



MINDING THE COURT

Enhancing the Decision-Making Process

A WHITE PAPER
OF THE
AMERICAN JUDGES ASSOCIATION
MAKING BETTER JUDGES™

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Executive Summary*

Scientists carefully study how our brain processes information, though judges rarely consider these studies. But this research has great potential significance to judges, who spend much of their time making decisions of great importance to others. Although the study of how the brain processes information is an evolving one, the information now available can help judges to make better decisions.

Much of the processing for simple tasks—called reflexive processing—occurs in the background, while most of us solve riddles or math problems through reflective processing, which is deliberate and conscious. The reflective system has a limited capacity, so we operate on a principle of least effort, tending to rely on the reflexive system when possible. To do so, we often use what scientists call schemas, in which characteristics of objects, people, or behaviors coalesce into an easily recognizable pattern (like our ability to tell that a red octagon in the distance is a stop sign).

Heuristics are schemas that are based on only part of the information available—letting us make decisions more quickly. But heuristics can be faulty in a variety of ways. And since heuristics (like all schemas) operate in the world of unconscious, reflexive processing, we can easily make errors without recognizing the source of a faulty decision. Anchoring is one of these heuristics: for example, a person is likely to give a higher or lower estimate of damages if a particularly high (or low) figure is introduced early in the process. That number—even if far off the mark—tends to act as an anchor around which later estimates are formed.

Implicit biases, another type of schema, also threaten fair processes and just outcomes. They are based on implicit attitudes or stereotypes that operate below the radar, and judges have been shown susceptible to them as well.

But most behaviors and decisions result from a combination of both reflexive and reflective processes, so there are ways to lessen the effects of faulty heuristics and implicit biases. One step is to understand some of the causes of diminished decision-making abilities, which include fatigue (like sleep deprivation), other depleted resources (like glucose levels), mood, fluency (*i.e.*, ease of processing information), and multitasking. Fatigue, diminished resources, and multitasking all diminish performance. Fluent, easy-to-understand information will seem more accurate than more dense, hard-to-understand information, but that isn't necessarily the case. And mood affects the way we process information, with those in a positive mood generally more likely to engage in reflexive,

* We thank Jennifer Elek, Ingo Keilitz, and Robert Rust for their substantial help in developing the scope and content of the paper; we also thank Kate Lorenz and Alicia Walther for their administrative and editing assistance.

automatic processing and those in a negative mood more likely to engage in more reflective, deliberative processing.

Several techniques can help judges to be more mindful and aware of the decision-making process so that they make better decisions. First, focus on the higher purpose of the proceeding—hearing and properly deciding a case with a real impact on someone, not just processing a court docket. Second, formalize and critique heuristics used to make repetitive but important decisions. For example, a judge might consider what factors are leading to bail decisions or probation conditions: Are they based on accurate information? Third, be mindful and periodically “read the dials.” Are you tired? Is noise in the hallway a distraction? Is a break in order? Taking a break or engaging in even brief meditation can restore awareness and reduce stress. Fourth, decision aids, like checklists, can help. Doctors and pilots have shown that even well-trained professionals can improve performance by following checklists. Fifth, seek feedback and foster accountability. Judges often operate in isolation and without feedback. Competitive athletes improve performance through constant coaching and feedback, and judges can improve performance by getting objective feedback too.

This paper builds upon our 2007 American Judges Association white paper on procedural fairness. Litigant satisfaction is dependent upon judicial adherence to the four components of procedural fairness: voice (allowing litigants to be heard), neutrality (making decisions based on neutral, transparent principles), respectful treatment, and trust (the perception that the judge is sincere and caring). Focusing on procedural fairness can help a judge to be more mindful and focused on accurate decision making. For example, a judge may feel that he or she has heard a similar case before, but the judge focused on procedural fairness will try to listen carefully to the case now at hand. To show that the judge has heard what the litigants have said, the judge will repeat key themes from the parties’ testimony or argument. By doing so, the judge has the opportunity to see how this case may differ from others he or she has heard before. And the mindful judge will be careful to consider that possibility.

Introduction

The fundamental role of judges is to ensure a fair process and a just outcome for each case they hear. Although much has been written about how judges go about their decision-making process, for most judges that literature is not on their reading list or a part of their judicial education. Speculation about whether judges use a more inductive, bottom-up approach to review information and arrive at a decision or a more deductive, top-down approach that starts with a decision and finds the information to support it has interested many social scientists, but only a few judges.¹ The press of heavy caseloads or shrinking budgets seems far more imperative for judges to focus on. But a significant and growing body of research from the fields of cognitive psychology and neuroscience provides important insights about the decision-making process. How information is processed can affect fair processes and just outcomes. Judges who aspire to be great—not just good—at their profession need to focus on how to become better at making good decisions.

This white paper reviews research about decision making and discusses its implications for helping judges ensure fair processes and just outcomes. The paper builds on the 2007 American Judges Association (AJA) white paper, *Procedural Fairness: A Key Ingredient in Public Satisfaction*, that encouraged judges to incorporate the principles of procedural fairness (see sidebar), or procedural justice, to help ensure a decision-making process deemed fair by litigants.² Procedural fairness increases compliance with court orders and is critical to positive public perceptions of the court system.³ But for a variety of reasons, the legitimacy of judicial decisions is under attack. People believe,

Key Procedural-Justice Principles:

- Voice—Litigants have the opportunity to participate in the process and offer their perspective.
- Neutrality—Litigants believe the judge is neutral, makes decisions based on rules rather than opinions, and applies rules consistently.
- Respectful treatment—Litigants are treated with dignity and feel their problems are taken seriously.
- Trust—Litigants perceive the judge is sincere and caring.

Tyler, *infra* note 2

¹ See, e.g., Brandon L. Bartels, *Top-Down and Bottom-Up Models of Judicial Reasoning*, in *THE PSYCHOLOGY OF JUDICIAL DECISION MAKING* 41 (David E. Klein & Gregory Mitchell eds., 2010).

² Kevin Burke & Steve Leben, *Procedural Fairness: A Key Ingredient in Public Satisfaction*, 44 CT. REV. 4 (2007); see Tom R. Tyler, *Procedural Justice and the Court*, 44 CT. REV. 26, 30-31 (2007) (providing the key procedural-justice principles contained in the sidebar).

³ See Steve Leben, *Considering Procedural-Fairness Concepts in the Courts of Utah*, at 4-6, paper presented at the Utah state judicial conference, Sept. 14, 2011, available at <http://www.proceduralfairness.org/Resources/~/media/Microsites/Files/procedural-fairness/Utah%20Courts%20and%20Procedural%20Fairness%2009-2011.ashx>.

for example, that to a moderate or significant extent, judges make decisions based upon their personal or political beliefs rather than the rule of law.⁴ Nearly the same percentage of people believe judges make decisions to a moderate or significant extent based on their desire to be appointed to a higher court.⁵ The times dictate that judges become even more committed to procedural fairness, and a better understanding of how to improve the decision-making process is imperative to achieving that goal. Moreover, judges must provide both a process recognized for its fairness and good, fair decisions.

Being a great judge all of the time is not easy. Judges are mortals with all of the accompanying frailties. Implementing procedural-justice principles in the courtroom demands the judge's "mindful" or conscious focus and attention but also demands good decision-making practices in general. Understanding how the brain processes information and the various factors that can influence decisions and courtroom behaviors is a first step to practicing more mindful decision making.

There is a compelling body of knowledge accumulated by social and cognitive science on information processing and decision making. More recently, advances in neuroscience have helped scientists further expand their understanding of how the brain processes information. Although this continues to be a robust area of inquiry, there is much that scientists do not yet know. Thus this white paper is a snapshot in time, offered with the understanding that advances in technology and neuroscience promise continued refinement of current knowledge and its implications for the decision-making process. This paper offers a summary of some of the key findings applicable to judicial decision making and provides references for those readers interested in learning more.

⁴ In a 2007 survey, respondents were asked, "[T]o what extent do you think a state judge's ruling is influenced by his or her political views—to a great extent, moderate extent, small extent, or not at all?" Thirty percent said to a great extent, and forty-five percent said to a moderate extent. The survey had 1,514 respondents and a reported margin of error of 3%. 2007 Annenberg Public Policy Center Judicial Survey, *available at* http://www.annenbergpublicpolicycenter.org/Downloads/20071017_JudicialSurvey/Survey_Questions_10-17-2007.pdf.

⁵ In a 2006 survey, respondents were asked "[T]o what extent do you think a desire to be promoted to the next higher court would affect a judge's ability to be fair and impartial when deciding a case—to a great extent, moderate extent, small extent, or not at all?" Thirty-five percent of respondents said to a great extent, and forty percent said to a moderate extent. The survey had 1,002 respondents and a reported margin of error of 3%. Annenberg Public Policy Center Judicial Independence Survey, *available at* <http://www.annenbergpublicpolicycenter.org/NewsFilter.aspx?mySubType=PressRelease&>.

