

A Commentary on Professor Shen's *Aging Judges*

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Let me begin this discussion of Francis Shen's thought-provoking look at *Aging Judges*¹ with two disclosures. First, Francis and I are friends, colleagues, and co-authors. We met in 2009, when I was a member and Francis a fellow in the John D. and Catherine T. MacArthur Foundation's Law and Neuroscience Project.² We have since collaborated on many things, including co-authoring a book, several law review articles, and one science paper.³

Second, and I think much more important in terms of driving this commentary, I am an aged judge. I was appointed to the Colorado state trial bench in 1990 at the age of thirty-eight, which as far as I know is still a record for youngest appointment on my bench. I am now sixty-seven, the second oldest judge on my bench.⁴ So I think I have some perspective to bring to this topic, not only as an old judge but also as a once very young one.

I divide my comments into three parts: first, a listing of what I found to be some of the most intriguing and sometimes surprising descriptive aspects of this piece, which I use largely to illustrate that I agree with Professor Shen that cognitive disability among judges is a growing problem that needs attention; second, a discussion of whether Shen's proposed remedy is feasible (spoiler alert: I think it is, and, with some specific suggestions about how it could be presented and to whom, I think it could be made even more feasible); and, finally, some thoughts about where I think the proposal needs more attention to

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¹ Francis X. Shen, *Aging Judges*, 81 OHIO ST. L.J. 235 (2020).

² There were two iterations of these efforts. The first was called the "Law and Neuroscience Project." It was a five-year grant that began in 2008 and was headed by Michael S. Gazzaniga from the University of California Santa Barbara. The second was a three-year grant called "The Research Network on Law and Neuroscience," which began in 2014 and was headed by Owen D. Jones, from Vanderbilt. Francis began as a fellow in the first phase and ended up directing the network's educational and outreach program in the second phase. For a history of these efforts, the participants, and a searchable bibliography of its published research, see *The MacArthur Foundation Research Network on Law and Neuroscience*, VAND. U., <https://www.lawneuro.org> [<https://perma.cc/NW8M-R75Y>].

³ OWEN D. JONES ET AL., BRAIN SCIENCE FOR LAWYERS AND JUDGES (forthcoming); Matthew R. Ginther et al., Essay, *Decoding Guilty Minds: How Jurors Attribute Knowledge and Guilt*, 71 VAND. L. REV. 241 (2018); Matthew R. Ginther et al., *Parsing the Behavioral and Brain Mechanisms of Third-Party Punishment*, 36 J. NEUROSCIENCE 9420 (2016); Matthew R. Ginther et al., *The Language of Mens Rea*, 67 VAND. L. REV. 1327 (2014); Morris B. Hoffman et al., *The Intersectionality of Age and Gender on the Criminal Bench: Are Younger Female Judges Harsher with Serious Crimes?*, COLUM. J. GENDER & L. (forthcoming); Francis X. Shen et al., *Sorting Guilty Minds*, 86 N.Y.U. L. REV. 1306 (2011).

⁴ Colorado has mandatory judicial retirement at age 72. COLO. CONST. art. VI, § 23(1).

detail and how it might be too timid in one dimension and too aggressive in another.

I. I DIDN'T KNOW THAT!

This article is chock full of tidbits that will interest just about everyone, whether you are an ordinary citizen worried about the trajectory of your own abilities as you age, a public policy wonk thinking about whether, and how, society should use age as a proxy for ability, a concerned lawyer worried about that ancient judge you just drew for your career case, or a co-worker wondering how to tell an old colleague that they have lost it.

Despite spending the last twelve years at this intersection of law and neuroscience, there were lots of things about the neuroscience of aging and cognition that were new to me and that bear directly on this issue of aging judges (and, really, aging workers of any kind).

I did not know that some kinds of dementia, including Alzheimer's, begin with a long period of brain changes before the disease is at all symptomatic.⁵ That means that if these early brain changes could be reliably detected (and some of them can be detected today, and no doubt more will be detectable in the future as diagnostics advance) we would have a reliable way of identifying judges (and others) who should at least be thinking about retiring, not to mention interventions to try to slow or manage the coming loss.

