Unconscious Bias in Medicine: A Canard

[In a 1999 article in the *New England Journal of Medicine*](https://www.nejm.org/doi/full/10.1056/NEJM199902253400806)*,* Schulman and colleagues reported a study in which 720 doctors viewed videotapes of black and white “patients”—actually actors—presenting identical histories and symptoms of chest pain. According to the authors, the doctors were 40% less likely to recommend appropriate treatment for women and blacks. At a time when a disturbing pattern of racially disparate treatment was being documented in the medical literature, the study seemed to identify the root cause of the pattern itself: not so much lack of access to the hospital as bias inside the hospital.

Also in the 1990’s, the theory of unconscious bias took shape in social psychology. A mode of racism for the postmodern age, unconscious bias is the prejudice that lives on in a mind that has repudiated traditional racism. Being unconscious, it dwells—and operates—quite outside the knowledge of the person who harbors it. Hence the observation by Schulman et al. that “Subconscious bias occurs when a patient’s membership in a target group automatically activates a cultural stereotype in the physician’s memory *regardless of the level of prejudice the physician has*” (emphasis added). Practicing medicine as if in a trance, the unconsciously biased doctor does not realize that he or she is being driven “automatically” to violate the very principle of equality. How strange that an article on cardiac care portrays doctors as servants of their unconscious minds, making clinical decisions for reasons entirely unknown to themselves, as if the *New England Journal of Medicine* had become a journal of psychoanalysis.

However, in a controversy that played out in the pages of the journal, it emerged that in the Schulman study white men, white women, and black men actually received appropriate treatment at the identical rate of 90%, while black women received it at a rate of 78%, for some reason. Who has ever heard of a bias, conscious or otherwise, against black women but not black men? It turns out that the difference in treatment rates was largely or totally spurious[. As the editors of the journal disclosed in a published note,](https://www.proquest.com/docview/223949220/fulltextPDF/7A4A7599EF814A7EPQ/15?accountid=14593) the Schulman findings “depended largely on the response to the 70-year-old black actress and, to a lesser extent, on the response to the 55-year-old black actress.” The editors concluded that in the study as printed, “the evidence of racism and sexism was overstated.”

However, the Schulman study continued to be cited in the disparities literature as a damning demonstration of the influence of racial bias over clinical decisions. Hence its position of importance in the literature’s cardinal document, the report by the Institute of Medicine, *Unequal Treatment* (2003), which has itself been cited over 10,000 times. *Unequal Treatment* leans on the Schulman study without ever mentioning that its evidentiary value was exploded by the editors of the journal in which it appeared.

If the literature at the time of *Unequal Treatment* could document patterns of disparity without being able to determine their cause, the theory of unconscious bias filled the gap, and the authors of *Unequal Treatment* strongly imply that such bias explains disparities of care as nothing else can. In principle, the evidence for unconscious bias is twofold: direct and indirect. Direct evidence of bias consists of racially skewed treatments; indirect evidence consists of subtle behavioral signals that alienate minority patients and thereby lead to poor compliance and, eventually, a poor outcome. In point of fact, the authors of *Unequal Treatment* have little evidence of either kind.

At many points in *Unequal Treatment* the authors misrepresent [an influential study by van Ryn and Burke](https://www.sciencedirect.com/science/article/abs/pii/S027795369900338X) as offering direct evidence that doctors’ beliefs about patients influence the quality of care. It does no such thing and explicitly acknowledges that it does not. Of the smattering of direct evidence available (including one study that does not concern medical doctors, another with a “very small sample size,” and a third whose findings await replication), the authors of *Unequal Treatment* attach most weight to the Schulman study. Considering that the actual evidentiary value of that study is close to zero, we can only conclude that *Unequal Treatment* produces, in total, little evidence of the influence of unconscious bias on clinical decisions—certainly not enough to justify the extraordinary claim that doctors practice medicine in a dissociated state, under the rule of their unconscious minds. To this day, evidence that clinical decisions are driven by unconscious bias remains conspicuously lacking.

The established means of detecting the existence of unconscious bias is something called the Implicit Association Test, an online exercise in which you pair white and black faces with positive and negative attributes; bias is indexed by differences in speed, on the theory that non-stereotypical associations (such as black with “good”) come less readily to the biased mind. Though the IAT was up and running by the time *Unequal Treatment* was published, it is not mentioned therein. In the years to come, however, the IAT would be incorporated into a line of investigations in an effort to show that clinical decisions correlate with test scores. A trial in which doctors both (a) treat identical black and white cases unequally and (b) show bias on the IAT would send a dramatic message.

