Chapter 5

Implicit Bias in Judicial Decision Making

How It Affects Judgment and What Judges Can Do About It

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Chapter Highlights

- Empirical research indicates that—like jurors, lawyers, and other non-judges—judges possess implicit biases.
- Evidence of implicit bias in judges includes judges' scores on the Implicit Association Test, experimental results, and archival analysis of litigation outcomes.
- Research on judges shows that judges are good decision makers, but like most people, they tend to rely too heavily on their intuition.
- Implicit bias and o verreliance on emotion and intuition can lead judges to make predictable errors in judgment and can exacerbate the influence of ingroup preferences and implicit biases.
- Judges and others can take practical steps to reduce the risk that implicit biases might taint judges' decisions.

Introduction

Perhaps no more disturbing allegation can be leveled against a judge than that of bias. Impartiality undergirds the judicial role. Biases arising from the race or gender of a party are especially pernicious. The mere suspicion that a judge has acted on such bias inspires protest. Consider that over one million people have signed a petition calling for the removal of California judge Aaron Persky, after he sentenced a White Stanford undergraduate to six months for sexual assault yet also sentenced a Mexican immigrant to three years for a similar crime a few weeks later.[1] And consider the fierce reaction to then-candidate Donald Trump's charge that the judge assigned to a case involving one of his businesses could not be fair because the judge was of Mexican heritage.[2] We rightly expect our judges to produce decisions free of racial and gender bias and react strongly when we fear that they do not.

Virtually all contemporary judges embrace egalitarian norms, but suspicion that the legal system retains substantial biases persists. A majority of White Americans state that they believe the criminal justice system is fair, but most African-Americans disagree. A recent survey by the Pew Research Center, for example, shows that although only 43 percent of White

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Americans think that racial bias influences outcomes in court, 75 percent of African-Americans believe that "blacks are treated less fairly in the courts."[3] A 2015 survey by the National Center for State Courts concludes that "there is a massive racial gap on most measures [of trust in the courts], with African Americans much more distrustful of the courts and the broader justice system."[4]

Concerns about bias in the justice system have some justification. African-Americans comprise roughly 40 percent of the prison population in the United States, even though they constitute only 13 percent of the overall population.[5] To be sure, some of this disparity arises from other structural aspects of society, including disparities in poverty and access to educational opportunities. Careful studies of the criminal justice system that control for the background of offenders, however, still reveal pervasive racial disparities. African-American suspects are more likely to be arrested, more likely to be indicted when they are arrested, more likely to be convicted when they are indicted, and serve longer sentences on average than their White counterparts.[6] Studies of "departures" in the federal system (in which a judge deviates from the sentencing guidelines) show that downward departures are much more common for White defendants than for Black defendants—even for identical crimes.[7]

Results like these are a puzzle. In an era in which judges embrace egalitarian norms, why do we continue to observe large disparities in outcomes between Black and White parties in court? On rare occasions, judges do still make questionable statements that seem tinged with latent racism. Judge James Gosnell, the presiding judge in the case of accused mass murderer and White supremacist Dylann Roof, for example, once stated from the bench that he believed that the world contained "white people, black people, red necks and n---rs,"[8] prompting obvious concerns for his impartiality. Periodic utterances such as this (repugnant though they are) are now a rarity—and represent a far cry from the racist rhetoric and thinking that once pervaded our judicial system. We seriously doubt that many judges harbor the kind of open racial animus and bigotry that once plagued the courts and society at large. But if nearly all judges are color-blind egalitarians, then why do racial minorities still obtain less favorable outcomes in the courtroom?

Outside of the judicial context, evidence continues to mount that unconscious bias taints how people think about others.[9] Even people committed to egalitarian norms commonly harbor invidious unconscious associations. Most adults more easily associate African-Americans than Whites with violent imagery and more closely associate women with domestic, rather than career-oriented, imagery. These associations can influence how people think, even though they might not be aware of it. Most people believe that accepting a consciously race-neutral outlook is enough to eliminate the role race plays in decision making, but the research on implicit bias suggests that it is not. Consequently, most people have a blind spot in which unconscious associations can still influence their judgment.[10]

Does unconscious bias affect judges in the courtroom? And if so, what can be done about it? This chapter presents evidence that judges rely too heavily on cognitive processes that can allow bias to creep unwittingly into their decisions. It also discusses ways in which judges can reduce these influences.

I. Does Unconscious Bias Influence Judges?

In this section, we present evidence that hidden factors can influence how judges think. We explain the role that intuitive cognitive processes play in judicial decision making and show how the same processes can (and do) produce undesirable influences on judicial decision making.

A. Unconscious Influences on Judgment: Intuitive Reactions Can Trump Careful Deliberation

Identifying how unconscious biases can influence the judgment of well-meaning judges requires taking a step back and assessing how human judgment functions more generally. An increasing body of research indicates that people have two distinctive styles of decision making: intuitive and deliberative.[11] Intuitive decision making consists of relying on one's first instinct. Intuition is emotional. It relies on close associations and rapid, shallow cognitive processing. Intuitively, if a choice sounds right and feels right, then it is the right choice. Psychologists sometimes refer to this style of decision making as System 1 reasoning. System 1 produces rapid, effortless, confident judgments and operates outside conscious awareness. When we go with our gut, we decide quickly and feel that we are right.

But human beings did not develop advanced civilizations with System 1. Human beings, of course, have an enormous capacity for higher-order deliberative reasoning. Mathematics, deductive logic, and analogical reasoning require much more than simple intuition. Psychologists sometimes refer to higher-order reasoning as System 2. System 2 is slower and conscious. It requires effort, and if we are distracted, rushed, or tired, we use System 2 less. Oddly, when the two conflict, people have less faith in System 2 than in System 1.[12] But System 2 is where logic—and hence most legal reasoning—lies.

The concept that we make decisions with intuition or with deliberation is an imperfect fiction, of course. First impressions sometimes guide deliberation—so System 1 can bleed over into System 2. Also, some cognitive processes start out requiring System 2 reasoning but can become System 1 processes over time. Mathematics works this way in grade-school children. At first, 3 + 5 requires effort (sometimes fingers). But most adults process 3 + 5 as 8 with no effort; with repetition, it has become intuitive. But for all except mathematical savants, 137 + 285 requires effort. The conversion of assessments that once required System 2 into System 1 underlies many kinds of expertise.

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Some mental processes are also hard to classify as System 1 or System 2. And neuroscientists can identify dozens of different neurological structures that are engaged (or not) in various reasoning tasks. But on the whole, the distinction between quick, intuitive reactions and slow, deliberative reasoning has been a useful construct for understanding human reasoning—and it can help explain much of the problem of unconscious race and gender bias.

System 1 seems like the chief source of unwanted influences on judging. The temptation is to think that suppressing or ignoring System 1 would produce egalitarian assessments. We cannot truly suppress System 1, however. Doing so would be unwise, even if it were possible. Intuition is the engine that drives judgment in many circumstances. Consider the research on people who have poorly developed affective systems.[13] One might think they are excellent decision makers, since they are free from irrational emotional reactions. In fact, they are terrible decision makers. System 1 is an unavoidable and essential part of human judgment. It is actually crucial in emergencies and facilitates good judgment in many settings.[14] But it can be a source of error.

Consider the following problem:[15]

> A bat and a ball together cost $1.10. The bat cost $1.00 more than the ball. How much does the ball cost?

The combination of seeing the $1.10 and the $1.00 triggers the intuitive response of 10 cents in most people. But if the ball costs 10 cents, then the bat would cost $1.10, and together they would sum to $1.20—which is not right. The correct answer is five cents. If the ball costs five cents, then the bat costs a dollar more, or $1.05, and together they sum to $1.10. Calculating the correct answer is not difficult, but most well-educated adults get it wrong. Ironically, altering the problem to make it more difficult produces more correct answers. For example, consider this variation:

> A banana and a bagel together cost 37 cents. The bagel costs 13 cents more than the banana. How much does the banana cost?

Although the math is more complicated, more people get this problem correct (12 cents). Intuition suggests no obvious answer, and so only some math will solve the problem. In the case of the bat and the ball, however, 10 cents simply seems like the right answer.

The bat-and-ball problem creates a powerful illusion of judgment and shows how System 1 can create a blind spot that makes decision makers vulnerable to error. System 1 produces an excess of confidence, which can be seen in how people react to the problem. People who get the problem wrong by choosing the intuitive answer think the problem is easier than those who get it right. Also, offering a reward for getting the correct answer does not improve accuracy;

people paid to be correct feel more strongly that they must go with their gut. So powerful is the intuition that a majority of undergraduates still choose 10 cents as the answer even after the following statement is added underneath the problem: "Hint, it's not 10 cents."[16] Confidence in the intuitive answer overshadows the barest hint that another answer is even possible, creating the intuitive blind spot.

But much of this research relies on undergraduates as subjects. What about professionals such as judges? Some types of professionals—notably engineers—learn that they should distrust their intuition and perform the calculations. Judges must constantly disentangle competing arguments to see which logical structure best fits a set of legal rules and precedent. All of this is System 2 work. Maybe by proclivity or through experience, judges, like engineers, simply know they need to do the math.

Not so. Studies of judges indicate that they are not, by nature, System 2 thinkers—at least on problems of this sort.[17] For example, judges, like most adults, get questions like the bat-and-ball question wrong. In one study, Florida trial judges answered the bat-and-ball question, along with two similar questions (which together comprise the Cognitive Reflection Test, or CRT), and answered an average of only 1.23 (out of three) questions correctly.[18] In another study, a group of administrative law judges did a little better, getting 1.33 correct, but still got most wrong. Thousands of judges have now taken the CRT with similar results. Judges follow their intuition, even though it is wrong. Intuition creates a blind spot on the CRT questions.

Insight can be domain specific, however. Perhaps judges find it easier to set aside their intuitive reactions in judicial settings. Dozens of studies on precisely this subject have been conducted. As we discuss below, although judges sometimes avoid common errors that intuition can produce, judges more frequently rely on misleading intuitive reactions, even when doing so leads to erroneous or otherwise indefensible judgments.[19]

B. *Intuition in Judicial Settings: The Example of Anchoring*

In assessing whether judges rely on misleading intuitions in legal settings, research has focused on intuitive processes that psychologists have found to be common sources of mistaken judgments. One such process that we believe influences judges is "anchoring." Anchoring refers to an excessive reliance on numeric reference points when making numeric judgments.[20] Numeric reference points (or "anchors") create a powerful intuition that the correct answer lies somewhere near the starting point. In many circumstances, this is a helpful intuition. When you are determining how much you will pay for a new car, for example, the sticker price provides a useful anchor. Car buyers generally negotiate down from that initial number, but buyers know that they will not pay $10,000 for a car with a sticker price of $36,998. Numeric reference points

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are generally useful, which is why most decision makers, including judges, rely on them.

The problem with anchors is that they create powerful intuitions even when they are meaningless. In one study, researchers asked undergraduates to write down the last three digits of their phone number, add 400 to that result, and then assess first whether Attila the Hun was born before or after that year and then when Attila the Hun was actually born.[21] The students obviously knew that Attila the Hun has nothing to do with their phone numbers, but their estimates of Attila's birth year correlated with their phone numbers nonetheless. In a similar demonstration, business school students actually altered their bids on bottles of fine wine when asked to first assess whether their reservation prices were greater or less than the last two digits of their Social Security number.[22] In the actual auction, the wine almost invariably sold to those who had a Social Security number with an 8 or a 9 as the penultimate digit.