The Science of Decision Making

At any point in time, an individual is bombarded with a host of sensory information. Most of this information is processed “behind the scenes” with little or no knowledge on the part of the individual. Much like a computer continues to work in the background while a word-processing program is on the screen, individuals also constantly process a barrage of sights (*e.g.*, the glare on the screen), sounds (*e.g.*, the click of the keys), smells (*e.g.*, the coffee on the desk), and other information—sorting, categorizing, and storing it—even as the individuals intently focus on a specific task (*e.g.*, reading a case file or writing an opinion).

This dual system of information processing is the mechanism through which judgments and decisions are made. Neuroscientist Matthew Lieberman refers to the automatic, rapid, unconscious system that operates in the background as reflexive, and the deliberative, slow, and conscious system as reflective. Through neuroimaging, he has identified different areas of the brain associated with each system.⁶

The reflexive, automatic system relies on patterns that develop based on the individual’s experiences with the world. The individual learns over time how to distinguish different objects, people, actions, and situations based on features that coalesce into patterns. These patterns, referred to as schemas, help the brain process information quickly and efficiently. Based on prior experiences, for example, individuals know that a red octagon means stop and an outstretched hand is a greeting.

Reflexive processes—Like blinking in bright sunlight, these reflexive processes are automatic, rapid, and unconscious.

Reflective processes—Like solving a math problem, reflective processes are deliberative, slow, and conscious.

Schemas—characteristics of objects, people, and behaviors that, based on an individual’s experiences, coalesce into patterns (*e.g.*, a red octagon means stop).

⁶ Matthew D. Lieberman, *Reflective and Reflexive Judgment Processes: A Social Cognitive Neuroscience Approach*, in SOCIAL JUDGMENTS: IMPLICIT AND EXPLICIT PROCESSES 44 (Joseph P. Forgas, Kipling D. Williams, & William Von Hippel eds., 2003). Scientists are still exploring whether there are, in fact, two different systems, multiple systems, or multiple processes that make up one system, but most agree on “processes that are unconscious, rapid, automatic, and high capacity, and those that are conscious, slow, and deliberative.” Jonathan St. B. T. Evans, *Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition*, 255 ANN. REV. PSYCHOL. 255, 256 (2008). The white paper relies on Lieberman’s model because of his extensive work mapping areas of the brain in which each system predominates and because the labels he uses are more descriptive of decision-making processes than, for example, Daniel Kahneman’s system 1 and system 2 labels. Compare Burke & Leben, *supra* note 2, and Lieberman, *supra*, with DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011).

The reflective, controlled system relies on intention and effort to perform a task. Memorizing a new phone number or computer password requires concentration. Once the phone number is repeatedly practiced, however, it becomes a readily accessible schema that comes to mind with little effort. For a judge with a domestic-violence docket, for example, a bit of study up-front would teach the judge the elements of domestic battery—with no need to look it up again as each case is called.

While the reflexive system can process information on an ongoing basis, the reflective system has a limited capacity. It works for a while but eventually runs out of gas. Thus the brain is somewhat miserly about its use of the reflective system. This “principle of least effort” means that decision makers initially tend to rely on the automatic retrieval of schemas to process incoming information and engage the reflective system only when motivated to do otherwise by, for example, learning a new skill or solving a complex problem.⁷

Gary Klein refers to this reliance on schemas as recognition-primed decision making.⁸ Klein’s premise is that experts develop schemas, based on their experience, that they subsequently use to size up a situation and decide how to move forward. Thus a firefighter does not enter a burning building and proceed to analyze all the potential options for action. Rather, the firefighter instantaneously takes in a variety of information about the current situation and matches it to a response option that has worked in similar situations. The initial option (*i.e.*, decision) may not have been the best option if there had been enough time to generate and analyze all possible options, but it usually works. In this sense, Klein says his model relies on what Herbert Simon referred to as “satisficing”—finding the first option that works rather than the most optimal option.⁹ Judges, particularly when confronted with large dockets, heavy calendars, or pressing “emergency” motions, can tend to use the same process as the firefighter. Sometimes using the first option that works rather than the optimal option actually might be okay—but not always.

Schema-based, reflexive decision making works for countless choices an individual makes throughout the day.¹⁰ And in some instances, such as those requiring a quick

⁷ Serena Chen & Shelly Chaiken, *The Heuristic-Systematic Model in Its Broader Context*, in *DUAL-PROCESS THEORIES IN SOCIAL PSYCHOLOGY* 73 (Shelley Chaiken & Yaacov Trope eds., 1999).

⁸ Gary A. Klein, *A Recognition-Primed Decision (RPD) Model of Rapid Decision Making*, in *DECISION MAKING IN ACTION: MODELS AND METHODS* 138 (Gary A. Klein, Judith Orasanu, Roberta Calderwood, & Caroline E. Zsombok eds., 1993).

⁹ Herbert A. Simon, *Rational Choice and the Structure of the Environment*, 63 *PSYCHOL. REV.* 129 (1956).

¹⁰ “Most of the time we solve problems without coming close to the conscious, step-by-step analysis of the deliberative approach. In fact, attempting to approach even a small fraction of the problems we encounter in a full, deliberative manner would bring our activities to a screeching halt. Out of necessity, most of problem-solving is intuitive.” PAUL BREST & LINDA HAMILTON KRIEGER, *PROBLEM SOLVING, DECISION MAKING, AND PROFESSIONAL JUDGMENT: A GUIDE FOR LAWYERS AND POLICYMAKERS* 14 (2010).

decision in an emergency situation, as in the firefighter example, or a judgment involving an individual preference, like selecting the best tasting jam, the reflexive approach might be better than a more deliberative, reflective approach.¹¹ The problem with reflexive decision making, however, is that sometimes the underlying schemas are based on inaccurate information (*e.g.*, assuming two events that occur together are related, as in superstitions), are only partially correct (*e.g.*, stereotypes), or are applied incorrectly (*e.g.*, using a gesture that is misinterpreted in another country).¹² Two prominent examples of schemas that can lead to inaccurate decisions are cognitive heuristics and implicit biases, described in the next sections.

Cognitive Heuristics

Heuristics are schemas individuals use to solve problems and make decisions quickly. They work rapidly by attending to only some of the information available. A judge relying on only some of the information available to make a decision that needs to be made quickly is not necessarily bad. Research shows that reliance on heuristics in some circumstances can lead to more accurate decisions and judgments than reliance on more rational models.¹³ However, research also shows how heuristics can lead decision makers to jump to conclusions and make errors in solving problems.¹⁴ Surely every experienced judge has at one point jumped to a conclusion that ultimately proved to be wrong.

Heuristics—schemas that rely on only some of the information available so an individual can make a decision quickly and with little effort.

The anchoring heuristic predicts that an individual's estimates or comparison judgments are influenced by an initial value—even if the value is selected at random and has no connection to the task at hand. A low initial value elicits estimates lower than a high initial value. In a classic study demonstrating anchoring, participants watched as a researcher spun a wheel of fortune, wrote down the number observed, and then estimated the number of African countries in the United Nations.¹⁵ The wheel of fortune was rigged to stop only on the numbers 10 and 65. The median response of participants who wrote down 10 was 25 countries; the median response for participants who wrote down 65 was 45

¹¹ See, *e.g.*, Timothy D. Wilson et al., *Introspecting About Reasons Can Reduce Post-Choice Satisfaction*, 19 PERSONALITY & SOC. PSYCHOL. BULL. 331 (1993); Timothy D. Wilson & Jonathan W. Schooler, *Thinking Too Much: Introspection Can Reduce the Quality of Preferences and Decisions*, 60 J. PERSONALITY & SOC. PSYCHOL. 181 (1991).

¹² See Desmond Morris, *Gestures, Meanings, and Cultures*, YOUTUBE (Jan. 29, 2011), <http://www.youtube.com/watch?v=fRQSRed58XM>, for some common examples of cultural differences in interpreting gestures in a video by Desmond Morris.

¹³ Gerd Gigerenzer & Wolfgang Gaissmaier, *Heuristic Decision Making*, 62 ANN. REV. PSYCHOL. 451 (2011).

¹⁴ KAHNEMAN, *supra* note 6.

¹⁵ *Id.*; Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124 (1974).

countries. Thus the initial random value anchored participants' subsequent estimates of the number of countries.

How applicable is this research to the courtroom? Do judges who have been specifically trained to follow procedural rules designed to minimize the influence of irrelevant information succumb to anchoring in the same way as the study participants estimating the number of African countries in the United Nations? Birte English and her colleagues explored this question and discovered the answer is yes.¹⁶ In a series of studies with German

Research demonstrates that despite their experience and knowledge, expert judges are influenced by randomly determined anchors.

