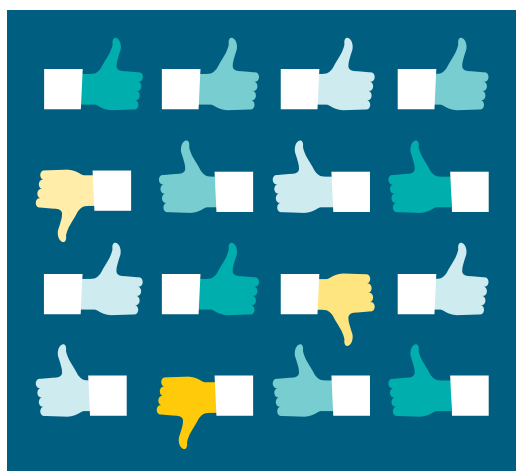
their pool of editors and reviewers. Even journals already conducting double-blind reviews could benefit from such actions. This would allow a more equitable distribution of the reviewing process across a discipline's scientific community. To meet the demand, journals will need to devise new means of identifying a more diverse pool of experienced reviewers, or train a new cohort in the journal's expectations for review quality and reviewer ethics. Reviewers who repeatedly provide useful advice could eventually serve on editorial boards.

Implicit bias is, by definition, subconscious, making it an easy issue for any individual to overlook or not even realize, and thus difficult to address. Some processes, such as double-blind review, attempt to overcome such prejudice, but blinding in all dimensions is a challenge. Building a peer evaluation system that is truly as diverse as the publication enterprise we desire would be a big step toward eliminating unfair bias that harms the scientific enterprise.

– Marcia McNutt



Marcia McNutt
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Science **352** (6289), 1035.
DOI: 10.1126/science.aag1695

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