Anchors also affect judges. A series of studies have shown that numeric anchors influence how judges determine appropriate damage awards, criminal sentences, and fines.[23] In one such study, for example, a group of administrative law judges were asked to determine an appropriate damage award for a civil rights complaint filed by a secretary.[24] The secretary had been fired for complaining about a new supervisor who had ridiculed her ancestry at work (she was described as Mexican-American). Although the facts make out an easy case for recovery, the secretary secured a position in another company immediately after being fired, so her damages were limited to "mental anguish" over the firing. The materials described the anguish in some detail and requested a damage award. For half of the judges, the materials also stated that the plaintiff testified that "she recently saw a case similar to hers on a 'court television show' where the plaintiff received a compensatory damage award for mental anguish." The other half of the judges received the same testimony, except that the plaintiff also stated the amount of the award she had seen on television—namely $415,300. Without this number present, the median award to the plaintiff was $6,250; with the number present, it was $50,000. The reference to $415,300 had a huge effect on how the judges thought about the case.

In this study, the judges were certainly aware that the plaintiff's reference to $415,300 was irrelevant. In a separate session, a group of appellate judges were asked whether the testimony (containing the number) was admissible. All agreed it was not. Nearly all of them (87 percent) also stated admitting this testimony in a bench trial would have been a "harmless error." The anchor clearly created a blind spot for the judges. They believed the number to be harmless when in fact it increased the median award dramatically.

In many other settings, research shows that irrelevant anchors influence how judges assess cases. These include statutory damage caps that vastly exceed the expected award, the jurisdictional minimum in federal court (even in a case that obviously exceeded the minimum), prior criminal sentences in unrelated

cases, and extreme (and inadmissible) settlement offers.[25] In one study, judges imposed a higher fine on a nightclub for a noise ordinance violation when the club was identified as "Club 11,866" (after its street address) than when it was identified as "Club 58." Judges also imposed a shorter sentence on a criminal defendant when asked to do so in months as opposed to years; in that study, a nine-year sentence seemed appropriate to the judges sentencing in years, but 63 months seemed appropriate to the judges sentencing in months. Research also shows that judges sitting in actual cases rely on misleading recommendations in imposing sentences and that altering the scale (in this instance from months to days) influences sentences.[26]

C. Instructing Judges to Ignore Intuition: The Example of Inadmissible Evidence

Beyond numeric estimates, judges face many sources of potentially misleading intuition when deciding cases. Chief among these might be the influence of inadmissible evidence. All factfinders—judge or jury—must found their decisions on the record and only on the record. Inadmissible evidence must be set aside and cannot be the basis for a legitimate decision.

Setting aside what we know is extremely difficult. Ignoring known information is not something the human brain is designed to accomplish. "Man's great misfortune is that he has no organ, no kind of eyelid or brake, to mask or block a thought, or all thought, when he wants to."[27] Part of what makes intuition a powerful force is that the brain quickly absorbs new information and updates our beliefs. Indeed, when people try to ignore known information, they actually pay more attention to it.[28] Efforts to disregard inadmissible evidence in legal settings are no different. Dozens of mock jury studies show that no reliable mechanism exists to expunge the inadmissible evidence from jurors' minds.[29] Some studies find that jurors pay more attention to evidence they are instructed to disregard; others show that jurors sometimes ignore inadmissible evidence; and still others show that they can overreact to instructions to ignore. The best option is to ensure that jurors never hear the inadmissible evidence in the first place.

Judges, however, cannot shield themselves from inadmissible evidence. They are both the gatekeepers of evidence and the decision makers. Debate persists as to whether judges are any different than jurors. Some scholars have argued that "[n]ature does not furnish a jurist's brain with thought-tight compartments to suit the convenience of legal theory, and convincing evidence does leave its mark."[30] Others contend that "[i]t is realistic to suppose that judges can do better than juries in relying on what is admissible and ignoring what is not."[31] We believe that although judges understand better than jurors why some evidence must be excluded, they are unlikely to have developed any meaningful ability to compartmentalize it. Relevant but inadmissible evidence can create an

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intuitive sense of how a case should be resolved, and that intuitive sense likely influences how judges decide.

In a series of studies that compared decisions in hypothetical cases made by judges who were exposed to inadmissible information and by those who were not, judges found it difficult to ignore inadmissible information.[32] In most of these studies, judges first determined whether the information was admissible and then had to ignore it if they suppressed it. If judges can ignore inadmissible information, then those judges who suppressed the inadmissible evidence should have made roughly the same decisions as those judges who never saw the inadmissible evidence. With a notable exception, however, judges were unable to ignore the inadmissible evidence.

As one example of the difficulties that judges had ignoring inadmissible evidence, a group of trial judges in Arizona were asked to assess a criminal case involving sexual assault.[33] They were presented with a case in which a college co-ed accused a fellow student of sexual assault during a fraternity party. The complainant admitted to having intercourse with the defendant but denied that she had given consent. The facts indicated that the complainant immediately contacted police after the incident and had bruising consistent with a sexual assault. For half of the judges, the materials stated that the defendant had attempted to introduce testimony concerning the complainant's sexual history. The testimony consisted of the complainant's roommate's assertions that the complainant "liked to loosen her inhibitions with a few beers too many and have rough sex with the first guy she saw." Such testimony is inadmissible under Arizona's rape-shield statute,[34] and most of the judges ruled the testimony inadmissible. Even though they suppressed the evidence, the conviction rate plummeted from 49 percent among the judges who did not see this testimony to 20 percent among judges who saw the testimony and suppressed it. The conviction rates of those judges who suppressed the testimony and those who admitted it (8 percent) were similar. In effect, it made no difference whether the judges who read the inadmissible evidence excluded or admitted it; regardless of their rulings, they relied on it.

Other studies have found a similar inability to disregard inadmissible evidence in other contexts. Judges could not ignore; a discussion protected by attorney-client privilege in a civil case; the past criminal conviction of a civil defendant; discussions that occurred during a settlement conference; and statements made by a criminal defendant that a prosecutor had agreed not to use as part of a plea agreement.[35] Although these studies uncovered some evidence that judges were able to ignore criminal confessions, subsequent research revealed that judges actually did pay attention to criminal confessions but suppressed their influence so as to penalize the police who had violated the constitutional rights of criminal suspects.[36]

The one area in which judges clearly ignored inadmissible evidence was in making probable cause determinations. In a series of studies, judges assessing

whether to grant warrants in hypothetical cases made roughly the same assessments as judges who had to determine whether a search conducted pursuant to an exception to the warrant requirement was supported by the requisite probable cause.[37] The latter determination required a judge to ignore the fact that the search turned up incriminating evidence. Surprisingly, most judges were able to do this. We believe that in this intricate area of law judges focus on the relevant precedent, which requires them to engage in a deliberative analysis that nudges judges to look beyond their intuitive reactions.

On the whole, however, knowing too much is a problem for judges. They cannot really mentally sequester the inadmissible evidence. In the sexual assault case we studied, learning that the complainant had engaged in consensual conduct similar to that which formed the basis of her complaint undermined the judges' assessments of her credibility. Judges were unable to factor it out of their calculus. In most of our examples, the bulk of the evidence supported one conclusion, but the inadmissible evidence made it seem that the bulk of the evidence was simply wrong. This intuition then tainted how the judges ultimately viewed the materials.

D. Emotional Decision Making in Judges

The intuitive reactions to anchors and inadmissible evidence are both understandable and maybe defensible. Numeric anchors are usually informative, so asking judges to disregard them is a tall order. In some cases, judges can defend a reliance on an anchor as a sensible approach. The research on anchoring thus shows that judges find it difficult to identify when their intuition is misleading them (just as we found with the cognitive reflection test). The research on ignoring inadmissible evidence goes a little further. These results suggest that judges find it difficult to confine their decisions to the facts in the record. Their reliance on the inadmissible evidence shows that judges cannot easily avoid relying on their extraneous knowledge and beliefs. This concern led us to hypothesize that judges might also have emotional reactions to cases (or litigants) that could shape or guide their legal judgments.

Judges usually deny that emotion influences their decisions. In her confirmation hearings, for example, Justice Sotomayor stated, "[I]t's not the heart that compels conclusions in cases, it's the law."[38] Her statement reflected an effort to distance herself from some of her own earlier statements as well as from President Obama's assertions that he wanted to appoint empathetic judges. Justice Kagan similarly navigated the same waters when asked if she agreed that "law is only 25 miles of the marathon and emotion is the last mile"; she rejected the assertion outright by claiming, "it is law all the way down."[39] Judges seem to understand that our society wants them to reject emotion as a source of guidance.[40]

We doubt that emotional influences vanish when judges put on their robes. Emotion is a powerful source of intuition, and its influence on decision making

is robust and even useful.[41] People react negatively to horrific criminal acts, and disgust should perhaps guide sentencing. Defendants who have behaved horribly in the past might sensibly be thought to lack credibility. Attending to emotional cues is thus potentially desirable, and it might be impossible to avoid doing so in any event. Justice Robert Jackson, in fact, likened dispassionate judges to "Uncle Sam, Santa Clause, the Easter Bunny, and other fictional characters."[42]

> We are skeptical that emotional influences vanish when judges put on their robes. Emotion is a powerful source of intuition, and its influence on decision making is broad and robust. Like most intuitions, emotion often provides useful guidance.

Emotional reactions can have an undesirable influence on judges, however. Invidious reactions based on race and gender commonly manifest as emotional reactions that are hard to ignore. Emotional reactions to people can also be erratic and might possess little or no relevance to case outcomes. For example, Dan Simon and his coauthors showed that emotions can influence how lay people view the development of a legal theory, even when the emotion is transparently irrelevant to the legal issue.[43] In their study, they varied the social desirability of a litigant making a novel legal argument. Their variation not only influenced how their subjects reacted to the litigant, but also influenced how they viewed that litigant's argument in a subsequent case involving unrelated parties. The emotional reaction to the initial litigant tainted people's reaction to a more general legal issue. If spillovers like this are common, then the concerns first raised by Jeremy Bentham that the path of the law can follow a chaotic course dictated by the characteristics of an early case might be valid.[44]

Research has shown that irrelevant emotions influence judges.[45] In one study, judges were asked to evaluate a (hypothetical) statute meant to shield the use of medical marijuana from prosecution.[46] The statute provided that a defendant may not be prosecuted for marijuana possession if "a physician has stated in an affidavit or otherwise under oath" that the defendant has a medical need for marijuana. The materials described a defendant who did not have such an affidavit at the time of his arrest but obtained one afterward and then moved to dismiss the prosecution. Ruling on the motion required the judges to determine if the phrase "has stated" can include a post-arrest affidavit. This determination is an exercise of statutory construction that does not depend on characteristics of the defendant making the motion. The defendant's characteristics mattered enormously, however. Judges were far less inclined to rule favorably for a defendant described as a 19-year-old taking the drug to combat seizures than for a defendant described as a 55-year-old who was dying of bone cancer. One can understand being more sympathetic to the 55-year-old, but the materials requested a ruling on the meaning of a statute of general applicability, which should not depend on the characteristics of any individual defendant. Judges were nevertheless unable to put aside their sympathies to make an abstract judgment.

In other research, sympathetic litigants induced judges to make more favorable rulings in a range of cases.[47] Judges were more inclined to bend the law to favor an undocumented immigrant who had entered the United States to earn money for a sick daughter than one who was tracking down a rogue member of a drug cartel. They were more likely to rule a city jail's blanket strip-search policy was per se unconstitutional when the lead plaintiff was a co-ed protestor than a male armed robber. Bankruptcy judges treated a debtor who ran up debt to help an ailing parent more favorably than one who ran up debt to go on vacation, even though the relevant law does not authorize disparate treatment based on the source of the debt. Judges were more inclined to declare a search of an employee's locker constitutionally acceptable when the search uncovered a large quantity of heroin than when it uncovered only two marijuana cigarettes. Notwithstanding Justice Kagan's assertions, emotion seems to be some portion of the marathon.

E. Judicial Intuition Favoring Ingroups

Because invidious influences often arise as emotional reactions, the influence that emotion has on judges has the potential to undermine judges' egalitarian commitments. Research suggests that judges do not easily set aside their intuitions, even when their intuitions are misleading and even when doing so is essential to being impartial. Judges are highly motivated to set aside "invidious" preconceptions and prejudices, however, so they might avoid some of the common prejudices that social scientists find to be widespread in ordinary adults.