English, Mussweiler, & Strack,
infra note 16 at 198

judges, they examined whether a criminal sentencing decision could be influenced by irrelevant anchors that judges knew to be irrelevant. In the studies, the irrelevant anchor was presented by (a) a journalist's question about the sentence, (b) a prosecutor's acknowledged, randomly determined sentencing demand, and (c) a prosecutor's sentencing demand obtained by the judge throwing a pair of loaded dice. In all cases the judges' decisions were influenced by the anchor. The judges sentenced more harshly when exposed to the higher rather than lower randomly determined anchor. A fourth study by the researchers also demonstrated that judges exposed to a high anchor responded to incriminating evidence faster than exculpatory evidence (measured by response latencies on a timed categorization test), suggesting that the anchor primed the judges to look for anchor-consistent information.¹⁷ In addition, the criminal-law judges were more certain about their decisions than those who were not experts in criminal law, suggesting that "experts may mistakenly see themselves as less susceptible to biasing influences on their sentencing decisions."¹⁸

Another heuristic is the reliance on small samples as indicative of the larger population. A set of ten coin tosses, for example, might yield ten heads in a row and thus not be representative of the larger population of tosses across many small samples that would yield an even distribution of heads and tails. Nonetheless, individuals frequently view small samples as representative and adjust their expectations accordingly. Many

¹⁶ Birte English, Thomas Mussweiler, & Fritz Strack, *Playing Dice with Criminal Sentences: The Influence of Irrelevant Anchors on Experts' Judicial Decision Making*, 32 PERSONALITY & SOC. PSYCHOL. BULL. 188 (2006).

¹⁷ The same was not true for exculpatory information. The researchers found this consistent with prior research indicating that negative information tends to be more salient for individuals in general, and they hypothesized that judges focus on the incriminating information because they are charged with determining whether the defendant is guilty beyond a reasonable doubt. *Id.*

¹⁸ English et al., *supra* note 16, at 194.

individuals fall prey to the gambler's fallacy, erroneously believing, for example, that "black" is due after a run of "red" on the roulette wheel.¹⁹

Uri Simonsohn and Francesca Gino explored the influence of this heuristic on professionals who make a set of decisions every day.²⁰ They postulated that professionals would try to align each daily set of decisions to reflect their overall distribution of decisions. To test this hypothesis, the researchers reviewed data from over 9,000 MBA interviews and found that interviewers' daily subsets of scores tended to reflect their overall distribution of scores. That is, the interviewers took into consideration their previous scores for the day in formulating their subsequent scores, and the effect was stronger as the day progressed. Thus even though four interviewees on a given day may all be highly desirable, interviewers will be reluctant to score all highly, and the interviewees at the end of the day will be more likely to be ranked lower. The researchers consider what this might mean for judicial decisions:

Imagine, for example, a judge who must make dozens of judgments a day. Given that people underestimate the presence of streaks in random sequences, the judge may be disproportionately reluctant to evaluate 4, 5, or 6 people in a row in too similar a fashion, even though that "subset" was formed post-hoc.²¹

Further evidence that judges are susceptible to heuristics comes from a series of studies by law professors Chris Guthrie and Jeffrey Rachlinski and Judge Andrew Wistrich.²² They explored judges' use of five different heuristics: (a) anchoring, (b) framing—the same information presented differently (*e.g.*, the glass is half full or half empty) affects interpretation of gains and losses, (c) hindsight—the sense that specific outcomes were more predictable once the outcomes are known (*e.g.*, "Monday-morning quarterbacking"), (d) representativeness—ignoring statistical base-rate information, and (e) egocentricity—overconfidence in one's abilities. They found that judges' decisions were influenced by each of the heuristics. For example, in a test in which some judges were told about a clearly meritless motion to dismiss for lack of jurisdiction in a diversity case (based on the idea that damages were less than \$75,000), judges who were aware that such a motion had been filed awarded a lesser damage amount (30% less overall) than judges

¹⁹ Tversky & Kahneman, *supra* note 15.

²⁰ Uri Simonsohn & Francesca Gino, *Daily Horizons: Evidence of Narrow Bracketing in Judgment from 10 Years of MBA-Admission Interviews*, PSYCHOLOGICAL SCIENCE (forthcoming).

²¹ *Id.* at 10-11 (citing Thomas Gilovich, Robert Vallone, & Amos Tversky, *The Hot Hand in Basketball: On the Misperception of Random Sequences*, 17 COGNITIVE PSYCHOL. 295 (1985)).

²² Chris Guthrie, Jeffrey J. Rachlinski, & Andrew J. Wistrich, *Inside the Judicial Mind*, 86 CORNELL L. REV. 777 (2001).

who didn't know about the motion to dismiss.²³ But they also found that judges showed less susceptibility to the framing and representativeness heuristics than other experts and laypersons, and, in a subsequent study, found that hindsight did not affect judges' decisions in a specific scenario involving a probable-cause determination.²⁴

The findings of a myriad of scientists are that people—judges assuredly included—are susceptible to heuristics. But we may be able to overcome them. The ability to overcome heuristics starts with understanding the concept, understanding yourself, and being inquisitive enough to frequently ask questions—of yourself.

Implicit Biases

Implicit biases offer another example of how schemas can threaten fair processes and just outcomes. Implicit biases are based on implicit attitudes or stereotypes that operate below the radar. As a result, individuals are not aware that implicit biases may be affecting their behaviors and decisions. Indeed, research shows that even individuals who consciously strive to be fair and objective can nonetheless be influenced by implicit biases.²⁵

Scientists use a variety of methods to measure implicit bias, but the most common is reaction time. Reaction-time measures are based on the reflexive system's pairing of two stimuli that are strongly associated (*e.g.*, elderly and frail) more quickly than two stimuli that are less strongly associated (*e.g.*, elderly and robust). *Project Implicit*, begun in 1998 by researchers from Harvard University, the University of Virginia, and the University of Washington, offers web-based reaction-time tests, referred to as Implicit Association Tests, in over fifteen areas such as weight, age, race, and religion that anyone can take.²⁶

A review of the results of over 2.5 million Implicit Association Tests taken on various *Project Implicit* demonstration sites between 2000 and 2006 revealed the pervasiveness of implicit preferences for socially privileged groups such as white over black and straight over gay.²⁷ Research also shows that implicit biases can influence decisions in a variety of real-life settings such as employers hiring job applicants, police

²³ Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 21 (2007).

²⁴ Andrew J. Wistrich, Chris Guthrie & Jeffrey J. Rachlinski, *Can Judges Ignore Inadmissible Information?: The Difficulty of Deliberately Disregarding*, 153 U. PA. L. REV. 1251 (2005).

²⁵ Patricia G. Devine, *Stereotypes and Prejudice: Their Automatic and Controlled Components*, 56 J. PERSONALITY & SOC. PSYCHOL. 5 (1989).

²⁶ About Us, PROJECT IMPLICIT, <http://www.projectimplicit.net/about.html> (last visited Sept. 28, 2012).

²⁷ Kristin A. Lane, Jerry Kang, & Mahzarin R. Banaji, *Implicit Social Cognition and Law*, 3 ANN. REV. L. & SOC. SCI. 427 (2007); Brian A. Nosek et al., *Pervasiveness and Correlates of Implicit Attitudes and Stereotypes*, 18 EUR. REV. SOC. PSYCHOL. 36 (2007).

officers deciding to shoot, healthcare workers providing medical treatment, and voters making voting choices.²⁸

Are judges influenced by implicit biases—despite their training and conscious efforts to be fair and objective? Of course one would hope not, but perhaps the safest answer is to concede there is that potential. Research by Rachlinski, Wistrich, and Guthrie, joined by Sheri Lynn Johnson, suggests that judges actually may be influenced by implicit bias.²⁹ The researchers found, for example, a strong white preference on the Implicit Association Test among white judges. In keeping with the general population findings of the Implicit Association Test, the black judges showed no clear preference overall (44% showed a white preference but the preference was weaker overall). The researchers also reported some evidence that implicit bias affected judges' sentencing decisions, though this finding was less clear. Most importantly for this white paper, the researchers found that “when judges are aware of a need to monitor their own responses for the influence of implicit racial biases, and are motivated to suppress that bias, they appear able to do so.”³⁰

Mindful Judicial Decisions

Scientists generally agree that most behaviors and decisions result from a combination of both reflexive and reflective processes. The question is the extent to and way in which the two processes work together for any particular decision.³¹ Several researchers postulate what psychologist Jonathan Evans refers to as “default-interventionist” models of judgment and decision making.³² These models propose that initial intuitive or reflexive responses are generated, which are then modified or endorsed by the reflective system. The reflective system routinely endorses the initial responses, reserving more deliberative, effortful processing to when the individual is motivated to do so and working memory and time are sufficient.³³

²⁸ John T. Jost et al., *The Existence of Implicit Bias Is Beyond Reasonable Doubt: A Refutation of Ideological and Methodological Objections and Executive Summary of Ten Studies That No Manager Should Ignore*, 29 RES. ORGANIZATIONAL BEHAV. 39 (2009).