I did not know that age and cognition researchers have identified a small percentage of people they have labelled "Super Agers," who for reasons that are still unknown, experience little or no cognitive decline and maintain their mental faculties at high levels into very old age.⁶

I did not know that some psychologists distinguish between what they call "fluid intelligence" and "crystallized intelligence."⁷ Researchers describe "fluid intelligence" as something akin to what cognitive neuroscientists might call processing speed and pattern recognition.⁸ Crystallized intelligence, by contrast, is more akin to judgment or wisdom.⁹ A study showed that, on average, fluid intelligence peaks at adolescence, then begins to decline in early adulthood, with even more rapid and continuing decline after age fifty-five.¹⁰ But crystallized intelligence remains rather constant, or perhaps even slightly increases, until around the age of sixty, when it begins to decline but only very slowly.¹¹

I had also not heard about this idea of "cognitive reserve," which neuroscientists have posited allows individuals facing neurodegenerative loss to

⁵ See Shen, *supra* note 1, at 256 (citation omitted).

⁶ *Id.* at 252 (citations omitted); see *infra* text accompanying note 25 (discussing federal Judge Jack Weinstein, who surely must be one of these Super Agers).

⁷ Shen, *supra* note 1, at 249 (citation omitted).

⁸ *Id.* (citation omitted).

⁹ *Id.* (citation omitted).

¹⁰ *Id.* at 250 (citation omitted).

¹¹ *Id.* (citation omitted).

recruit other less diminished regions to work around the loss.¹² Older brains can often solve the same problems as younger ones, and sometimes even in the same or shorter amounts of time, but they often use different pathways to do so.¹³

I knew aging was generally associated with losing brain connectivity in the cortex (the wrinkly outer layer of the human brain), and that this is called the “cortical disconnection hypothesis” of cognitive aging.¹⁴ But I did not know that this loss of cortical connectivity occurs quite irregularly across the cortex,¹⁵ with some regions suffering dramatic age-related losses¹⁶ (including the dorsolateral prefrontal cortex, a region closely associated with high order reasoning, such as making judgments about punishment)¹⁷ but others largely unaffected¹⁸ (including the ventromedial prefrontal cortex, a region associated with the detection of emotions in others, such as assessing the harm one person has inflicted on another in a criminal context).¹⁹

You probably knew that cognitive functioning is so individualized that using age as a proxy for it will often be more wrong than right.²⁰ Shen includes the example of the relatively young judge with tragically early dementia,²¹ as well as the example of the ninety-six year old judge who is still going strong.²²

¹² *Id.* at 252 (citation omitted).

¹³ Shen, *supra* note 1, at 254; see Jeff Grabmeier, *Elderly Can Be as Fast as Young in Some Brain Tasks, Study Shows*, SCIENCE DAILY (Dec. 31, 2011), <https://www.sciencedaily.com/releases/2011/12/111227142535.htm> [<https://perma.cc/85F2-NGVA>].

¹⁴ Shen, *supra* note 1, at 254 n.119 (citation omitted).

¹⁵ *Id.* at 253–54.

¹⁶ Max Toepper et al., *The Impact of Age on Load-Related Dorsolateral Prefrontal Cortex Activation*, FRONTIERS AGING NEUROSCIENCE, Feb. 2014, at 1–2, 6, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3913830/pdf/fnagi-06-00009.pdf> [<https://perma.cc/8FY2-ZG5H>].

¹⁷ Frank Krueger & Morris Hoffman, *The Emerging Neuroscience of Third-Party Punishment*, 39 TRENDS NEUROSCIENCE 499, 500–01 (2016).

¹⁸ Shen, *supra* note 1, at 254; see Nichole R. Lighthall et al., *Functional Compensation in the Ventromedial Prefrontal Cortex Improves Memory-Dependent Decisions in Older Adults*, 34 J. NEUROSCIENCE 15648–49, 15652 (2014), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4236396/pdf/zns15648.pdf> [<https://perma.cc/MH7Z-BB7H>].