The tendency to favor ingroups is perhaps one of the most widespread findings in social science. As William Graham Sumner put it over a century ago,

> [Ethnocentrism is] the view of things in which one's own group is the center of everything and all others are scaled and rated with reference to it. . . . Each group nourishes its own pride and vanity, boasts itself superior, exalts its own divinities, and looks with contempt on outsiders.[48]

A seemingly endless set of studies indicate that even the most minimal, most meaningless distinctions between people facilitate ingroup favoritism.[49] Classic social psychology experiments in which researchers divided children in obviously random ways produced enormous discrimination between the groups.[50]

Research suggests that judges do not easily set aside their intuitions, even when that intuition is misleading and even when doing so is essential to being impartial. But judges are so highly motivated to set aside "invidious" preconceptions and prejudices that maybe they manage to avoid some of the common prejudices that social scientists find to be widespread in ordinary adults.

Geographic favoritism among sports fans is also notoriously potent but largely harmless.

Geographic favoritism in the judicial process, however, is hardly benign. Diversity jurisdiction owes its existence to the concern that litigants cannot get equal justice when pursuing or defending claims outside of their home states.[51] Although one might think that such parochialism has faded since the founding of the Republic, lawyers still believe it persists.[52] But do judges also express home-team favoritism in litigation? Consider the following quote from the former chief justice of the West Virginia Supreme Court, Justice Richard Neely:

> [A]s long as I am allowed to redistribute wealth from out-of-state companies to injured in-state plaintiffs, I shall continue to do so. Not only is my sleep enhanced when I give someone else's money away, but so is my job security, because the in-state plaintiffs, their families, and their friends will re-elect me.[53]

Most judges would reject such an overt bias—just as they would overtly reject other invidious biases. But the role that we have found that intuition and emotion play in judicial decision making suggests that ingroup bias might still influence their judgment, even if they reject the overt bias Judge Neely expresses.

In a test for this influence in judges, over 100 Minnesota judges were asked to assess a hypothetical case involving a business that began dumping hazardous chemicals in a nearby lake on private land so as to avoid the cost of proper disposal.[54] This activity injured the landowner after he went swimming in the lake just after the business owner dumped some dangerous chemicals. The materials indicated that the parties had settled on an amount for compensatory damages, but the injured plaintiff was seeking punitive damages. The materials asked the judges whether they would award punitive damages (most did) and if so, how much. For half of the judges, the materials indicated that both the plaintiff and defendant were in-state residents. For the other half, the plaintiff was a Minnesotan, but the defendant was from Wisconsin. The judges expressed a large in-state bias. The median award against the Minnesota defendant was $1,000,000, but the median award against the Wisconsin defendant was $1,750,000. We found similar, albeit smaller, effects in New Jersey (with Pennsylvania as the foreign jurisdiction) and Ohio (with Michigan as the foreign jurisdiction). The results are similar to those of an archival study of judicial decisions in tort cases.[55]

F. Implicit Racial Bias in Judges

Ingroup, racial, and gender biases can arise from similar processes to those that produced the results we report above. Many social psychologists even assert that racial bias is simply one form of ingroup bias. Just as judges reject the idea

that they should redistribute wealth in the way Judge Neely suggests, judges also reject the influence of race and gender. But explicit rejection of ingroup bias was not enough to insulate judges from its influence.

One recent study, in fact, shows an interesting ingroup effect on federal appellate judges that interacts in an odd way with gender biases. Researchers found that decisions federal appellate judges made in cases involving gender discrimination claims changed after judges fathered a daughter.[56] Male judges became more solicitous of female claims of gender discrimination after they had daughters. Judges who had sons did not show such an effect. Most of the effect occurred among Republican appointees, who were generally less favorably disposed toward gender discrimination claims than Democratic appointees. Another study also found results suggesting ingroup favoritism. It concluded that "White judges are far more likely to dispose of any employment discrimination case at the summary judgment phase than are minority judges."[57]

Research on implicit bias shows that people who embrace egalitarian norms nevertheless harbor invidious implicit associations. Most White adults more easily associate African-Americans with negative imagery and White Americans with positive imagery.[58] And most adults, male and female, more easily associate women with domestic concepts and men with career concepts. What is more, these associations can influence judgment. Several studies identify settings in which divergent treatment of African-Americans in particular occurs largely among individuals who have strong negative implicit associations with African-Americans.[59] That said, people who are highly motivated to avoid making prejudiced judgments can avoid some of these influences. Judges, who take oaths to avoid racial prejudice in decision making, are surely so motivated. But do they avoid reliance on implicit biases in judgment?

The research on invidious implicit biases in judges paints a complex portrait.[60] Judges harbor the same measure of implicit biases concerning African-Americans as most lay adults. In our study, we used the most widely studied measure of implicit biases—the Implicit Association Test (IAT).[61] The IAT measures how quickly people can sort categories, such as White and Black faces and positive and negative words. The IAT pairs categories together in a computer task, so that the research participant must evaluate whether a word or face appearing in the center of a computer screen is either a White or Black face, or a positive or negative word. At the outset of the task, the participant typically presses a designated key on the left-hand side of the keyboard (the "E" key) if the target stimuli is either a White face or a positive word, and presses a key on the right-hand side of the keyboard (the "I" key) if the target is either a Black face or a negative word. The computer times each response, down to the millisecond. After a few rounds, the computer switches the pairings, so that the subject must press the "E" key if the target is a White face or a negative word and the "I" key if the target is a Black face or a positive word. (Sometimes the order of the tasks is reversed, and several practice rounds are given but not scored, so as to reduce order effects.) Most White adults find the White-positive/

Black-negative pairing easier to sort than the White-negative/Black-positive pairing. Faster progress on the sorting task suggests that people associate the concepts easily. When most White adults assess the White-positive/Black-negative pairing, they are effectively making only one judgment (good or bad). The opposite pairing thus requires two judgments for most White adults (face or name and then on which side does it belong) and hence slows response rates.

The results show that judges resemble most adults on the IAT.[62] That is, 85 percent of the White judges sorted the White-positive/Black-negative pairing faster than the opposite pairing. On average, the judges performed roughly one-fifth of a second slower on the White-negative/Black-positive pairing. These results are similar to those found in the general population. African-American judges were more split. Only 45 percent of the African-American judges performed faster on the White-positive/Black-negative pairing. Overall, they showed great variation and no distinct tendency. This is also similar to results found in the general population. Therefore, judges express the same pattern of implicit biases as lay adults.

This same study also tested whether these implicit biases influenced judges' judgment. The same judges who took the IAT also took two tests of whether they would act on their biases, one in which the materials explicitly identified the race of the parties and one in which the materials manipulated race implicitly. In the explicit identification experiment, the materials asked the judges to decide a criminal case.[63] The case involved a fight in a high school basketball locker room. One student pushed another hard into a bank of lockers, sending the victim to the emergency room. The perpetrator was then charged with battery and claimed that he felt threatened in an effort to substantiate a self-defense claim. The materials asked the judges to assume the case was a bench trial and determine whether the defendant was guilty or not guilty by reason of self-defense. For half of the judges, the materials identified the defendant as African-American, and for the other half, the materials identified the defendant as Caucasian-American. The materials also identified the victim as the opposite race. Using the same materials, Sommers and Ellsworth found that White lay adults were more likely to convict the Black defendant than the White defendant (90 percent to 70 percent).[64] White judges, however, expressed no difference—roughly 80 percent convicted regardless of race.[65]

More critical to understanding the role of implicit bias, we found that the judges' individual results on the IAT did not predict how they reacted to the materials. If implicit biases constitute an important influence on judgment, we would have expected those judges with strong White-positive and Black-negative associations to treat the Black and White defendants differently. Other researchers have uncovered this pattern of results in medical doctors and human resources managers.[66] In the study discussed above, judges expressed no such tendencies. Even though they harbored strong negative associations with African-Americans, these associations had no effect on their judgment.

In contrast to the explicit racial identification experiment, a second experiment also manipulated the race of litigants in a subtle way.[67] The materials asked the judges to assign one of seven dispositions to two juvenile cases: a shoplifter and an armed robber. The disposition options ranged from dismissal, probation, detention in a juvenile facility, or transfer to an adult court. Before reading each case, we asked the judges to engage in an odd-looking computer task. The task consisted of identifying in which quadrant of the computer screen a string of 16 letters appeared. In reality, the string of letters masked words that appeared for about one-sixth of a second, making it impossible to detect consciously. For half of the judges, the words were closely associated with African-Americans (jerricurl, Harlem, Oprah), and for the other half, the words had no distinct racial content. In effect, we were priming half of the judges to think unconsciously about African-Americans right before we asked them to assign a disposition to the juvenile defendants. In a previous version of this study, police officers given this task recommended more severe sentences after being primed with the African-American words.[68] Manipulating race in an implicit way, we supposed, might more closely track a situation in which judges are not thinking about the race of the litigant.

> More critical to understanding the role of implicit bias, we found that the judges' individual results on the IAT did not predict how they reacted to the materials. If implicit biases constitute an important influence on judgment, we would have expected that those judges who held strong White-positive and Black-negative influences to treat the Black and White defendants differently. Other researchers have uncovered this pattern of results in medical doctors and human resources managers.

The results were troubling. Overall, the judges did not treat the defendants differently. The average disposition for the shoplifter divided between an adjournment in contemplation of dismissal and six months on probation, and for the armed robber it was between a lengthy probation and confinement in a juvenile facility for six months. Race did influence judges, however. Those judges who harbored strong White-positive/Black-negative associations on the IAT assigned more severe dispositions to the juvenile after being primed with African-American words than when primed with race-neutral words. In turn, judges who harbored White-negative/Black-positive associations on the IAT treated the juvenile less harshly after being primed with African-American words. The differences were small but noteworthy. For the shoplifter, the priming effect tended to shift the disposition from an adjournment to probation, and for the armed robber it often meant the difference between probation and detention.

What do the results mean? Although the pattern of results is intricate, we take a clear message from it. When the materials explicitly identified the defendants' race, judges were on guard. In effect, the explicit references to race triggered their System 2 thinking. They focused on the elements of self-defense and

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worked out whether it was an appropriate defense in the case presented—very much a System 2 process. When the materials did not explicitly identify the defendant's race but merely suggested it unconsciously, implicit associations influenced the judges. The lesson is fairly straightforward—thinking about race explicitly is a better approach than trying to ignore it. Judges are highly sensitive to charges of racism and will try to avoid it. But they still harbor the kinds of invidious associations that can influence their judgment if they are not making conscious efforts to avoid that distortion. Racial influences thus operate much like the influence of emotion and other intuitive processes in judges.

> Racial influences operate much like the influence of emotion and other intuitive processes in judges. Unchecked, they can influence judgment, but an effort to engage System 2 thinking can reduce or eliminate the undesirable intuitive influences.

To be sure, this only reflects one study of judges, and one that involves a hypothetical setting. Other studies, including several using actual courtroom outcomes, support our conclusions. Using similar methods, Levinson and Bennett,[69] for example, have found that federal judges harbor invidious biases concerning Jewish, Christian, and Asian litigants. They also did not find conclusive evidence that these influences altered the judges' decision making when the race of the litigants was explicitly identified, although implicit biases influenced the judges' perceptions of the litigants.

Studies of behavior in the courtroom show that judges treat White and Black litigants differently in bail hearings,[70] exhibit modest racial disparities in criminal sentences favoring defendants of their own race,[71] impose harsher sentences on dark-skinned defendants,[72] and are more likely to deviate favorably from sentencing guidelines for White than for Black defendants.[73] The size of the effects observed in these studies cannot account for the sizeable racial disparities in the criminal justice system as a whole but support the idea that in some circumstances, implicit biases influence judges.