²⁹ Jeffrey J. Rachlinski, Sheri Lynn Johnson, Andrew J. Wistrich, & Chris Guthrie, *Does Unconscious Racial Bias Affect Trial Judges?*, 84 NOTRE DAME L. REV. 1195, 1225-26 (2009).

³⁰ *Id.* at 1221. For judicial-education resources on implicit bias, see PAMELA M. CASEY, ROGER K. WARREN, FRED L. CHEESMAN II. & JENNIFER K. ELEK, *HELPING COURTS ADDRESS IMPLICIT BIAS* (2012), available at www.ncsc.org/ibreport.

³¹ Robert Boyd et al., *Explicit and Implicit Strategies in Decision Making*, in BETTER THAN CONSCIOUS? DECISION MAKING, THE HUMAN MIND, AND IMPLICATIONS FOR INSTITUTIONS 225 (Christoph Engel & Wolf Singer eds., 2008); Roy F. Baumeister, E. J. Masicampo, & Kathleen D. Vohs, *Do Conscious Thoughts Cause Behavior?* 62 ANN. REV. PSYCHOL. 331 (2011); Evans, *supra* note 6.

³² Evans, *supra* note 6, at 266.

³³ Jonathan St. B. T. Evans, *The Heuristic-Analytic Theory of Reasoning: Extension and Evaluation*, 13 PSYCHONOMIC BULL. & REV. 378, 382 (2006).

In many arenas, default processing is good enough. But in the courtroom, where individuals face possible restrictions of liberty and we consider other life-altering issues—such as family preservation, personal safety, economic security, and adequate housing—fair processes and just outcomes demand a more deliberate approach. Procedural-fairness principles that call for giving litigants voice, ensuring neutrality, demonstrating respect and dignity for the litigant, and presenting a trustworthy character all require an actively engaged decision maker.

Even so, deliberative decision making does not mean that judges always override their initial intuitive reactions. As with firefighters, judges gain expertise over time that will become part of their reflexive schemas for judging certain cases and will help them move through their often unwieldy calendars. The problem is that judges, like everyone else, also rely on faulty schemas (*e.g.*, anchoring and implicit bias) in some circumstances and thus need to check their thinking for these schemas as well. Guthrie and his colleagues call this approach the “intuitive-override” model of judging:

[W]e do not suggest that judges should reject intuition in all cases. Rather, we suggest that judges should use deliberation as a verification mechanism especially in those cases where intuition is apt to be unreliable either because feedback is absent or because judges face cues likely to induce misleading reliance on heuristics.³⁴

Competitive athletes believe that training, adequate sleep, and proper diet are essential for good performance. But being a judge is a pretty sedentary job, so it is understandable that many, if not most judges do not view the requirements of good judicial performance as a competitive athlete might. Even judges should consider how to prepare for the key components of their work, just as an athlete would. Purposeful engagement of deliberative processing is the essence of good judging—being more attentive and open to each individual matter and ensuring that fair processes are guiding its outcome. Being attentive and open, however, is not easy when a judge is facing a long docket, complex hearings, particularly contentious parties, or all of the above. In addition, a number of emotional, physical, cognitive, and social or cultural factors can interfere with a judge’s ability to be mindful. Examples of some of these follow.

Fatigue

In their article published in 2000, researchers Yvonne Harrison and James Horne reviewed studies on the effects of sleep deprivation and identified several areas of concern,

³⁴Guthrie, et al., *supra* note 23, at 33.

including “communication, lack of innovation, inflexibility of thought processes, inappropriate attention to peripheral concerns or distraction, over-reliance on previous strategies, unwillingness to try out novel strategies, unreliable memory for when events occurred, change in mood including loss of empathy with colleagues, and inability to deal with surprise and the unexpected.”³⁵ Much of the research they reviewed was based on deprivation of one or more nights’ sleep.

A subsequent article published in 2003 by researchers from the University of Pennsylvania, the Beth Israel Deaconess Medical Center, and the Harvard Medical Center explored whether reduced hours of sleep each night, rather than no sleep at all, might also affect performance.³⁶ They found that individuals whose sleep was reduced to 6 hours or less across a 14-day period produced problems in cognitive performance equal to individuals who had experienced up to 2 full nights of sleep deprivation. The researchers also found that individuals reported being only slightly sleepy at the end of the study, when their performance was worst, suggesting that individuals are unreliable at assessing their lack of sleep or that they do not experience tiredness despite poor performance.

Talking about how much sleep a judge gets or suggesting that more sleep leads to better judicial decisions may seem trite to some and downright preposterous to others. But why not ask to what extent sleep deprivation does interfere with real-life decision making? Dr. Christopher Landrigan and his colleagues investigated the effects of sleep deprivation on medical interns with longer shifts and discovered that they made 36% more serious medical errors than their counterparts who did not have shifts of 24 hours or more and worked 20 fewer hours per week.³⁷ On a larger scale, the Association of Professional Sleep Societies’ Committee on Catastrophes, Sleep, and Public Policy reviewed several disasters such as the Three-Mile Island and Chernobyl nuclear plant incidents and the Space Shuttle Challenger accident and concluded that “sleep and sleep-related factors appear to be involved in widely disparate types of disasters.”³⁸ The report reviewed research demonstrating that the tendency to want to sleep is greatest in the early morning hours and, to a lesser extent, in the midafternoon; during the disasters, individuals made critical judgment errors in the early morning hours. The Committee noted that during the two “vulnerable” periods of the day, neural processes controlling alertness and sleep lessen the

³⁵ Yvonne Harrison, & James A. Horne, *The Impact of Sleep Deprivation on Decision Making: A Review*, 6 J. EXPERIMENTAL PSYCHOL.: APPLIED 236, 246 (2000).

³⁶ Hans P.A. Van Dongen et al, *The Cumulative Cost of Additional Wakefulness: Dose-Response Effects on Neurobehavioral Functions and Sleep Physiology from Chronic Sleep Restriction and Total Sleep Deprivation*, 26 SLEEP 117 (2003).

³⁷ Christopher P. Landrigan et al., *Effect of Reducing Interns’ Work Hours on Serious Medical Errors in Intensive Care Units*, 351 NEW ENG. J. MED 1838 (2004).
2004.

³⁸ Merrill M. Mitler et al., *Catastrophes, Sleep, and Public Policy: Consensus Report*, 11 SLEEP 100, 107 (1988).

capacity of an individual to function and that “inadequate sleep, even as little as 1 or 2 [hours] less than usual sleep, can greatly exaggerate the tendency for error during the time zones of vulnerability.”³⁹

Depleted Resources

Glucose fuels the brain, and research shows that reflective processes demand more fuel than reflexive processes. When glucose levels are low, individuals have a tendency to rely more on reflexive decision-making strategies and have more difficulty summoning their reflective system to check their decisions.⁴⁰ Glucose is also depleted when exercising self-control: Controlling attention, regulating emotions, resisting impulsivity, and coping with stress have all been found to consume relatively large amounts of glucose.⁴¹ Thus both decision making and exercising self-control require glucose, and both can also deplete glucose stores. Research shows that making many decisions can subsequently interfere with an individual’s ability to exercise self-control, and conversely, that exercising self-control can lead to less likelihood of engaging the effortful, reflective system in making decisions.⁴²

This research may explain the findings of a recent study that examined decision fatigue among Israeli judges.⁴³ The study found that the experienced parole-board judges’ decisions fluctuated based on when cases were heard during the day. Cases heard early in the morning and just after breaks (with meals) were more likely to end with a parole grant than cases heard shortly before breaks and at the end of the day. That is, decisions tended to default to the status quo of denying parole as the number of cases increased until judges took a break. Because each break included a meal, it is not possible to say with certainty that it was the meal and not the “timeout” that affected subsequent decisions. But research in this area suggests that the meal replenished glucose stores and thus contributed to the change in “default” processing in cases following a break. In either case, the study does suggest that “judicial decisions can be influenced by whether the judge took a break to eat.”⁴⁴

³⁹ *Id.*

⁴⁰ E.J. Masicampo & Roy F. Baumeister, Toward a Physiology of Dual-Process Reasoning and Judgment: Lemonade, Willpower, and Expensive Rule-Based Analysis, 19 *Psychological Science* 255 (2008).

⁴¹ Matthew T. Gailliot & Roy F. Baumeister, *The Physiology of Willpower: Linking Blood Glucose to Self-Control*, 11 *PERSONALITY & SOC. PSYCHOL. R.* 303, 319 (2007).