So it was that in 2007 Green and colleagues reported [a study](https://link.springer.com/article/10.1007/s11606-007-0258-5) that found a correlation between IAT scores and racially differential recommendations of therapy for acute coronary syndrome. The authors triumphally describe the study as “the first evidence of unconscious (implicit) race bias among physicians, its dissociation from conscious (explicit) bias, and its predictive validity.” Whatever the predictive validity of unconscious bias, the study itself certainly did not predict others. To this day, the Green study remains the one and only source of direct evidence of unconscious bias in medicine (that is, evidence of clinical decisions made under the influence of such bias). Every attempt to replicate the correlation in question has failed, with negative trials reported in [2008](https://faculty.washington.edu/sabinja/Sabin2008.pdf), [2011](https://jamanetwork.com/journals/jama/article-abstract/1104296), [2014](https://www.jabfm.org/content/27/2/177.short), again in [2014](https://link.springer.com/article/10.1007/s11606-014-2795-z), and [2015](https://jamanetwork.com/journals/jamasurgery/article-abstract/2205904) (and predominantly negative results emerging in a reanalysis of the 2008 study in [2012](https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2011.300621)). Again and again, investigators found no correlation between clinical decisions and bias detected on the IAT, which is hardly what we would expect if unconscious bias worked as its expositors maintain. A racial animus that supposedly functions automatically, beyond the holder’s awareness and volition, has somehow failed to leave a mark on treatment decisions in one trial after another, with subjects in different specialties and with varying degrees of detected bias.

What makes this tale of a non-replicated correlation the more striking is that each of the founders of the IAT—Banaji, Greenwald and Nosek—is involved in it. Banaji took part in the Green study, Greenwald in the negative study in 2008 and its second run in 2012, and Nosek in a negative study of 2014. None of this history seems to have weakened the all but official doctrine that disparities of care reflect the unconscious bias of the practitioners of medicine.

What about indirect evidence of unconscious bias? According to theory, unconscious bias does not manifest itself only in clinical decisions; it also distorts body language, marks patterns of speech, and sends other subliminal signals that minority patients decode all too accurately. As the authors of *Unequal Treatment* put it, “Socially conditioned implicit prejudice may be manifested in healthcare providers’ nonverbal behaviors reflecting anxiety (e.g., increased rate of blinking), aversion (e.g., reduced eye contact) or avoidance (e.g., more closed postures) when interacting with minority rather than white patients.” In theory, such telltale behavior leads indirectly to the same bad outcomes as poor treatment per se, in that it breeds disaffection and noncompliance in the minority patients at whom it is aimed. It certainly seems like torturing the evidence to claim that an “increased rate of blinking” can have the same dire effect as poor cardiac care. Maybe if the direct evidence (that is, the evidence of biased decisions) were stronger, critics and reformers would not have to attach such fateful importance to behavioral minutiae.

In [a study by Oliver et al.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2594073/) published shortly before *Unequal Treatment,* doctors spent 1.1% less time answering questions from black than white patients and 2.4% less time chatting: differences interpreted by the authors as possible signs of racial bias. Paradoxically, studies like this argue that discrimination plays out in patterns so subtle that they reveal themselves only under mathematical analysis, but at the same time so salient that minority patients pick up on them without fail. Now that the literature seems to have abandoned the project of catching doctors in the act of prescribing unequal treatments, the emphasis has turned to such subliminal forms of discrimination.

Among the most highly cited studies of this kind is one by [Johnson et al.](https://ajph.aphapublications.org/doi/full/10.2105/AJPH.94.12.2084) in 2004 wherein the provision—not the denial—of medical information is said to make the doctor less “patient-centered.” Though the study purportedly finds black patients subjected to a disparate level of “verbal dominance,” it provides not a single example of a doctor cutting off, drowning out, belittling, hectoring, confusing, or simply ignoring a black patient in the course of 458 clinical encounters. “Verbal dominance” simply means that the doctor used more words than the black patient. While a doctor might well be unaware of his or her speech patterns (or blink rate, for that matter), the fact is that fully 48% of the black patients’ visits were with black doctors (compared with 36% with white and 14% with Asian doctors, respectively). Few would accuse these doctors of unconscious bias.

In all, the evidence for the influence of unconscious bias over clinical decisions is almost nonexistent, and the evidence that unconscious bias distorts the doctor’s language and body language (thereby leading in the end to poor outcomes) is tendentious and often absurd.

It is time to stand back and see the theory of unconscious bias in its true colors. Assuming for the sake of argument that doctors in the Schulman study actually withheld appropriate therapy from black women, how credible is it that they did so without even realizing that they were doing it? The theory of unconscious bias casts the biased doctor as a virtual sleepwalker making clinical decision at the behest of a motive that functions autonomously. (In the disparities literature, much is made of the principle that people under cognitive stress, like doctors, fall back on automatic patterns.) The most one can say of this portrayal of doctors as split personalities, acting out the contrary of their own principles, is that it makes for a compelling narrative.

It is on the strength of the paltry evidence for unconscious bias that crusaders now argue that doctors and medical students must undergo training to recognize the toxic prejudices lingering deep in their minds. The crusaders do not call this educational project thought-reform, but that is what it is.

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