Although few studies of gender bias in judges exist, some studies suggest that invidious associations influence how judges assess male and female litigants. As-yet unpublished studies we have conducted showed that judges award more in compensatory damages for lost wages for a deceased male than a deceased female in a wrongful death hypothetical, treat male and female parents differently in divorce cases, and impose shorter sentences on female than male defendants convicted of identical crimes (and with identical backgrounds). Studies of actual sentences in drug cases dovetail with the latter finding.[74] Women convicted of drug offenses in federal court appear to draw shorter sentences than their male counterparts do, even when researchers control for background characteristics of the litigants.[75] As with race, widely held implicit associations that women are better caretakers, less deserving of punishment, and less career-minded seem to influence judges.

In sum, research on judges supports a few key points. First, judges are good decision makers, but like most adults, they tend to rely too heavily on their intuition. Second, this over-reliance can lead them to make predictable errors in judgment that can arise from simple mental shortcuts such as anchoring. Third, an excessive reliance on intuition opens the door for emotional reactions in judges that can influence how judges decide cases. Fourth, these emotional reactions facilitate the influence of more pernicious influences, such as ingroup preferences and invidious biases. Finally, it is clear that more careful System 2 thinking can (and often does) lead judges to avoid unwanted reliance on intuitive cognitive processes. In the next section, we discuss ways judges can facilitate a more deliberative approach that would avoid unwanted influences on their judgment.

In sum, research on judges supports a couple of key points. First, judges are good decision makers, but like most adults, they tend to rely too heavily on their intuition. Second, this over-reliance can lead them to make predictable errors in judgment that can arise from simple mental shortcuts such as anchoring.

II. What Can Judges Do to Avoid Unconscious Bias?

Eliminating—or even merely mitigating—the undesirable influence of over-reliance on intuition is not easy. There is no "smart pill" that judges can take or failsafe protocol that judges can follow to inoculate themselves against implicit biases. Implicit bias is present even in children,[76] and the sources of implicit bias accumulate over a lifetime. It would be unrealistic to expect that implicit bias could be erased overnight.

Before discussing possible countermeasures, some caveats should be kept in mind. One of the special challenges of devising reforms to minimize the impact of implicit bias on judicial decisions is that judges likely already benefit from factors that tend to reduce implicit bias. For example, most judges are relatively well-educated, thoroughly trained, experienced at making important decisions, vetted by appointment or election, explicitly directed to avoid bias, highly motivated to be fair, and so on. Judges are also accountable for their decisions: they are subject to appellate review (although that is rare, and many interstitial rulings are effectively immune); they make their decisions publicly (either on the record in open court or in written opinions); many are subject to intense scrutiny when re-election or re-appointment is approaching; and the definition of their role imposes upon them a sense of public responsibility. Although these forms of accountability seem insufficient to eradicate judicial implicit bias as reflected in our experiments and in archival data regarding sentencing, countermeasures that merely duplicate the bias-reducing factors already at play should be avoided.

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Unique aspects of the judicial role also rule out obvious countermeasures shown to be effective in other situations. Theoretically, hiding the identity of parties could prevent judges from learning the race or gender of litigants. The prototypical example of this is the audition screen, which increased the hiring of women and racial minority musicians by orchestras when implemented in the 1970s.[77] Hiding identities in the justice system, however, would be challenging if not impossible. Our norm is for judges to see witnesses, parties, jurors, and lawyers. Even though justice is supposed to be blind to persons, hiding them from the factfinder might seem unfair. People also assume—perhaps incorrectly—that the appearance and demeanor of parties and witnesses is diagnostic. Finally, information such as race or gender that could be misused might also possess some probative value that category masking would foreclose. In any event, race, gender, and the like can often be readily inferred from other characteristics that would be difficult to conceal—such as name, neighborhood, job, and so on. As we observed in our research, it might be better for a judge to consciously know a litigant's race than to be subconsciously aware of it.

Solutions must focus on both parts of the equation: the individual decision maker *and* the environment in which the individual makes decisions.

Solutions must focus on both parts of the equation: the individual decision maker *and* the environment in which the individual makes decisions. To minimize the risk that unconscious or implicit bias might distort decisions in court, judges and others could take the steps listed below, among others. Taking these steps would tend to reduce implicit bias and encourage judges to compensate for any bias that may persist. We divide our suggestions into two categories: those that target implicit bias directly, and those that target it indirectly by minimizing judicial reliance on intuition.

A. Combatting Implicit Bias Directly

1. Exposure to Stereotype-Incongruent Models

Several scholars have suggested that society might try to reduce the presence of unconscious biases by exposing decision makers to stereotype-incongruent models.[78] For example, posting a portrait of former President Barack Obama alongside the parade of mostly White male judges in many courthouses would be an inexpensive, laudable intervention.

Evidence concerning the effectiveness of this technique appears to be "quite mixed."[79] Although some have found it to be effective, our results, for example, also raise questions about its effectiveness. The White judges in our study exhibited a strong implicit bias, even though one of the jurisdictions we studied consisted of roughly half White judges and half Black judges.[80] Exposure to a group of esteemed Black colleagues apparently was not enough to

counteract the social influences that produce implicit negative associations regarding African-Americans.

Consciously attempting to change implicit associations might be too difficult for judges. Most judges have little control over their dockets, which tend to include an over-representation of Black criminal defendants.[81] Frequent exposure to Black criminal defendants is apt to perpetuate negative associations with Black Americans. This exposure perhaps explains why capital defense attorneys harbor negative associations with Blacks,[82] and might explain why we found slightly greater negative associations among the White judges than are found among the population as a whole (although as we have noted, the latter finding might have other causes).[83] To reduce this risk, courts might consider rotating judges among specialist assignments so that implicit negative attitudes formed while deciding criminal cases will not take root.

2. Testing and Training

The criminal justice system might test candidates for judicial office using the IAT or other devices to determine whether they harbor implicit biases. We do not suggest, however, that people who display a strong White preference on the IAT should be barred from serving as judges, nor do we support using the IAT as a measure of qualification to serve on the bench.[84] The direct link between IAT score and decision making is still too tenuous, and our data—and the data of others—suggest that judges can overcome implicit biases at least to some extent and under some circumstances. Rather, knowing a judge's IAT score might serve two other purposes. First, it might help newly elected or appointed judges understand the extent to which they have implicit biases and alert them to the need to correct for those biases on the job.[85] Because judges take their responsibility to do justice seriously, becoming aware of the problem will motivate them to attempt to correct it. Second, knowledge of a judge's implicit biases would make it possible to provide targeted training about bias to new judges.

Training for experienced judges is also important. Continuing judicial education is common, but one shortcoming is that it is seldom accompanied by any testing of the individual judge's susceptibility to implicit bias, or by any analysis of the judge's own decisions. As a consequence, judges are less likely to appreciate their personal susceptibility to implicit bias.[86] As researchers have observed, "people's default response is to assume that their judgements are uncontaminated."[87] Moreover, because people are prone to egocentric bias, they readily assume that they are better than average, or that factors that might induce others to make poor or biased decisions would not affect their own decisions. This is true of judges as well. Our research demonstrates that judges are inclined to make the same sorts of favorable assumptions about their own abilities that non-judges do. For example, 97.2 percent (35 out of 36) of one group of judges we tested ranked themselves above the median judge with respect to "avoiding racial bias in making decisions."[88] This result suggests that specific

training revealing the vulnerabilities of the particular judges would be more helpful than general education regarding implicit bias.[89] Further, to ensure that what judges encounter on the job does not inadvertently reinforce biased stereotypes and undo any benefit of general counter stereotypical training, such training should be repeated.

> Although general education regarding implicit bias is useful, specific training revealing the vulnerabilities of the particular judges being trained would be more helpful. Further, to ensure that what judges encounter on the job does not inadvertently reinforce biased stereotypes and undo any benefit of general counter stereotypical training, such training should be repeated.

Some types of implicit bias are highly salient and embarrassing, such as implicit racial bias. Judges seem to be on guard against these. Thus, the greater risk may be factors other than race or gender—such as beauty, age, obesity, religion, ethnicity, skin tone, and so on—that are not likely to be as salient or worrisome to judges.[90] Training regarding less obvious or non-hot-button sources of implicit bias would help to reduce this risk.

Another shortcoming of training is that although insight into the direction of an implicit bias frequently can be gained, insight into the magnitude of that bias cannot. How is one to know whether correction is warranted, and if so, how much? There is a risk of insufficient correction, unnecessary correction, or even overcorrection, resulting in a decision that is distorted as a result of the adjustment but simply in the opposite direction.[91] Testing might mitigate this problem by helping judges understand how much compensation or correction is needed to improve *their* decision making.

Using training to promote conscious self-correction, however, might result in unintended consequences. Conscious suppression or self-correction of implicit bias ties up or depletes cognitive resources.[92] This might make judges more susceptible to other types of cognitive error. In addition, consciously trying to correct for implicit bias may distract judges from devoting their full attention to the relevant facts and law. Finally, self-correction might also have the ironic effect of strengthening implicit bias.[93] On the other hand, some research suggests that telling mock jurors about implicit bias and instructing them to avoid it might be effective, and there is evidence that training people about implicit bias can reduce it.[94]

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Training for non-judges is also important. Judges accept inputs from repeat players such as police, prosecutors, pretrial services officers,

probation officers, and the like. The recommendations of prosecutors and probation officers have been shown to be especially influential.[95] Judges rely on these professionals, but they are also vulnerable to implicit bias.[96] If inputs from other actors are biased, then the outputs of judges may be tainted, even if judges succeed in freeing themselves from implicit bias. Training legal actors other than judges would perhaps reduce the risk that their implicit bias might impact judges' decisions.

3. Auditing

There is a great deal of aggregate data about how litigant race, gender, and other demographic characteristics influence pretrial detention, sentencing, motions for summary judgment, trial outcomes (whether judge or jury), and so on. There is also aggregate data about how judges' demographic characteristics influence their decisions. What we have less of is data about what individual judges are doing that might enable them to better calibrate their decisions. This makes it easier for individual judges to deny that *they* are part of the problem, and our research suggests that they are strongly inclined to do so.

Quite a bit of data concerning individual judges might already be available. Pretrial services and probation offices already collect some data that can be sorted by judge, although concerns over the possible misuse of such data may inhibit them from making it available. Legal research services such as Westlaw, Bloomberg, and Lex Machina can report data by judge, although the quality and completeness of their data is unclear. Westlaw Judicial Reports, for example, contains judge-level data on reversal, caseload, and rulings on motions, primarily for federal judges. Finally, public online court dockets can be mined by researchers with the time and resources to do so.[97]

Apart from what already exists or can be gleaned, the justice system could implement an auditing program to evaluate the decisions of individual judges in order to determine whether they appear to be influenced by implicit bias. For example, judges' discretionary determinations, such as bail-setting, sentencing, or child-custody allocation, could be audited periodically to determine whether they exhibit patterns indicative of implicit bias. Similar proposals were advanced as correctives for umpires in Major League Baseball and referees in the National Basketball Association after both groups displayed evidence of racial bias in their judgments.[98]

Auditing could provide a couple of benefits. First, it would increase the available data regarding the extent to which bias affects judicial decision making. Second, it could enhance the accountability of judicial decision making. Unfortunately, judges operate in an institutional context that provides little prompt and useful feedback. Existing forms of accountability, such as appellate review, public scrutiny immediately prior to retention elections or reappointment, or online evaluations, even when timely and accurate,[99] primarily

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focus on a judge's performance in a particular case, not on the systematic study of long-term patterns within a judge's performance that might reveal implicit bias.[100]

Accountability mechanisms, including auditing, can also be effective at promoting cognitively complex thinking and self-awareness.[101] Auditing can motivate judges to be more vigilant and thorough in deliberations, lessening their reliance on low-effort mental shortcuts that are often susceptible to unconscious biases.[102] Auditing can also encourage judges to predict counter arguments while making decisions, thus helping them to identify flaws in their informational processing.[103] Awareness of flaws can reduce overconfidence bias—a common tendency to overemphasize belief-affirming information—thus providing the added benefit of improving judges' self-assessment abilities.[104]

Auditing could be implemented in several different ways. First, individual judges could self-audit by recording data such as sentence length, defendant's race, victim's race, and so on and periodically reviewing it for consistency.[105] Although some heroic judges report doing this on their own, not every judge will have the time or motivation to undertake this arduous task.