⁴² Kathleen D. Vohs et al., *Making Choices Impairs Subsequent Self-Control: A Limited-Resource Account of Decision Making, Self-Regulation, and Active Initiative*, 94 *J. PERSONALITY & SOC. PSYCHOL.* 883 (2008); Anastasiya Pocheptsova et al., *Deciding Without Resources: Psychological Depletion and Choice in Context*, 46 *J. MARKETING RES.* 344 (2009).

⁴³ Shai Danziger, Jonathan Levav, & Liora Avnaim-Pesso, *Extraneous Factors in Judicial Decisions*, 108 *PROC. NAT’L ACAD. SCI.* 6889 (2011).

⁴⁴ *Id.* at 6890.

Mood

Mood affects how an individual processes information. In general, those in a positive mood engage in more reflexive, automatic processing, and those in a negative mood engage in more reflective, deliberative processing.⁴⁵ One explanation is that positive moods enhance the default processing approach—the status quo—and negative moods inhibit it.⁴⁶ In many instances, as has been described earlier, individuals “default” to reflexive processing; thus positive moods often are associated with reflexive processing. If things are good, there is little motivation to engage in more effortful processing. Reliance on stereotypes comes easily.⁴⁷ A negative mood, on the other hand, signals a problem situation that needs more focus and attention to detail.

Based on their review of the literature, researchers Kimberly Elsbach and Pamela Barr suggest that different moods are more suited for some purposes than others: “[P]ositive moods are best suited for decision-making tasks that are interesting or require creativity or efficiency, while negative moods are best suited for decision tasks that are effortful and/or require careful consideration and analysis of a number of different issues and potential outcomes.”⁴⁸ The researchers also cite studies finding that individuals in a good mood tend to be overly optimistic and self-confident in their own abilities.

This is not to suggest that judges purposely summon a negative mood before taking the bench. Individuals can override their spontaneous reliance on reflexive processing when in a positive mood by being more vigilant. Research shows, for example, that specifically instructing individuals to pay attention and holding individuals accountable for their decisions can induce more effortful processing.⁴⁹

Fluency

Fluency refers to the ease with which individuals process information. People generally consider information that is processed more fluently as more accurate and true

⁴⁵ Gerald L. Clore & Jeffrey R. Huntsinger, *How Emotions Inform Judgment and Regulate Thought*, 11 *TRENDS COGNITIVE SCI.* 393 (2007).

⁴⁶ Jeffrey R. Huntsinger, Gerald L. Clore, & Yoav Bar-Anan, *Mood and Global-Local Focus: Priming a Local Focus Reverses the Link Between Mood and Global-Local Processing*, 10 *EMOTION* 722 (2010).

⁴⁷ Galen V. Bodenhausen, Geoffrey P. Kramer, & Karin Süsser, *Happiness and Stereotypic Thinking in Social Judgment*, 66 *J. PERSONALITY & SOC. PSYCHOL.* 621 (1994).

⁴⁸ Kimberly D. Elsbach & Pamela S. Barr, *The Effects of Mood on Individuals' Use of Structured Decision Protocols*, 10 *ORGANIZATION SCI.* 181, 193 (1999).

⁴⁹ Norbert Schwarz & Gerald L. Clore, *Feelings and Phenomenal Experiences*, in *SOCIAL PSYCHOLOGY: HANDBOOK OF BASIC PRINCIPLES* 385 (Arie W. Kruglanski & E. Tory Higgins eds., 2nd ed. 2007); Bodenhausen, Kramer, & Süsser, *supra* note 47.

than less fluent information.⁵⁰ This holds true for a range of sensory and cognitive information. For example, information written in an easy-to-read type is considered more accurate than the same information written in a more difficult-to-process font. Likewise, information that is familiar, easier to pronounce, and easier to retrieve from memory is judged more true and likeable and individuals express more confidence in it, whatever its actual content (and accuracy) may be. Much of advertising is based on the idea of fluency—repeatedly showing the same information in easily processed ways.

Psychologist Adam Alter and his colleagues demonstrated that fluency is associated with reflexive information processing and disfluency is associated with more reflective processing.⁵¹ In one of their studies, they asked participants to complete the Cognitive Reflection Test, a series of three questions that seem to have initially easy answers but, upon further reflection, require more systematic processing to obtain the correct responses. For example, one question reads:

A bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost? ____ cents⁵²

The automatic response is 10 cents, but more careful consideration of the problem reveals the correct answer to be 5 cents: If the ball costs 10 cents and the bat is \$1.00 more than the ball (*i.e.*, \$1.10), the total cost would be \$1.20 rather than \$1.10.⁵³

The researchers gave some of the participants in the study the questions in an easy-to-read font and other participants received the questions in a difficult-to-read font. Those in the latter, disfluency group answered more items correctly. The researchers suggested that the difficult font served as a cue to the reflective system that the task would require more effort to process. Those in the easy-font group had no cue that more effortful processing was required.

In the courtroom, Nancy Pennington and Reid Hastie have demonstrated the potential effects of fluency. In general, their research found that when individuals read case materials and were asked to come to a decision at the end (similar to the typical juror's task), the individuals develop narrative stories to understand the evidence. The researchers manipulated the order of the evidence provided, making it easier or harder to

⁵⁰ Adam L. Alter & Daniel M. Oppenheimer, *Uniting the Tribes of Fluency to Form a Metacognitive Nation*, 13 PERSONALITY & SOC. PSYCHOL. R. 219 (2009).

⁵¹ Adam L. Alter, Daniel M. Oppenheimer, Nicholas Epley, & Rebecca N. Eyre, *Overcoming Intuition: Metacognitive Difficulty Activates Analytic Reasoning*, 136 J. EXPERIMENTAL PSYCHOL.: GEN. 569 (2007).

⁵² Shane Frederick, *Cognitive Reflection and Decision Making*. 19 J. ECON. PERSP. 25, 26 (2005).

⁵³ *Id.* at 26-27.

develop a coherent narrative. Consistent with the research on fluency, they found that the ease in creating a narrative story affected “perceptions of evidence strength, judgments about confidence, and the impact of information about witness credibility.”⁵⁴ Decisions shifted in the direction of the narratives that were easier to construct.

The influence of fluency on information processing is complex and situation specific. For example, at least in some situations, individuals will discount fluency when they are aware that it could be influencing their judgments.⁵⁵ Thus it is important for judges to learn about and be aware of the potential effects of fluency on their decisions. The potential for error based on fluency provides one more reason for judges to check their reflexive processing.

Multitasking

We live in a society where multitasking is too often the norm. Teenagers often multitask when driving and texting, with dangerous results. The same may be true for the results of decisions made by multitasking judges.

For the brain, multitasking is not performing two or more tasks simultaneously; rather, multitasking involves the rapid switching from one task to another. Done in milliseconds, the brain postpones one task and sets up for the next.⁵⁶ For more than 97% of the population, this task switching has a cost in performance.⁵⁷ Despite numerous studies to the contrary, however, most individuals think they are good at multitasking and that they are more efficient as a result. Many judges are the same: even if they concede that multitasking has a cost, many judges are quite good at articulating that—for them—the cost is negligible and worth it.

But researchers consistently find diminished performance by those who multitask. For example, psychologists Jason Watson and David Strayer tested the performance of 200 individuals on a driving simulation task, a cognitive task involving memorization and basic math problems, and a dual-task condition involving both the driving simulation and the cognitive tasks.⁵⁸ Performance measures on the individual tasks were significantly better than those in the dual-task condition. The researchers found that a very small percentage of the participants (2.5%) did not see their performance degrade in the dual-task condition.

⁵⁴ Pennington & Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERSONALITY & SOC. PSYCHOL. 189, 202 (1992).

⁵⁵ Alter & Oppenheimer, *supra* note 50.

⁵⁶ Stephen Monsell, *Task Switching*, 7 TRENDS COGNITIVE SCI. 134 (2003).

⁵⁷ Jason M. Watson & David L. Strayer, *Supertaskers: Profiles in Extraordinary Multitasking Ability*, 17 PSYCHONOMIC BULL. & R. 479 (2010).