¹⁹ Krueger & Hoffman, *supra* note 17, at 500; Shen, *supra* note 1, at 254; see Janelle N. Beadle et al., *Ventromedial Prefrontal Cortex Is Critical for Helping Others Who Are Suffering*, FRONTIERS NEUROLOGY, May 2018, at 1–2, 9, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5981225/pdf/fneur-09-00288.pdf> [<https://perma.cc/RWA5-J3TK>].

²⁰ See Shen, *supra* note 1, at 281.

²¹ *Id.* at 282–83.

²² *Id.* at 281. On the “still going strong” side of this ledger, Shen reports on Jack Weinstein, the legendary trial judge from the Eastern District of New York. *Id.* I have my own Jack Weinstein story. Several years ago, I published an article in the Duke Law Journal calling for a return to jury sentencing. See generally Morris B. Hoffman, *The Case for Jury Sentencing*, 52 DUKE L.J. 951 (2003). Judge Weinstein cited that article in an opinion he wrote in which he discussed at length the relationship between judge and jury in criminal cases. *United States v. Khan*, 325 F. Supp. 2d 218, 231 (E.D.N.Y. 2004). Eight years later,

But did you know that the already wide individual variance in cognitive function *increases* as we age?²³ That means that as age proxies go up, which is the trend as advocates and other well-intentioned people raise mandatory retirement ages,²⁴ in some sense we get the worst of both worlds. We are still using a very blunt instrument, age, to separate people who are increasingly cognitively diverse as they age.²⁵

Did you know that the average age of federal judges is sixty-nine,²⁶ five to seven years beyond when the average American retires?²⁷ That is an amazing statistic, which by itself suggests that we should be thinking hard about the problem of aging judges. Due in large part to the advent of the senior status program, the vast majority of federal judges end up taking senior status rather than retiring or resigning.²⁸ There are currently eleven federal circuit and federal district court judges over age ninety who still hear cases.²⁹ An astonishing 75% of federal judges leave the bench because they die.³⁰ I challenge anyone to identify a profession whose average age exceeds the average retirement age, with active ninety-year-old practitioners, and whose primary method of job separation is death.³¹

I did not know that the United States Supreme Court fought its own internal battle over what to do about Justice William Douglas, after he had a debilitating stroke in 1974 but refused to step down.³² An almost unanimous Court (all but Justice Byron White) agreed it would not allow Justice Douglas to cast any decisive vote, including votes on petitions for certiorari.³³

he sent me a lovely handwritten note about the article. He was ninety-one years old at the time.

²³ Shen, *supra* note 1, at 281.

²⁴ *Id.* at 238.

²⁵ *Id.* at 238, 281. *But see* Alison Reynolds & David Lewis, *Teams Solve Problems Faster When They're More Cognitively Diverse*, HARV. BUS. REV. (Mar. 30, 2017), <https://hbr.org/2017/03/teams-solve-problems-faster-when-theyre-more-cognitively-diverse> [<https://perma.cc/7LZ7-XVW3>].

²⁶ Shen, *supra* note 1, at 242.

²⁷ *Id.* The average retirement age for Americans is between sixty-two and sixty-four. *Id.*

²⁸ *Id.* at 243–44.

²⁹ *Id.* at 237 (citation omitted).

³⁰ *Id.* at 243 (citation omitted).

³¹ State judges, by the way, are much younger, averaging 59.6 years old. *Id.* at 245 (citation omitted). As Professor Shen points out, this lower average age for state judges is the result of many differences between the two systems, including: many states (thirty-two) have mandatory judicial retirement laws, but, as mentioned, the federal system does not; most states do not have a senior status system; and, perhaps most importantly, in state systems many lower level courts often serve as “entry level” judicial jobs, from which judges move on to higher state courts and to the federal district court. *See id.* Still, 22.6% of all state judges are between sixty-five and seventy-five. *Id.*

³² *See id.* at 270.

³³ *Id.* at 270 n.267.