A second option would be to create committees composed of a small group of judges who meet periodically to discuss sentencing decisions and associated issues.[106] The prospect of explaining their decision making to esteemed colleagues may motivate judges to engage in high-effort deliberation. The effectiveness of these roundtables in reducing implicit bias would be bolstered by ensuring that the participants are diverse. Not only would diversity enrich the discussion by including a variety of perspectives, but the goal-oriented collaboration among members of different races and genders that such committees would foster itself tend to reduce implicit biases.[107]

A third option would be to create a peer review board to conduct periodic informal evaluations of judges' opinions and provide feedback. Such a board would focus on assessing the impartiality and consistency of sentencing both across an individual judge's cases and across judges within a particular jurisdiction.

Increased self-critical, complex thinking is most likely to result when judges do not know the views of the evaluator.[108] Knowing the views of an evaluator can result in cognitively lazy thinking, or decisions that simply conform to the opinions thought to be favored by that evaluator. For this reason, it may be best to cycle judges through different peer committees or to enlist review board members from other jurisdictions to limit familiarity.

Another condition that maximizes the effectiveness of auditing is review subject anonymity. Under conditions that do not create anonymity, evaluators might exhibit implicit bias in their reviews, potentially discounting the performance of female and racial minority judges.[109] One option is a blind review format in which evaluators are assigned a sample of decisions without knowing the identity and characteristics of the judge who made them.

Unless carefully implemented, there might be danger inherent in implicit bias remedies, like auditing, that can be perceived as placing external pressure on individuals to reduce their implicit biases. In a recent study, participants were primed with autonomous motivations such as, "I can freely decide to be a non-prejudiced person" or controlling motivations such as "I would feel guilty if I were prejudiced" before taking an IAT.[110] Exposure to the controlling motivational statements increased the implicit bias reflected in the participants' IAT scores. This result suggests the need for caution in the implementation of auditing regimes, so as to avoid triggering paradoxical results.

We recognize that judges are apt to be reluctant to implement auditing procedures. They might worry that auditing might reveal variation or inconsistency that looks like bias but for which an innocent explanation exists, thereby exposing them to unfair criticism. That said, the widespread availability of courtroom data has inspired some news services to conduct their own audits of judges to search for perceived biases.[111] Judges unwilling to engage in self-auditing might find such audits imposed on them by the media.

4. Altering Courtroom Practices

The justice system could be modified to minimize the untoward impact of unconscious bias. For example, the justice system could expand the use of three-judge trial courts.[112] Creating diversity for trial judges poses a challenge. We know how to create diversity on appellate panels—appoint more female and minority (race, ethnicity, sexual orientation, and so on) judges. Research reveals that improving the diversity of appellate court panels can affect outcomes. One study found that "adding a female judge to the panel more than doubled the probability that a male judge ruled for the plaintiff in sexual harassment case . . . and nearly tripled this probability in sex discrimination cases."[113] In trial courts, judges typically decide alone, so adopting this mechanism would require major structural changes. Although convening a three-judge trial court was once required by statute when the constitutionality of a state's statute was at issue,[114] and was occasionally used or suggested in other contexts,[115] three-judge trial courts are virtually nonexistent today.[116] The inefficiency of having three judges decide cases that one judge might be able to decide nearly as well led to their demise, and this measure might simply be too costly to resurrect.

Trial judges could attempt to create their own diversity in their chambers by hiring a diverse staff and discussing cases with them.[117] A non-White law clerk or judicial assistant might react very differently to particular facts or arguments than a White judge, and vice versa. But there is a risk that the views of others—especially those expressed off the record and not subject to testing in the cauldron of the adversary process—might be overly influential.[118] Increasing the information available to judges off the record raises fairness or ethical concerns similar to those posed by judges' private Internet research. Accordingly, this technique should be implemented with caution.

The more people learn about an individual who belongs to a group, the less likely they are to make stereotyped judgments about him or her based on his or her membership in that group. Judges might spend a few extra minutes getting to know defendants when taking guilty pleas and sentencing. They also might put efficiency concerns aside for a few moments and allow lawyers more latitude to humanize their clients during direct examination.

The form in which law is expressed also might be examined. Reducing discrimination by requiring judges to apply rules rather than standards leaves less room in which implicit bias can operate.[119] Rules, mandatory minimum sentences, or damages schedules eliminate part of the potential for bias (but not all of it, because it is unlikely that credibility determination, child custody allocation, and so on could ever be reduced to a rule), and sentencing guidelines or damages ranges confine and check it. Of course, judges must be able to individualize and to tailor outcomes to achieve justice and equity. Only in this way can law evolve and outcomes be viewed by society as fair. But there is a tradeoff: the more discretion, the more risk of bias.

Strengthening the adversary system might help. For example, if public defenders are well-compensated and well-resourced, and if there are a sufficient number of them, that will increase the odds that the diverse perspectives of racial minority or low socioeconomic status defendants will be adequately presented in court. Reducing over-detention of criminal defendants prior to trial will help ensure that all defendants—especially over-represented racial minorities—will have their viewpoints effectively expressed.[120] Pretrial detention constricts defendants' ability to meet with their counsel and to assist in investigation and trial preparation.

Some courts routinely issue tentative rulings.[121] Tentative rulings might help combat implicit bias by requiring writing (and thereby enhancing deliberation); by masking the race or gender of clients and lawyers (but not knowing may not be an advantage if judges are subconsciously primed by names or background information); and most importantly by allowing specific, concrete, pre-decision feedback or pushback from counsel or pro se litigants that can help to ensure that perspectives that might not spontaneously occur to the judge are taken into account.

Another possibility would be to increase the depth of appellate scrutiny, such as by employing de novo review rather than clear error review, in cases in which particular trial court findings of fact might be tainted by implicit bias. For example, some evidence suggests that male judges may be less receptive to sex discrimination claims than they ought to be.[122] If that bias does exist, less deferential appellate review by a diverse panel might offer a partial solution.

5. Mindfulness Meditation

The criminal justice system might also reduce implicit bias by offering training in mindfulness meditation. Mindfulness is a form of meditation in which the

individual focuses on the present moment by slowing down his or her mental processes.[123] Instruction often involves developing awareness of one's breathing, the contents of one's mind (i.e., thoughts and emotions), and awareness itself.[124]

Mindfulness targets implicit bias by reducing automatic associations with outgroup members, or with individuals outside of the race or ethnicity one identifies as, with negative concepts.[125] Recent scholarship has found that after exposure to a short audiotape instructing listeners to be aware of their current thoughts and feelings, White participants' IAT results showed a significant reduction of bias against African-Americans, attributable at least in part to reduced automatic associations.[126] This suggests that through the practice of meditation, judges can limit their reliance on these knee-jerk reactions, allowing for fairer decision making.

Research also suggests that mindfulness meditation increases compassionate feelings toward others. A 2013 study revealed that participants who engaged in mindfulness meditation training were five times more likely than a control group to give up their seat to a person on crutches and in visible and audible pain.[127] If these results extend to scenarios in which the target is not someone in pain but rather someone of a different race, then the compassion generated by mindfulness may mediate implicit bias toward those disadvantaged by race, gender, or low socioeconomic status.

Mindfulness meditation may also help to control conditions that increase the magnitude of implicit bias, such as mood. For example, when people are in a heightened emotional state—be it from stress, anger, or even happiness—implicit bias manifests more strongly in their decisions.[128] Practicing mindfulness meditation can enhance emotional regulation.[129] In a recent study, participants were exposed to emotion-evoking images before and after an eight-week course in mindfulness.[130] After the course, individuals exhibited a reduced activation of the amygdala, the area of the brain that appraises and responds to emotional stimuli.[131] If mindfulness meditation improves emotional regulation, then it may allow judges to better maintain the mental state most suited to unbiased decision making.

6. Consider-the-Opposite

Consider-the-opposite, or consider-the-alternative, is a technique that requires an individual to imagine and explain the basis for alternate outcomes, specifically those that conflict with the opinion the individual holds.[132] Consider-the-opposite has proven to be effective at combating various biases including hindsight, anchoring, and overconfidence.[133] The effectiveness of consider-the-opposite may be attributable to its ability to reengage an individual's reasoning processes. Generally, once people generate a plausible explanation of events, they stop considering new possibilities. Considering-the-opposite forces an interruption of this single-direction processing, thus allowing for a more comprehensive analysis.[134]

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A judge who believes that a defendant is liable or guilty, or that a particular damage award or sentence is warranted, could implement this technique by considering a counterfactual in which the victim and defendant were of opposite, or swapped, gender or race. If, upon reconsideration, the judge realizes that the outcome might be different in the alternate scenario, then he or she could attempt to remedy the bias by considering the possibility of adjusting the outcome accordingly.

Suppose, for example, that a judge is sentencing a female defendant. After determining the sentence, the judge could ask himself or herself: What if this defendant were male?[135] How would that alter my assessment of the defendant, the crime, and the other sentencing factors? Would my sentence for the male defendant be the same? Why or why not? Not only would this process promote deliberation, but it also would prompt the judge to consider the role (if any) played by gender (a forbidden factor)[136] in determining the sentence. If a judge experiences difficulty in implementing this technique, it may be more effective to formalize and externalize it by designating a law clerk or other member of chambers staff to serve as a devil's advocate.[137]

7. Perspective Taking

Perspective taking consists of adopting the viewpoint of other individuals and examining the scenario at issue through the lens of their life experience.[138] Perspective taking may be effective in reducing bias because of its ability to increase altruism or to reduce egocentric tendencies. The altruistic theory posits that perspective taking increases compassion and empathy toward an individual or group, which mediates existing bias against that individual or group.[139] The egocentric theory is based on the concept that ingroup preference stems from a perception that those of the same race are inherently like us, so we attribute our own positive self-conceptions to them.[140] The theory suggests that by perspective taking, we can increase the overlap between our favorable self-concept and our conception of outgroup members.[141] Through this active consideration of shared similarities, we may increase mental reliance on our self-concept, rather than implicit stereotypes, when making character determinations.[142]

Judges could implement this technique by attempting to imagine themselves in the shoes of the party before them. Alternately, the court system could approach the issue more broadly by including perspective taking exercises as part of a training course in implicit bias. Some research suggests that improvements in outgroup evaluations did not require an individual-targeted perspective-taking exercise.[143] Even abstract perspective taking directed toward a fictional target can improve outgroup perceptions. The inclusion of abstract perspective taking in judicial training might reduce implicit bias without requiring case-by-case perspective taking.

The inclusion of perspective taking in training courses may also bolster other efforts to combat implicit bias. One study revealed that when individuals

take the perspective of Black or Latino subjects, they become more open to the possibility of intergroup racial discrimination.[144] Because motivation to remedy implicit racial bias is often a prerequisite for effective solutions, helping judges to appreciate that there may be discrimination is an important first step.[145]

Another approach would be to encourage a more literal form of perspective taking in which judges expose themselves to the experiences faced by many minorities who pass through their courtrooms. Exposure to other's experiences can increase a judge's probability of instinctual perspective taking, thus reducing their implicit biases. One study demonstrated that when able-bodied persons experienced wheelchair travel for an hour, their sensitivity toward people with disabilities increased.[146] This effect was significant, lasting at least four months. Though actual role playing may be impractical in the legal context, the study also revealed that participants who vicariously experienced perspective taking through observation showed similar results.