⁵⁸ *Id.*

However, they noted that these individuals are the exception and cautioned readers about assuming they are one of the “supertaskers”:

Indeed, our studies over the last decade have found that a great many people have the belief that the laws of attention do not apply to them (*e.g.*, they have seen other drivers who are impaired while multitasking, but they themselves are the exception to the rule). In fact, some readers may also be wondering whether they too are supertaskers; however, we suggest that the odds of this are against them.⁵⁹

Other studies have shown that more multitasking does not necessarily improve multitasking skills. For example, a study from Stanford University researchers demonstrated that individuals who commonly multitasked using different types of media had less attentional control than light media multitaskers and were worse at task switching.⁶⁰ High media multitaskers had difficulty filtering out extraneous information and suppressing task switching. Another study explored whether avid videogame players are better at multitasking and found they, like nonvideogame players, performed worse during dual-task conditions.⁶¹

Despite information that multitasking is less efficient, degrades performance, and may be dangerous—Strayer and his colleagues found that the crash risk of using a “hands-free” cell phone while driving is comparable to driving while intoxicated—individuals still find it difficult not to multitask.⁶² Why? At least one reason is that it *feels* good. Ohio State University researchers

Zheng Wang and John Tchernev asked college students to record their activities across 28 days and note why they were engaged in the activity and what they experienced as a result.⁶³ Though cognitive needs (*e.g.*, gaining knowledge and understanding) drove many media multitasking activities, the students did not report that the activities satisfied those needs. Rather, the multitasking addressed emotional needs (*e.g.*, having a pleasurable experience). The researchers concluded that the emotional gratification resulting from

**Examples of Multitasking
While on the Bench**

- Signing orders
- Reviewing documents and upcoming cases
- Checking email or texts
- Surfing the Internet
- Talking with individuals not involved in the present case

⁵⁹ *Id.* at 482-83.

⁶⁰ Eyal Ophir et al., *Cognitive Control in Media Multitaskers*, 106 PROCEEDINGS NAT'L ACAD. SCI., 15,583 (2009).

⁶¹ Sarah E. Donohue et al., *Cognitive Pitfall! Videogame Players Are Not Immune to Dual-Task Costs*, 74 ATTENTION, PERCEPTION, & PSYCHOPHYSICS 803 (2012).

⁶² David L. Strayer, Frank A. Drews, & Dennis J. Crouch, *A Comparison of the Cell Phone Driver and the Drunk Driver*, 48 HUM. FACTORS 381 (2006).

⁶³ Zheng Wang and John M. Tchernev, *The “Myth” of Media Multitasking: Reciprocal Dynamics of Media Multitasking, Personal Needs, and Gratifications*, 62 J. COMMUNICATION 493 (2012).

multitasking serves to reinforce more multitasking behavior: “In this sense, the ‘myth’ of multitasking actually is partially caused by the ‘misperception’ of the efficiency of multitasking and by positive feelings associated with the behavior, which is emotionally satisfying but cognitively unproductive.”⁶⁴

Task switching in the courtroom has the potential of distracting the judge and reducing performance, but it also carries with it the sense that the judge is not fully engaged with the matter at hand. A central tenet of procedural fairness is that the judge is an active listener. If the judge seems distracted with other matters, litigants will not feel that their voice has been fully heard. A recent study by Harvard psychologists demonstrated the importance of giving people voice.⁶⁵ The researchers found that regions of the brain associated with reward are activated when individuals are allowed to talk about themselves to others. In an interview, Stanford multitasking researcher Clifford Nass also mused about giving people attention: “[W]hen I grew up, the greatest gift you could give someone was attention, and the best way to insult someone was to ignore them. . . . The greatest gift was attention.”⁶⁶

Becoming More Mindful

Almost everything a judge does involves processing information and making decisions. So if we are to improve our performance as judges, we must focus on improving our performance of those tasks.

Doing so can offer additional benefits as well. One aspect of being more mindful is finding ways to relieve stress, which can interfere with information processing and decision making. Some judges may regard job stress as part of the job, but job stress also leads to diminished physical health.⁶⁷ Of course, consistent with our discussion in this paper, stress also leads to a diminished capacity for good decision making.⁶⁸

In the remainder of this paper, we suggest some strategies that may help judges be more mindful and make better decisions:

⁶⁴ *Id.* at 509-10.

⁶⁵ Diana I. Tamir & Jason P. Mitchell, *Disclosing Information About the Self Is Intrinsically Rewarding*, 109 PROC. NAT'L ACAD. SCI. 8038 (2012).

⁶⁶ Interview with Clifford Nass, FRONTLINE: DIGITAL NATION LIFE ON THE DIGITAL FRONTIER (Feb. 2, 2010), available at <http://www.pbs.org/wgbh/pages/frontline/digitalnation/interviews/nass.html>.

⁶⁷ *E.g.*, Jo Ann Heydenfeldt, Linda Herkenhoff & Mary Coe, *Mind Fitness Training: Emerging Practices & Business Applications: Applied Neuroscience*, 1 Int'l J. Humanities & Soc. Sci. 150, 150 (2011).

⁶⁸ *Id.*

- **Focus on purpose.** Sometimes the sheer press of business makes it difficult for a judge to focus on the individual case. The primary purpose of court work becomes *moving* cases as opposed to *hearing* them. Former Minnesota Chief Justice Kathleen Blatz, for example, once compared the court's work to a vegetable factory:

Instead of cans of peas, you've got cases. You just move 'em, move 'em, move 'em. One of my colleagues on the bench said: "You know, I feel like I work for McJustice: we sure aren't good for you, but we are fast."⁶⁹

It is hard to be mindful when the focus is on getting through a docket, signing orders, writing opinions, preparing a speech for a local community group, and any number of other responsibilities that fall on a judge's plate. The tendency is to focus on the next task around the corner rather than the current one. Taking time—even just a few minutes—to bring full attention to the matter at hand offers a check on reflexive, automatic decision making and a step toward ensuring a fair process and a just outcome. Administrative Judge Judy Harris Kluger makes this point in her story about working in the busy New York City Criminal Court:

You know, for a long time my claim to fame was that I arraigned 200 cases in one session. That's ridiculous. When I was arraigning cases, I'd be handed the papers, say the sentence is going to be five days, ten days, whatever, never even looking at the defendant. At a community court, I'm able to look up from the papers and see the person standing in front of me. It takes two or three more minutes, but I think a judge is much more effective that way.⁷⁰

In addition, judges who see their work not as the sum of the cases they move in a particular day but as contributing to a fair and just court system are likely to find more satisfaction in their work. Research shows that individuals who perceive their work as significant and serving a greater purpose are likely to experience greater levels of meaningfulness.⁷¹ Judges who see themselves as cogs in the system may benefit from remembering their contributions to the larger system goals. Efficiency and timeliness are important, but not at the expense of reflective decision making and procedural fairness.

⁶⁹ Greg Berman, "What Is a Traditional Judge Anyway?" *Problem Solving in the State Courts*, 84 JUDICATURE 78, 80 (2000).

⁷⁰ *Id.* at 81.

⁷¹ Brent D. Rosso, Kathryn H. Dekas, & Amy Wrzesniewski, *On the Meaning of Work: A Theoretical Integration and Review*, 30 RESEARCH IN ORGANIZATIONAL BEHAVIOR 91 (2010).

- **Formalize and critique decision heuristics.** Although the law may assume that decision makers review and weigh all relevant information in a systematic manner to reach an optimal judgment, research demonstrates that is not the case. In a study of bail decisions in England and Wales, for example, researchers found that a simple “matching heuristic” explained decisions better than a more complex, integrated model of decision making. The matching heuristic relied primarily on three factors: bail decisions could be predicted 92% of the time in one court, for example, by relying on (a) whether the prosecutor opposed bail, (b) whether a previous court imposed conditions or remanded in custody, and (c) whether police imposed conditions or remanded in custody. If the answer was yes to any of these, the magistrate’s decision was to deny bail.⁷² In another study, the findings showed that magistrates’ beliefs about their decision-making process differed from their practice (*i.e.*, relying on a simple heuristic), as indicated by the following comments:

For example, a lay magistrate wrote to us stating that “the situation . . . depends on an enormous weight of balancing information, together with our experience and training.” The chairman of the council said that “we are trained to question, and to assess carefully the evidence we are given.”⁷³

The use of simple heuristics to make complex decisions is not limited to law. Physician Clement McDonald, for example, writes that doctors often rely on a subset of information and extrapolate based on experience to make diagnoses and treatment decisions. He notes that the lack of scientific information available on some drugs and diseases requires doctors to develop heuristics. Rather than ignoring the use of heuristics, he calls for the medical community to formalize them:

Exposing these heuristics to critical review so that they can be clarified, improved, and standardized may reduce practice variation, thereby making it easier to optimize the care process. Furthermore, we know that many of the “everyday” heuristics described by Tversky and Kahneman are dysfunctional; careful examination of medical heuristics may reveal similar problems and provide corrective insight.⁷⁴

As an example of an everyday heuristic, he discusses how doctors tend to prescribe a new drug when an older drug in the same class would do as well. He refers to this

⁷² Mandeep K. Dhimi, *Psychological Models of Professional Decision Making*, 14 PSYCHOL SCI. 175 (2003).

⁷³ Mandeep K. Dhimi & Peter Ayton, *Bailing and Jailing the Fast and Frugal Way*, 14 J. BEHAV. DECISION MAKING 141, 163 (2001).

⁷⁴ Clement J. McDonald, *Medical Heuristics: The Silent Adjudicators of Clinical Practice*, 124 ANNALS INTERNAL MED. 56, 57 (1996).