Perspective taking might have a downside. One concern may be that the positive feelings generated will overcompensate for implicit bias, increasing partiality toward the persons whose perspective was taken and impeding fair judgment. Research on juror decision making has shown that when laypeople are instructed to take the perspective of a defendant, they perceive the defendant to be less culpable than those given no instruction.[147] Furthermore, those instructed to take the victim's perspective found the defendant more culpable than the control group. Given that the facts of the cases remained constant for all participants, the results reveal that perspective taking can increase partiality toward the target. Considering the perspective of both victims and defendants may help to mitigate any imbalance.

Another worry is that perspective taking might actually increase a judge's reliance on implicit stereotypes. In a case where stereotype-congruent facts are present, judges may rely on stereotypes in envisioning the defendant's perspective, thus making implicit bias more salient. Skorinko and Sinclair provide an apt illustration: "[Y]oung people who take the perspective of a clearly stereotypic elderly man, such as an ailing one sitting in a hospital bed, may be struck by his age and frailty and be more apt to assume that his other characteristics and experiences coincide with stereotypes of his group."[148] Accordingly, judges should exercise caution when perspective taking, particularly in stereotype-congruent cases.

Recently, a variety of forces have combined to reduce the number of settlement conferences over which judges preside. Private alternative dispute resolution, attorney settlement panels, retired judges, and so on have diminished this particular burden on judges. This welcome development, however, may have a hidden disadvantage. Settlement conferences are an occasion in which judges can interact relatively informally with litigants, some of whom possess characteristics or backgrounds unlike those of most judges. This opportunity to engage with divergent perspectives may be withering away.

8. Foster Diversity in Private Life

Trial judges could create more diversity for themselves outside the courthouse. This would enhance the effectiveness of other debiasing steps such as exposure to stereotype-incongruent models and perspective taking. For example, White judges could choose to live in racially and socioeconomically diverse neighborhoods rather than in wealthy, mostly White enclaves, at least temporarily, and Black judges could do the opposite. They could send their children to public schools where they—and their children—will encounter a more diverse mix of students, parents, and teachers than they would in an exclusive private school.[149] A judge inclined to teach a law course at a local predominantly White law school might elect to teach it at a historically Black college instead—not just to help ensure that minority students benefited from the course, but more importantly to allow the judge to learn from the students. Similarly, a judge who is White and male could take a course (online or at a community college) in Black history, gender discrimination, or the like.

9. Creating a Constructive Courtroom Environment

Courthouse art and architecture should be attractive, but they might also be instrumental. The impact of environment on choice can be powerful and ought not to be overlooked. Displaying photographs in the courthouse of respected women judges, inspiring civil rights leaders, and so on in the courthouse could expose judges to counter stereotypic role models on a daily basis[150] and also create a feeling of responsibility to live up to the great judges of the past. Although this may seem superficial, it is not. It works.[151] And, it is relatively inexpensive. Although what South Africa did in designing a new constitutional court rich with symbolic meaning is admirable,[152] court architects need not necessarily go that far to achieve the desired effect.

10. Reminders of Professional Norms

Most judges probably keep their professional obligation of impartiality firmly in mind, but occasional reminders might help to ensure their vigilance against bias. If such reminders can help students resist cheating, maybe they can help judges guard against making biased decisions as well.

In one experiment, college students were given a test and provided an opportunity to obtain a reward by cheating in reporting their results.[153] They were divided into two groups. One group was asked to recall ten books they had read during high school. They cheated in order to obtain a higher reward for test performance. A second group, who were asked instead to recall as many of the Ten Commandments as they could, did not cheat. Similar results were obtained in a different study in which one-half of the college student subjects were asked to acknowledge that they would be bound by an honor code (which did not even exist) before they were given an opportunity to cheat. In both of

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these experiments, reminding the students of ethical norms resulted in a greater level of ethical behavior.

While such reminders or acknowledgments might have to be repeated, and might reach a point of diminishing returns (or have a smaller effect on judges than on others for whom the ethical dimension of their role is less inherently salient), this technique might still be worth trying. For example, judges could be required to retake their oath periodically, perhaps at the beginning of each year in a formal ceremony in which all members of the court would be encouraged to participate. A periodic public reaffirmation of key professional norms—such as avoiding implicit bias—might not only remind the judges of those norms but also deepen their commitment to them.[154] If married couples find it valuable to renew their vows, perhaps judges would too. Alternatively, professional norms, inspirational quotations, slogans, and the like could be etched into courthouse walls and doors, especially in places where judges, not merely lawyers and the public, can see them.[155] This is reminiscent of constant reminders to physicians and nurses to wash their hands, a campaign that has dramatically reduced the incidence of infection.[156]

B. Combatting Implicit Bias Indirectly

In Part I, we argued that intuitive reasoning is the primary way that bias influences judges. Mechanisms to facilitate deliberative reasoning should therefore play a critical role in reducing the influence of these biases. This poses a dilemma for busy judges. Judges with heavy caseloads might have little choice but to rely on rapid, intuitive judgments to manage their dockets. Nevertheless, if judges need to take care to slow down and deliberate so as to override their intuitive biases, then the justice system should encourage that process. Of course, features of the existing justice system exist for many reasons, and efforts to encourage deliberation might undercut other policy goals, such as cost reduction. Our objective here is simply to identify steps that the justice system could take to facilitate deliberation, while recognizing that reforms would have to balance the benefits associated with these reforms against any costs they might impose.

1. Reduce Time Pressure

The justice system might expand the amount of time judges have to make decisions. Judges facing cognitive overload due to heavy dockets, case complexity, or other on-the-job constraints are more likely to make intuitive rather than deliberative decisions because the former are speedier and easier.[157] Furthermore, being cognitively "busy" induces judges to rely on intuitive judgment.[158] As many of the judges we have studied candidly admit, time pressures present an enormous challenge, often diminish motivation, and induce less-than-optimal decision making. Stress and burnout can result in heightened implicit bias.[159]

No easy cure for time pressure exists, but the justice system could employ a few strategies to mitigate it. Most obviously, legislatures could expand the number of authorized judgeships in their jurisdictions, particularly in those courts with the heaviest dockets, thereby enabling judges to spend more time per case and per decision. Short of that, legislatures could ensure that all judges have law clerks.

Minimizing the number of spur-of-the-moment decisions that judges are expected to make might also help. Decisions made during pretrial conferences, settlement conferences, motion hearings, and so forth are more likely to be intuitive and impressionistic than deliberative and well-reasoned. Likewise, evidentiary rulings made during hearings or trials are apt to be more prone to error than if they were made based on written briefs and with time for the judge to research and reflect. When ruling on the admissibility of evidence at trial, judges often have little choice but to think intuitively. Our model suggests that judges should not make difficult or important evidentiary rulings in such a setting. To be sure, pretrial motions in limine sometimes deprive the judge of the full context in which the evidence will be heard. Accordingly, judges might require parties to file important evidentiary motions before trial, but delay ruling on them until the issues arise during the trial, and even then pause for a recess to allow an opportunity to study the papers and deliberate.

Occasionally, the mere passage of time may help. If judges are susceptible to the "beauty bias," for example, they might unwittingly evaluate an attractive witness's credibility too positively and an unattractive witness's credibility too negatively if they make a hasty judgment in the courtroom.[160] A reflective determination made in chambers after the impact of the witness's appearance has worn off might be more accurate.

2. Opinion Writing

The justice system also might require judges to write opinions more often.[161] Arguably, judges already explain the reasons for their decisions more frequently and completely than any other public official. And this prescription conflicts with the previous recommendation because opinion writing takes extra time, which judges might not have. Despite this cost, writing opinions could induce deliberation that otherwise would not occur. Rather than serving merely to describe an allegedly deliberative process that has already occurred (as the formalists might argue) or to rationalize an intuitive decision already made (as the realists might argue), the discipline of opinion writing might enable well-meaning judges to overcome their intuitive, impressionistic reactions. The process of writing challenges the judge to assess a decision more carefully, logically, and deductively. Some have encouraged the preparation of written opinions for exactly this reason.[162]

Preparing a written opinion is sometimes too inconvenient or simply infeasible. In such situations, perhaps judges should be required to articulate

the basis for the decision before announcing the conclusion. Though there is little opportunity for reflection in the midst of hearings or trials, simply stating the reasons for the decision before the ruling is announced may encourage the judge to be more deliberative.

The psychological literature on the effects of requiring decision makers to give reasons is mixed. Providing reasons for one's decision induces deliberation,[163] but it does not always produce better decisions. In one of our experiments, providing a written explanation for a decision did not insulate judges from the powerful anchoring heuristic.[164] Explaining can also impair performance on tasks that benefit from intuition.[165] Some studies suggest that deliberation can sometimes produce results that are inferior to results produced by intuition, particularly where a task involves aesthetic judgement.[166] We suspect, however, that most of the judgments that judges make are not the sort that are impaired by deliberation.

3. Training and Feedback

Training could help judges understand the extent of their reliance on intuition and identify when such reliance is risky—the necessary first steps in self-correction. Judges could learn to interrupt their intuition, thereby allowing deliberation to intervene and modify behavior, if not actually altering underlying prejudices or attitudes.[167]

Likewise, jurisdictions could adopt peer-review processes to provide judges with feedback. For example, every two years, three experienced judges from other jurisdictions could visit a target court. They could select a few cases recently decided by each target court judge, read all of the rulings and transcripts, and then provide the judges with feedback on their performance and constructive suggestions for improvement. This would give judges an opportunity to obtain feedback on issues that typically escape appellate review. When aggregated, the results of such a process might also identify structural problems that amendments to rules or statutes should remedy. Such a procedure also would increase judicial accountability by subjecting decisions that usually escape appellate review to a different form of peer review. Research has shown that accountability of this sort can improve decision-making performance.[168] If a peer review process is not feasible, courts could, at a minimum, record and provide judges with outcome data on relevant decisions—for example, whether a defendant released on bail actually appeared for trial. Armed with this feedback, judges might be better able to learn what they are doing well and what they are doing poorly.

Of course, most judges are generalists, which might impede their efforts to learn good decision-making skills and to apply knowledge gained from training and peer-review processes. With the exception of the tasks judges perform repeatedly, it might take a long time for judges to acquire sufficient experience in handling a particular issue to accumulate enough feedback to avoid errors. It

is as if a professional tennis player divided his or her time among tennis, volleyball, softball, soccer, and golf rather than concentrating on tennis—the player's opportunity to develop "tennis intuition" would be diminished. Although we have concluded elsewhere that specialization may not insulate judges from cognitive illusions such as anchoring,[169] it might mitigate such biases by maximizing the opportunity to benefit from a large quantity of relevant feedback. Moreover, because the benefit of experiential learning on the job is limited, training may be necessary to compensate for deficiencies in the learning environment.[170]

4. Scripts, Checklists, and Multifactor Tests

Scripts and checklists can free judges from reliance on their memories and encourage them to proceed methodically, thereby ensuring that they touch all of the deliberative bases relevant to a decision. A judge who reviews a script or checklist at each step in the decision-making process is less likely to rely on intuition when doing so is inadvisable.

In some respects, the justice system already takes this approach. Judges receive "scripts" for some tasks after they are appointed or elected. Judges also develop their own scripts and checklists for various tasks and share them with one another. Multifactor or balancing tests are another device for structuring decision making and promoting deliberation.

Multifactor tests can help ensure that judges consider all relevant factors and can remind them of their responsibility to base decisions on more than mere intuition.[171] A system that forces judges to weigh each of the factors expressly also might help reduce judges' reliance on intuition. Similar reminder systems have reduced medical diagnostic error.[172]

Although multifactor tests are ubiquitous, they are imperfect. Some multifactor tests are poorly designed. They also may be indeterminate, and applying or weighing some of the factors within the test may require intuition. Moreover, if judges rely excessively on multifactor tests, scripts or checklists, there is a risk of mechanical jurisprudence that might discourage judges from tailoring their analysis to the case. Finally, judges sometimes employ heuristics to circumvent the multifactor analysis by relying on just a few of the factors in making their decision, thereby diminishing the value of the test as a corrective device.[173]

Nevertheless, such tests possess the potential for mitigating cognitive error by nudging judges toward more deliberative processes. This could explain why some appellate courts require administrative agencies or lower courts to expressly consider or weigh each of the factors in a multifactor test, sometimes in a particular sequence.[174] In their more extreme forms, such techniques are known as "forcing functions," which are exemplified by computer systems that force the user to complete step two before moving to step three.[175]

Conclusion

Empirical research suggests the likely presence of implicit racial bias in judges. We have identified several suggestions and reforms designed to prevent implicit biases from influencing outcomes in the courtroom. To render justice blind to persons, as it is supposed to be, these and other reforms should be considered.

So You'd Like to Know More

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90. *See, e.g.*, A. Chris Downs & Phillip M. Lyons, *Natural Observations of the Links between Attractiveness and Initial Legal Judgments*, 17 Personality & Soc. Psychol. Bull. 541, 544–45 (1991) (reporting that judges required higher bail from unattractive defendants than from attractive defendants); John E. Stewart, *Defendant's Attractiveness as a Factor in the Outcome of Criminal Trials: An Observational Study*, 10 App. Soc. Psychol. 348, 358 (1980) (reporting that unattractive defendants received longer sentences than attractive defendants).
91. *See* Anthony Page, Batson's *Blind-Spot: Unconscious Stereotyping and the Preemptory Challenge*, 85 Q. 155, 239–40 (2005) ("One major problem for any correction strategy is determining the magnitude of the correction required. Unfortunately, people are not very good at this determination. Some research suggests that among those who are very motivated to avoid discrimination, overcorrection is a common problem.").
92. *Id.* at 241–42 ("[T]o consciously and willfully regulate one's own . . . evaluations [and] decisions . . . requires a limited resource that is quickly used up, so conscious self-regulatory acts can only occur sparingly and for a short time." (omissions in original) (quoting John A. Bargh & Tanya L. Chartrand, *The Unbearable Automaticity of Being*, 54 Am. Psychol. 462, 476 (1999)).
93. *See* Wistrich et al., *supra* note 30, at 1262–64.
94. *See* Mark W. Bennett, *Unraveling the Gordian Knot of Implicit Bias in Jury Selection: The Problems of Judge-Dominated Voir Dire, the Failed Promise of Batson, and Proposed Solutions*, 4 Harv. L. & Pol'y Rev. 149 (2010); Elizabeth Ingriselli, *Mitigating Jurors' Racial Biases: The Effects of Content and Timing of Jury Instructions,* 124 Yale L.J. 1690, 1729 (2015). *But see* Jennifer K. Elek & Paula Hannaford-Agor, Can Explicit Instructions Reduce Expressions of Implicit Bias? New Questions Following a Test of a Specialized Jury Instruction (2014) (finding no significant benefit from giving such an anti-bias instruction and counseling caution because such an instruction might backfire).

95. *See, e.g.*, Leifer & Sample, *supra* note 26, at 145.
96. *See, e.g.*, National Center for Youth Law, Implicit Bias and Juvenile Justice: A Review of the Literature 18–26 (Michael Harris & Hannah Benton eds., 2014).
97. David Hoffman et al., *Docketoloty, District Courts, and Doctrine*, 85 Wash. U.L. Rev. 681 (2007).
98. *See* Christopher A. Parsons et al., *Strike Three: Umpires' Demand for Discrimination*, 101 Am. Econ. Rev. 1410 (2011); Joseph Price & Justin Wolfers, *Racial Discrimination among NBA Referees*, 125 Q.J. Econ. 1859 (2010).
99. *See* Thomas Miles, *Do Attorney Surveys Measure Judicial Performance or Respondent Ideology? Evidence from Online Evaluations*, 44 J. Legal Stud. S231 (2015) (reporting that online evaluations do not accurately reflect judges' performance).
100. *See, e.g.*, Jean E. Dubofsky, *Judicial Performance Review: A Balance between Judicial Independence and Public Accountability,* 34 Fordham Urb. L.J. 315, 320–22 (2007) (explaining that judicial performance review system in Colorado focuses only on a judge's performance in a particular case).
101. *See* Philip E. Tetlock & Jae I. Kim, *Accountability and Judgment Processes in a Personality Prediction Task*, 52 J. Pers. & Soc. Psychol. 700, 700 (1987).
102. *See id.* ("Social pressure for accountability can, under certain conditions, motivate people to become more vigilant, thorough, and self-critical information processors.").
103. *See id.* at 702; Philip E. Tetlock, *Accountability and Complexity of Thought*, 45 J. Pers. & Soc. Psychol. 74, 81 (1983).
104. *See* Tetlock & Kim, *supra* note 102, at 701–02.
105. Robert E. Beach, *The Value of Keeping Sentence Statistics*, 11 Judges J. 57, 57 (1972).
106. *See* Nat'l Ctr. for State Courts, Strategies to Reduce the Influence of Implicit Bias 18, http://www.ncsc.org/~/media/Files/PDF/Topics/Gender%20and%20Racial%20Fairness/IB_ Strategies_033012.
107. *See* Gordon W. Allport, The Nature of Prejudice 281 (1954); Thomas F. Pettigrew & Linda R. Tropp, *A Meta-Analytic Test of Intergroup Contact Theory*, 90 J. Personality & Soc. Psychol. 751, 766 (2006).
108. *See* Tetlock, *supra* note 102, at 81.
109. *See* Rebecca Gill, Sylvia R. Lazos & Mallory M. Waters, *Are Judicial Performance Evaluations Fair to Women and Minorities? A Cautionary Tale from Clark County, Nevada*, 45 Law & Soc'y Rev. 731, 749 (2011) ("[J]udicial performance evaluation surveys may carry with them unexamined and unconscious gender and race biases"); *see also* Maya Sen, *Is Justice Really Blind? Race and Reversal in U.S. Courts*, 44 J. Legal Stud. S187 (2015) (presenting evidence that African-American trial judges are more apt to be reversed by White appellate judges than are White trial judges).
110. *See* Lisa Legault, Jennifer N. Gutsell, and Michael Inzlicht, *Ironic Effects of Antiprejudice Messages: How Motivational Interventions Can Reduce (But Also Increase) Prejudice,* 22 Psychol. Sci. 1472, 1475 (2011).
111. Josh Salman and Emily Le Coz, *Race and Politics Influence Judicial Decisions*, Sarasota Herald-Tribune, available at http://projects.heraldtribune.com/bias/politics/
112. *See* Michael E. Solimine, *Congress,* Ex Parte Young, *and the Fate of the Three-Judge District Court*, 70 U. Pitt. L. Rev. 101, 128–34 (2008).
113. Jennifer L. Peresie, Note, *Female Judges Matter: Gender and Collegial Decisionmaking in the Federal Appellate Courts*, 144 Yale L.J. 1759, 1778 (2005). The effects may be more complicated and less predictable than they seem. *See* Rebecca D. Gill, Michael Kagan & Fatma Marouf, Chivalry, Masculinity, and the Importance of Maleness to Judicial Decision Making 13 (2015) (finding that female litigants fare better than male litigants with all male appellate panels than with mixed gender appellate panels). Similar effects have been observed with appellate panels of different races. *See* Charles Cameron & Craig Cummings, Diversity and Judicial Decision Making: Evidence from Affirmative Action Cases

in the Federal Courts of Appeals, 1971–1999, presented at the Crafting and Operating Institutions Conference, Yale University (2003).

114. *See* Note, *Judicial Limitation of Three-Judge Court Jurisdiction*, 85 Yale L.J. 564, 564 (1976).
115. *See* William R. Bayes, *C.J. Criminal Cases Tried to a Bench of Three Judges,* 24 J. Am. Jud. Soc. 182 (1940–41); *Support Given of Idea of Three-Judge Trial Bench*, 22 J. Am. Jud. Soc. 167 (1938–39); *The Trial Bench of Three Judges*, 12 J. Am. Jud. Soc. 185 (1928–29).
116. *See* Arthur D. Hellman, *Legal Problems of Dividing a State Between Federal Judicial Circuits*, 122 U. Pa. L. Rev. 1188, 1225 (1974).
117. *See* Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 UCLA L. Rev. 1124, 1170 (2012) (recommending that judges hire a diverse staff).
118. *See* Robert Cialdini, Influence: Science and Practice 98–141 (2001).
119. *See* Erik J. Girvan, *Wise Restraints? Learning Legal Rules, Not Standards, Reduces the Effect of Stereotypes in Legal Decision-Making,* 22 Psychol. Pub. Pol'y & L. 31, 42 (2016) (reporting that outcomes in hypothetical cases were 1.5 times as likely to be stereotype consistent when subjects applied a standard than when they applied a rule, and concluding that "rules have a comparative advantage over standards in reducing the impact of bias on legal decisions").
120. *See* Samuel R. Wiseman, *Fixing Bail*, 84 Geo. Wash. L. Rev. 417, 419 (2016) ("[D]efendants jailed pretrial . . . are more likely to be convicted and to receive longer sentences").
121. *See* Alexander J. Konick, *Tentative Rules in California Trial Courts: A Natural Experiment,* 47 Colum. J. L. & Soc. Probs 324 (2014) (describing the use of tentative rulings in California state trial courts). For a similar but more far-reaching proposal, which would allow the public as well as the litigants to comment on tentative rulings, *see also* Michael Abramowicz & Thomas B. Colby, *Notice-And-Comment Judicial Decisionmaking*, 76 U. Chi. L. Rev. 965, 967–68 (2009).
122. *See* Peresie, *supra* note 114, at 1778.
123. *See* Jeremy D. Fogel, Mindfulness and Judging 2 (2016) ("In essence it involves slowing down one's mental processes enough to allow one to notice as much as possible about a given moment or situation.").
124. *See* Gaëlle Desbordes et al., *Effects of Mindful Attention and Compassion Meditation Training on Amygdala Response to Emotional Stimuli in an Ordinary, Non-Meditative State*, 6 Front. Hum. Neurosci. 1, 3 (2012).
125. *See* Adam Lueke & Bryan Gibson, *Mindfulness Meditation Reduces Implicit Age and Race Bias: The Role of Reduced Automaticity of Responding*, 6 Soc. Psychol. & Personality Sci. 284, 285 (2015).
126. *Id.* at 288.
127. Paul Condon et al., *Meditation Increases Compassionate Responses to Suffering*, 24 Psychol. Sci. 2125, 2126–27 (2013) ("As predicted, meditation directly enhanced compassionate responding.").
128. *See* Kang et al., *supra* note 118, at 1177 (2012) ("There is also evidence that elevated emotional states, either positive or negative, can prompt more biased decisionmaking.").
129. *See* Yi-Yuan Tang & Leslie D. Leve, *A Translational Neuroscience Perspective on Mindfulness Meditation as a Prevention Strategy*, 6 Translational Behav. Med. 63, 64 (2015).
130. *See* Desbordes et al., *supra* note 125, at 6–7.
131. *See id.* at 10 ("We found a longitudinal decrease in right amygdala activation in response to positive images, and in response to images of all valences overall."). *See generally* Adrienne A. Taren et al., *Mindfulness Meditation Training Alters Stress-Related Amygdala Resting State Functional Connectivity: A Randomized Controlled Trial*, 10 Soc. Cogn. Affect. Neurosci. 1758 (2015).