“heuristic” as “newer is automatically better.” However, there are many examples of new drugs that eventually were found to have additional side effects (or worse) only after their widespread use across time. As a result, he proposes that the heuristic should be to always use an old drug unless the patient cannot tolerate it or if specific symptoms or other indications suggest that the old drug will not work.

In the same way, judges can consider the “rules of thumb” they may be using to process their cases, whether traffic, small claims, family, civil, or criminal. Are there specific factors that cause one judge to put the defendant in custody at sentencing while another does not? Does a defendant’s marital status have any bearing on a bail decision? Like the English magistrates, do individual judges rely on certain primary factors to decide cases? If so, what are they, and do their colleagues use the same ones? One of the studies on bail decisions revealed that the magistrates sometimes were inconsistent in their own decisions and disagreed with some of their colleagues on the same cases.⁷⁵ Taking time to reflectively identify and rely on decision heuristics that are transparent and predictable across cases and judges could go a long way to enhancing litigant perceptions of fairness.⁷⁶

- **Be mindful and read the dials.** Practicing the principles of procedural fairness requires focus and attention, which may be hard to come by if a judge is tired or hungry, is multitasking, or is not in a mood to engage in effortful processing. Taking stock of such distracting factors serves as a reminder that more concentration may be necessary. Periodically “reading the dials” helps identify distractions and potential ways to lessen their effects. For example, does the temperature in the courtroom need to be adjusted or noise in the hallways reduced? Is it time for a break? Sometimes little annoyances become irritating distractions and unwittingly raise the level of tension in the courtroom. Sometimes the judge just wants to “push through” the remaining cases when a break would be best for all.

Some judges and lawyers have adopted a practice of “mindfulness” to strengthen their ability to read the dials.⁷⁷ Researchers from Harvard describe the practice of mindfulness as meditation that “encompasses focusing attention on the experience of thoughts, emotions, and body sensations, simply observing them as they arise and pass

⁷⁵ Dhimi & Ayton, *supra* note 65.

⁷⁶ Gerd Gigerenzer, *Heuristics*, in HEURISTICS AND THE LAW 17 (Gerd Gigerenzer & Christoph Engel eds., 2006).

⁷⁷ See, e.g., Mindfulness in Law Web site at <http://mindfulnessinlaw.com/Home.html>; The Institute for Mindfulness Studies, The Mindful Judge website at <http://themindfuljudge.com/Home.html>; Amanda Enayati, *Seeking Serenity: When Lawyers Go*, CNN HEALTH, (May 11, 2011), <http://thechart.blogs.cnn.com/2011/05/11/seeking-serenity-when-lawyers-go-zen/>; and Leonard L. Riskin, *The Contemplative Lawyer: On the Potential Contributions of Mindfulness Meditation to Law Students, Lawyers, and Their Clients*, 7 Negotiation L. Rev. 1 (2002)

away.”⁷⁸ Other researchers note that “mindfulness is thought to enable one to respond to situations more reflectively (as opposed to reflexively).”⁷⁹

Mindfulness practice is essentially exercise for the brain. Meditation can be done while sitting, standing, or walking. A common meditation practice involves sitting quietly and concentrating on the breath. Individuals try to identify when their mind wanders from focusing on the experience of breathing; and, once they do, they return the mind’s focus to the breath. As they practice this sequence over and over, they gradually learn to recognize the thoughts and emotions that pull their attention away and are able to regain focus more easily. Research by psychologist Amishi Jha and her colleagues shows that the ability to focus attention is evident after just thirty minutes of practice a day for eight weeks.⁸⁰ As with physical exercise, the longer individuals practice mindfulness meditation, the more skilled they become.⁸¹

Bob Stahl and Elisha Goldstein offer another mindfulness practice to help individuals take a quick look at the dials. They refer to it as the STOP meditation.⁸² The STOP acronym reminds individuals to:

- Stop what they are currently doing,
- Take a deep breath and focus on the sensation of breathing,
- Observe what they are thinking, feeling, and doing, and
- Proceed with new awareness.

Judges can use this quick pause throughout the day, especially when they find themselves getting distracted, bored, or overwhelmed. The pause helps to refocus attention and reaffirm the priority to ensure each case is given a fair process.

In 2002, attorney Douglas Codiga expressed concern that judges and attorneys’ misconceptions about mindfulness being mystical or otherworldly, requiring a commitment to Buddhism, or amounting to just another stress-reduction technique

⁷⁸ Britta K. Hölzel et al., *How Does Mindfulness Meditation Work? Proposing Mechanisms of Action from a Conceptual and Neural Perspective*, 6 PERSP. PSYCHOL. SCI. 537, 538 (2011).

⁷⁹ Scott R. Bishop et al., *Mindfulness: A Proposed Operational Definition*, 11 CLINICAL PSYCHOL.: SCI. & PRAC. 230, 232 (2004).

⁸⁰ Amishi P. Jha, Jason Krompinger, & Michael J. Baime, *Mindfulness Training Modifies Subsystems of Attention*, 7 COGNITIVE, AFFECTIVE, & BEHAV. NEUROSCIENCE 109 (2007).

⁸¹ Alberto Chiesa, Raffaella Calati, & Alessandro Serreti, *Does Mindfulness Training Improve Cognitive Abilities? A Systematic Review of Neuropsychological Findings*, 31 CLINICAL PSYCHOL. R. 449 (2011).

⁸² See STOP meditation demonstrated at <http://www.youtube.com/watch?v=EiuTpeu5xQc>. See generally ELISHA GOLDSTEIN, *THE NOW EFFECT: HOW THIS MOMENT CAN CHANGE THE REST OF YOUR LIFE* (2012); BOB STAHL & ELISHA GOLDSTEIN, *A MINDFULNESS-BASED STRESS REDUCTION WORKBOOK* (2010).

would lessen its potential to impact the field.⁸³ Contrary to these misconceptions, he argued that mindfulness is compatible with legal principles of reason, analysis, and skepticism; does not conflict with preexisting religious beliefs and requires no commitment to Buddhism; and, in addition to reducing stress and improving lawyering skills, would help legal professionals develop insights regarding their entire lives.

Since Codiga's article, additional research has been undertaken demonstrating the potential for mindfulness meditation to improve psychological well-being in addition to its effectiveness in treating a range of physical and psychological disorders.⁸⁴ No doubt these good findings have contributed to the adoption of mindfulness practices in a variety of settings such as medicine, education, business, the military, and, as noted earlier, by some in the legal profession.⁸⁵ And recently Supreme Court Justice Stephen Breyer revealed to CNN's Amanda Enyati that he routinely "pauses" twice each day:

I don't know that what I do is meditation, or even whether it has a name. For 10 or 15 minutes twice a day I sit peacefully. I relax and think about nothing or as little as possible. And that is what I've done for a couple of years. . . . And really I started because it's good for my health. My wife said this would be good for your blood pressure and she was right. It really works. I read once that the practice of law is like attempting to drink water from a fire hose. And if you are under stress, meditation—or whatever you choose to call it—helps. Very often I find myself in circumstances that may be considered stressful, say in oral arguments where I have to concentrate very hard for extended periods. If I come back at lunchtime, I sit for 15 minutes and perhaps another 15 minutes later. Doing this makes me feel more peaceful, focused and better able to do my work.⁸⁶

- **Use decision aids.** At first blush the idea of using a decision aid, like a checklist or benchcard, seems so mundane. But lessons from other professions such as medicine and aviation demonstrate their incredible potential for improving performance. Physician Atul Gawande, for example, tells the story of how simple checklists

⁸³ Douglas A. Codiga, *Reflections on the Potential Growth of Mindfulness Meditation in the Law*, 7 HARV. NEGOT. L. REV. 109 (2002).

⁸⁴ Hölzel et al., *supra* note 68.

⁸⁵ See, e.g., David Gelles, *The Mind Business*, FINANCIAL TIMES MAGAZINE (Aug. 24, 2012), available at <http://www.ft.com/cms/s/2/d9cb7940-ebea-11e1-985a-00144feab49a.html#axzz27af4lcAI>; Luke Fortney & Molly Taylor, *Meditation in Medical Practice: A Review of the Evidence and Practice*, 37 PRIMARY CARE: CLINICS OFFICE PRAC. 81 (2010); Daniel Schneider, "Mindfulness" Helps Soldiers Cope in Iraq, U.S. DEP'T DEFENSE (Aug. 3, 2010), available at <http://www.defense.gov/news/newsarticle.aspx?id=60294>; Patricia Leigh Brown, *In the Classroom, a New Focus on Quieting the Mind*, NY TIMES (June 16, 2007), available at <http://www.nytimes.com/2007/06/16/us/16mindful.html?ex=1183608000&en=3d87faf9c47eb9f2&ei=5070&r=0>.