132. *See* Charles G. Lord et al., *Considering the Opposite: A Corrective Strategy for Social Judgment*, 47 J. Personality & Soc. Psychol. 1231, 1231–32 (1984).
133. *See* Hal R. Arkes, David Faust, Thomas Guilemette & Kathleen Hart, *Eliminating the Hindsight Bias*, 73 J. Applied Psychol. 305, 305–07 (1988); Asher Koriat, Sarah Lichtenstein & Baruch Fischhoff, *Reasons for Confidence*, 6 J. Experimental Psychol.: Hum. Learning & Memory 107, 107–18 (1980); Thomas Mussweiler, Fritz Strack & Tim Pfeiffer, *Overcoming the Inevitable Anchoring Effect: Considering the Opposite Compensates for Selective Accessibility*, 26 Personality & Soc. Psychol. Bull. 1142, 1142–50 (2000).
134. *See* Edward R. Hirt & Keith D. Markman, *Multiple Explanation: A Consider-an-Alternative Strategy for Debiasing Judgments*, 69 J. Personality & Soc. Psychol. 1069, 1084 (1995) ("As a result, it appears that the counterexplanation task breaks participants' inertia with regard to the focal hypothesis and leads to a more thorough and comprehensive consideration of the likely outcome of the event.").
135. *See* Wistrich et al., *supra* note 45, at 910 (suggesting this technique to help judges avoid favoring sympathetic litigants over unsympathetic ones).
136. U.S. Sentencing Guidelines Manual § 5H1.10.
137. *See* Elizabeth J. Reese, *Techniques for Mitigating Cognitive Biases in Fingerprint Identification*, 59 UCLA L. Rev. 1252, 1286 (2012) ("The devil's advocate technique is somewhat similar to the consider-an-alternative technique; however, the devil's advocate technique formalizes the dissent process by bringing in a second person to question the decisionmaker's conclusion.").
138. Adam D. Galinsky & Gillian Ku, *The Effects of Perspective-Taking on Prejudice: The Moderating Role of Self-Evaluation*, 30 Personality & Soc. Psychol. Bull. 594, 596 (2004) ("[P]erspective-taking entails the active consideration of another's point of view, imagining what the person's life and situation are like, walking a mile in the person's shoes.").
139. *See* Adam D. Galinsky & Gordon B. Moskowitz, *Perspective-Taking: Decreasing Stereotype Expression, Stereotype Accessibility, and In-Group Favoritism*, 78 J. Personality & Soc. Psychol. 708, 720 (2000) (referencing the "on-going debate over whether increased helping after perspective-taking is truly altruistic of egoistically motivated.").
140. *See* Galinsky & Ku, *supra* note 139, at 596.
141. *See* Galinsky & Moskowitz, *supra* note 140, at 709 (reporting experiments that "suggest that perspective-taking increased the evaluations of the out-group through the creation of a cognitive representation of the out-group that now overlaps with the participants' own self representation.").
142. *See id*. at 709 ("The increased accessibility of the self-concept after perspective-taking might result in the use of the self-concept over the stereotypic construct when categorizing and evaluating a member of a stereotyped group.").
143. *See id*. at 719 ("The results demonstrate the success of perspective-taking at alleviating intergroup bias, even when there is no known content of the stereotype of the out-group or a specific target individual whose perspective one has taken").
144. Andrew R. Todd, Galen V. Bodenhausen & Adam D. Galinsky, *Perspective Taking Combats the Denial of Intergroup Discrimination*, 48 J. Experimental Soc. Psychol. 738, 743 (2012).
145. *See* Legault, *supra* note 111, at 1476 (finding that autonomous motivations are more effective than controlling motivations in reducing implicit bias).
146. Gerald L. Clore & Katherine M. Jeffery, *Emotional Role Playing, Attitude Change, and Attraction Toward a Disabled Person*, 23 J. Personality & Soc. Psychol. 105, 115–16 (1972).
147. Jeanine L. Skorinko et al., *Effects of Perspective Taking on Courtroom Decisions*, 44 J. Applied. Soc. Psychol. 303 (2014).

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148. Jeanine L. Skorinko & Stacey A. Sinclair, *Perspective Taking Can Increase Stereotyping: The Role of Apparent Stereotype Confirmation*, 49 J. Experimental Soc. Psychol. 10, 11 (2013).
149. *Cf*. Robert J. Smith & Justin D. Levinson, *The Impact of Implicit Racial Bias on the Exercise of Prosecutorial Discretion*, 35 Seattle U.L. Rev. 795, 826 (2012) (suggesting that prosecutors live in high-crime neighborhoods).
150. *See* Kang et al., *supra* note 118, at 1171.
151. *See* Melissa Bateson, Daniel Nettle & Gilbert Roberts, *Cues of Being Watched Enhance Cooperation in a Real-World Setting*, 2 Biol. Lett. 412, 412 (2006) (finding that office workers contributed more money to a coffee honor box when being "watched" by a photograph of eyes than by a photograph of flowers).
152. *See* Bronwyn Law-Viljoen, Art and Justice: The Art of the Constitutional Court of South Africa (2008).
153. Ariely, *supra* note 22, at 282–84.
154. *See* Cialdini, *supra* note 119, at 92 ("Once we make a choice or take a stand, we will encounter personal and interpersonal pressures to behave consistently with that commitment. . . . Commitments are most effective when they are active, public, effortful, and viewed as internally motivated (uncoerced)." (emphasis omitted).
155. Although some courthouses already possess this feature, such exhortations or symbols often are more visible to the public than to judges, who may enter the courthouse through a secure garage and private elevators and corridors, rather than through the public lobby and corridors where inspirational statements are typically are displayed.
156. *See* The Joint Commission, Measuring Hand Hygiene Adherence: Overcoming the Challenges (2009).
157. *See* Melissa L. Finucane, Ali Alhakami, Paul Slovic & Stephen M. Johnson, *The Affect Heuristic in Judgments of Risks and Benefits*, 13 J. Behav. Decision Making 1, 8 (2000) (finding that subjects were more likely to rely on intuitive, heuristic-driven decision making rather than on deliberative decision making when operating under time pressure).
158. *See* Daniel T. Gilbert, *Inferential Correction*, *in* Heuristics and Biases: The Psychology of Intuitive Judgment 167, 179 (Thomas Gilovich et al. eds., 2002) ("The busyness-induced undercorrection of dispositional inferences is now a well-established and widely replicated phenomenon.").
159. *See* Fatma Marouf, *Implicit Bias and Immigration Courts*, 45 New Eng. L. Rev. 435, 435–37 (2011).
160. *See* Judith H. Langlois et al., *Maxims or Myths of Beauty? A Meta-Analytic and Theoretical Review*, 126 Psychol. Bull. 390, 399–401 (2000).
161. Judges generally disclose the reasons behind their actions, and they are often required to do so. *See, e.g.*, Fed. R. Civ. P. 52(a) (requiring findings of fact after a bench trial).
162. Robert A. Leflar, *Some Observations Concerning Judicial Opinions*, 61 Colum. L. Rev. 810, 810 (1961) ("[T]he necessity for preparing a formal opinion assures some measure of thoughtful review of the facts in a case and of the law's bearing upon them. Snap judgments and lazy preferences for armchair theorizing . . . are somewhat minimized."). *But see* Chad M. Oldfather, *Writing, Cognition, and the Nature of the Judicial Function*, 96 Geo. L.J. 1283 (2008) (arguing that verbalization does not always enhance understanding or decision making, particularly when important factors are not readily susceptible to verbalization).
163. *See* Robin Hogarth, Educating Intuition 263 (2006) ("Verbalization . . . forces people to act in [a] deliberate mode and cuts off access to tacit processes.").
164. Guthrie et al., *supra* note 24, at 1501–06.
165. *See* Johon McMakin & Paul Slovic, *When Does Explicit Justification Impair Decision Making?*, 14 Applied Cognitive Psychol. 527, 535–39 (2000) (finding that asking subjects

to provide reasons adversely affected their performance on intuitive tasks, such as indicating which advertisement people would prefer, but improved their performance on analytical tasks, such as estimating the length of the *Amazon River); Timothy D. Wilson & Jonathan W. Schooler, Thinking Too Much: Introspection Can Reduce the Quality of Preferences and Decisions*, 60 J. Personality & Soc. Psychol. 181, 181 (1991) (finding that subjects' preferred choices of strawberry jam were less likely to correspond with experts' preferred choices if the subjects were required to give reasons for their choices).

166. *See* Timothy D. Wilson et al., *Introspecting about Reasons Can Reduce Post-Choice Satisfaction*, 19 Personality & Soc. Psychol. Bull. 331, 337 (1993).
167. *See* Hogarth, *supra* note 164, at 209 ("Just as we cannot avoid tacitly forming prejudices, we cannot avoid forming a good first impression of con men. But we can learn not to act uncritically on the basis of that first impression.").
168. *See* Jennifer S. Lerner & Philip E. Tetlock, *Accounting for the Effects of Accountability*, 125 Psychol. Bull. 255, 256–59 (1999). The authors explain that decision makers are more likely to engage in self-critical thinking if they learn prior to making their decisions that they will be accountable to an audience whose views are unknown, who is well-informed, and who has a legitimate reason for evaluating the decision makers' judges. *See id.* at 259.
169. Guthrie et al., *supra* note 24, at 1236–37.
170. *See* Baruch Fischoff, *Heuristics and Biases in Application*, *in* Heuristics and Biases: The Psychology of Intuitive Judgment 730, 731 (Thomas Gilovich et al. eds., 2002) ("Training provides feedback that everyday life typically lacks, allowing people to test and refine judgment skills.").
171. *See* Chip Heath, Richard L. Larrick & Joshua Klayman, *Cognitive Repairs: How Organizational Practices Can Compensate for Individual Shortcomings,* 20 Res. Org. Behav. 1, 15 (1998) ("[I]ndividuals attend to and process information more comprehensively when they have a mental *schema* that tells them what information is needed in a given situation and where to find it.").
172. *See* Paul R. Dexter et al., *A Computerized Reminder System to Increase the Use of Prevention Care of Hospitalized Patients*, 345 New Eng. J. Med. 965, 965 (2001) (reporting positive results from use of a computerized reminder system to remind physicians to deliver preventive care to hospital patients); Padmanabham Ramnarayan et al., *Diagnostic Omission Errors in Acute Pediatric Practice: Impact of a Reminder System on Decision-Making*, 6 BMC Med. Informatics & Decision Making 37, 37–38 (2006) (reporting that physicians' use of an Internet-based diagnostic reminder system improved diagnostic workups and reduced diagnostic omission errors; the reminder system reduced unsafe diagnostic workups from 45.2 percent to 32.7 percent).
173. *See* Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 Cal. L. Rev. 1581, 1581–82 (2006).
174. *See, e.g.*, Ng v. I.N.S., 804 F.2d 534, 538 (9th Cir. 1986) ("[W]e require that the BIA state its reasons and show proper consideration of all factors when weighing equities. . . . [T]his court cannot assume that the BIA considered factors that it failed to mention in its decision."); Education Credit Mgmt. Corp. v. Pope, 308 B.R. 55, 59 (N.D. Cal. 2004) ("[T]he Ninth Circuit adopted a three-part undue hardship test. . . . [C]ourts must consider each element [of the test] in turn and, where one of the three elements is not met, the court must stop there with a finding of no dischargability."); Frankel v. Frankel, 886 A.2d 136, 154 (Md. App. 2005) ("A trial judge must consider each factor listed . . . when determining the amount of monetary award.").
175. *See* Mads Soegaard, *Forcing Functions*, https://www.interaction-design.org/literature/book/the-glossary-of-human-computer-interaction/forcing-functions ("A forcing

function is an aspect of a design that prevents the user from taking an action without *consciously* considering information relevant to that action. It *forces* conscious attention something . . . and thus deliberately disrupts the efficient or automatized [sic] performance of a task. . . . It is . . . in situations where the behavior of the user is *skilled*, as in performing routine or well-known tasks. Execution of this type of task [ ] is often partly or wholly automatized, requiring few or no attentional resources . . . , and it can thus be necessary to 'wake the user up' by deliberately disrupting the performance of the task.").