⁸⁶ Enyati, *supra* note 77.

(requiring steps such as washing hands with soap and fully covering the patient with sterile drapes) implemented in Michigan hospital intensive care units saved over 1,500 lives and an estimated \$175 million dollars in costs.⁸⁷

Judges sometimes use checklists to decide substantive issues, but judges might also benefit from having procedural checklists.⁸⁸ In busy courtrooms with crowded dockets, a judge can easily fail to cover an essential piece of information that a defendant must be told before a plea may be voluntarily entered. Even so, this is one of those areas in which the judge should think carefully about both procedural fairness and crossing off all the necessary subjects on the checklist. It's important that the defendant actually understand the rights he or she is giving up, not just answering "yes" to a series of questions obviously intended to get an affirmative response ("Do you understand . . . ?").

Other tools based on evidence-based practices, such as risk and needs assessments, can be helpful to judges in making sentencing and probation-revocation decisions.⁸⁹ Research demonstrates that standardized, objective assessment instruments enhance decision making across a wide variety of professional decisions.⁹⁰ Researchers Stephen Gottfredson and Laura Moriarty suggest the following reasons, in part based on reflexive processing, for the superiority of statistical methods of prediction compared to intuitive methods: decision makers may not use information reliably, may not attend to base rates, may inappropriately weight predictive items, may weight items that are not predictive, and may be influenced by causal attributions or spurious correlations."⁹¹

Some of the Michigan doctors in Dr. Gawande's report balked at having to follow checklists, complaining that they were too busy, already knew what the procedures were, or were more interested in trying out new techniques and procedures. Judges may feel that way, too—concerned about slowing the process down to follow a

⁸⁷ Atul Gawande, *The Checklist*, THE NEW YORKER (Dec. 10, 2007), available at http://www.newyorker.com/reporting/2007/12/10/071210fa_fact_gawande; see also ATUL GAWANDE, THE CHECKLIST MANIFESTO: HOW TO GET THINGS RIGHT (2011).

⁸⁸ For examples of substantive-law checklists, see Guthrie, Rachlinski & Wistrich, *supra* note 21, at 40.

⁸⁹ Pamela M. Casey, Roger K. Warren, & Jennifer K. Elek. *Using Offender Risk and Needs Assessment Information at Sentencing: Guidance for Courts from a National Working Group*, NATIONAL CENTER FOR STATE COURTS (2011), available at <http://www.ncsc.org/Services-and-Experts/~media/Files/PDF/Services%20and%20Experts/Areas%20of%20expertise/Sentencing%20Probation/RNA%20Guide%20Final.ashx>.

⁹⁰ Stephen D. Gottfredson & Laura J. Moriarty, *Clinical Versus Actuarial Judgments in Criminal Justice Decisions: Should One Replace the Other?*, 70 FED. PROBATION 15 (2006), available at <http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/fedpro70&div=23&id=&page>.

⁹¹ *Id.*

checklist or thinking they can handle the process fine without the tool. But appellate judges see the other end of the process when they reverse decisions because simple steps were not followed. No one benefits when a case is sent back a year or two later because a simple step was missed.

Decision tools are just that—tools. Used properly, they can help ensure fair procedures and just outcomes; used incorrectly, they can impair the process. A judge who goes on automatic, for example, merely reading off a checklist and not giving eye contact or listening to litigants and lawyers will not be practicing procedural fairness even if he or she is not overturned on appeal.

- **Seek feedback and foster accountability.** Judges suffer from a lack of feedback. They seldom know the results of their decisions. Even when a judge’s decision is reviewed by an appellate court, the lag time between making the decision and getting appellate feedback diminishes the value of the information. Individuals benefit the most when feedback is immediate.

Because feedback is essential to learning and developing expertise, judges should seek and courts should provide opportunities to obtain feedback. Judges cannot improve decisions when they do not know what is and is not working. Does the court have access to outcome data on, for example, pretrial release, sentencing, and probation revocation decisions? What are the trends in the data? What cases most often result in failure to appeal or rearrest, and what decision heuristics might be guiding the cases? The court could also collect information on litigant satisfaction using a survey such as the National Center for State Courts’ CourTools Access and Fairness Measure.⁹² The results of the survey would indicate whether judges’ assessments of their practice of procedural fairness principles are consistent with litigants’ assessments.

Judges also could be videotaped periodically or observed by a mentor or colleague. A neutral observer more likely will be able to identify mistakes in reasoning or instances where procedural fairness practices could be strengthened.⁹³ Dr. Gawande found that, after eight years as a surgeon, he seemed to have reached a plateau, so he sought out one of his former teachers—since retired—to observe him and act as a coach. The “coach” spent 20 minutes explaining what he observed that Gawande wasn’t aware of, giving Gawande “more to consider and work on” than Gawande had

⁹² National Center for State Courts, *CourTools: Measure 1, Access and Fairness* (2005), available at http://www.courttools.org/~media/Microsites/Files/CourTools/courttools_Trial_measure1_access_and_fairness.ashx.

⁹³ Brest & Krieger, *supra* note 10, at 635.

come up with on his own for several years.⁹⁴ Judges might well benefit from a similar practice. More specifically, sentencing roundtables where judges discuss hypothetical cases also could reveal different patterns of decision making and use of heuristics. The purpose of such reviews is to analyze and reflect on the information; research shows that the combination of reflection and feedback enhances subsequent performance.⁹⁵

In addition, research shows that accountability can lead to more effortful, reflective processing of information. Researcher Eileen Braman explains:

Put another way, accountability tends to heighten accuracy motivations. When we know others are watching, we want to “get things right” and we also strive to use appropriate decision criteria to avoid criticisms that may be raised down the line.⁹⁶

There are exceptions to the positive influence of accountability on performance such as when decision makers conform their decisions to the known views of those reviewing their decisions or when decision makers lack the knowledge to make specific decisions.⁹⁷ Generally, however, accountability attenuates bias in decision making.

One suggestion for holding judges accountable is to require that they provide an explanation for their decision, preferably in writing. Guthrie and his colleagues argue that “the discipline of opinion writing might enable well-meaning judges to overcome their intuitive, impressionistic reactions.”⁹⁸ Research also shows that individuals who were required to justify each step in a decision process performed better.⁹⁹ To the extent that judges ask themselves “why” at each point in their decision process and consider alternatives, their decisions will be the result of more effortful and deliberate processing. And to the extent that they are willing to engage in obtaining and using feedback from others, as discussed above, they will enhance a culture of accountability.

⁹⁴ Atul Gawande, *Personal Best: Top Athletes and Singers Have Coaches. Should You?*, New Yorker, Oct. 3, 2011, available at http://www.newyorker.com/reporting/2011/10/03/111003fa_fact_gawande?currentPage=all.

⁹⁵ Baumeister, Masicampo & Vohs, *supra* note 29.

⁹⁶ Eileen Braman, *Searching for Constraint in Legal Decision Making*, in *THE PSYCHOLOGY OF JUDICIAL DECISION MAKING* 215 (David E. Klein & Gregory Mitchell eds., 2010).

⁹⁷ Jennifer S. Lerner & Philip E. Tetlock, *Accounting for the Effects of Accountability*, 125 *PSYCHOL. BULL.* 255 (1999).

⁹⁸ Guthrie, Rachlinski & Wistrich, *supra* note 23, at 37.

⁹⁹ Baumeister, Masicampo, & Vohs, *supra* note 31.

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Kevin Burke is the president of the American Judges Association and has been a Minneapolis trial judge since 1984. He served several terms as chief judge of the Hennepin County (Minn.) District Court, a 62-judge court, where he instituted social-science studies examining—and reforms improving—procedural fairness. Burke coauthored the American Judges Association's white paper on procedural fairness in 2007 and, along with his white paper coauthor, Steve Leben, has presented educational programs on procedural fairness to more than 2,000 judges since 2007. Burke received the William H. Rehnquist Award from the National Center for State Courts in 2003, an award presented annually to the state judge who most exemplifies the highest level of judicial excellence, integrity, fairness, and professional ethics. In addition to regularly providing educational programs to judges and court personnel throughout the United States and Canada, he also teaches at two law schools: he teaches trial practice at the University of Minnesota law school and criminal procedure at the University of St. Thomas law school.

Steve Leben is a past president of the American Judges Association and a member of the Kansas Court of Appeals, where he has served since 2007. Before that, he was a Kansas state trial judge for nearly 14 years. Leben coauthored the AJA white paper on procedural fairness with Kevin Burke and has presented educational programs around the United States on that topic, among others. Leben has published 14 law-review articles in the areas of procedural justice, administrative law, civil procedure, family law, and evidence. He teaches a class on statutory interpretation at the University of Kansas law school and received the Distinguished Service Award from the National Center for State Courts in 2003 for his work toward the improvement of the American judiciary.