I did not know that Supreme Court Justices' demonstrable "mental decrepitude," as one researcher put it, has been a more significant problem in the twentieth century than in the nineteenth century.³⁴ Maybe that should not be too surprising since our life expectancy has increased dramatically.³⁵ But it looks like our cognitive expectancy, at least on the Supreme Court, has not kept pace.³⁶

Thirty-two states have mandatory judicial retirement statutes.³⁷ I did not know that there have been several Congressional efforts to impose mandatory retirement for federal judges, all of which, interestingly, were coordinated by the American Bar Association, and all of which have failed.³⁸

There have been many iterations of the federal Age Discrimination in Employment Act (ADEA) when it comes to mandatory retirement.³⁹ The first version in 1967 did not mention mandatory retirement at all, but it did prohibit discrimination in most private-sector employment against employees aged forty to sixty-five (thus, implicitly prohibiting mandatory retirement for employees age sixty-five and below and implicitly permitting it above age sixty-five).⁴⁰ A 1978 amendment explicitly outlawed mandatory retirement before age seventy,⁴¹ and a 1986 amendment explicitly outlawed all mandatory retirement at any age.⁴² Thus, for virtually the entire private sector Congress itself has made this difficult call between the benefits and costs of an age proxy by prohibiting all age proxies and requiring individualized evaluations.⁴³

A 1974 amendment extended the protections of the act to state employees, but the amendment exempted elected officials and their appointees using language that did not make it at all clear whether the exemption applied to

³⁴ *Id.* at 269–70 (citing David J. Garrow, *Mental Decrepitude on the U.S. Supreme Court: The Historical Case for a 28th Amendment*, 67 U. CHI. L. REV. 995, 1018 (2000)).

³⁵ David Leonhardt, *Life Expectancy Data*, N.Y. TIMES (Sept. 27, 2006), https://www.nytimes.com/2006/09/27/business/27leonhardt_sidebar.html [<https://perma.cc/38HX-DEPA>].

³⁶ Although I wonder whether the advancing tools to demonstrate this "decrepitude," not to mention the public's interest in and the fourth estate's willingness to probe such matters, have distorted this statistic.

³⁷ Shen, *supra* note 1, at 245.

³⁸ *Id.* at 278–80. As Professor Shen briefly notes, it is not at all clear that Congress would have the constitutional authority to impose a mandatory retirement age on federal judges, given that impeachment is arguably the exclusive method of removal. *Id.* at 309.

³⁹ *Id.* at 276.

⁴⁰ See Age Discrimination in Employment Act of 1967, Pub. L. No. 90-202, § 2, 81 Stat. 602, 602.

⁴¹ Age Discrimination in Employment Act Amendments of 1978, Pub. L. No. 95-256, §§ 2(a), 12(a), 92 Stat. 189, 189.

⁴² Age Discrimination in Employment Amendments of 1986, Pub. L. No. 99-592, § 2(c), 100 Stat. 3342, 3342.

⁴³ See Age Discrimination in Employment Act of 1967 § 2(b) ("It is therefore the purpose of this Act to promote employment of older persons based on their ability rather than age . . .").

appointed or retained state judges.⁴⁴ In 1991, in *Gregory v. Ashcroft*, the Court held that this language was insufficiently clear to constitutionally apply to Missouri's retained judges, and, therefore, that Missouri's statute requiring judges to retire at age of seventy did not violate the ADEA.⁴⁵ The *Gregory* Court also concluded that Missouri's statute did not violate the Equal Protection Clause because age is not a suspect classification and imposing an upper age limit for judges was rationally related to the legitimate state purpose of having a competent judiciary.⁴⁶

Shen tells us about a Michigan state judge, Michael Theile, who in 2018 unsuccessfully challenged in federal court Michigan's mandatory judicial retirement age of seventy, arguing, among other things, that *Gregory* should be overturned because in the intervening twenty-seven years many institutional methods have been developed that now allow an individual determination of a judge's job performance, making any age proxy no longer rational.⁴⁷ The federal trial judge and the Sixth Circuit rejected Judge Theile's arguments,⁴⁸ and he did not petition for certiorari. With the myriad of cognitive instruments now available to clinicians, plus perhaps even some biomarkers, Shen suggests that Judge Theile's argument may well be getting stronger, and the continuing vitality of *Gregory* getting correspondingly weaker, as each year passes, and more individualized assessments become accepted.⁴⁹

All of these tidbits, plus a lot more, build an impressive case that judges as a group are simply getting too old too fast for the system to continue to ignore their declining cognitive abilities. Shen also persuasively argues that current methods to deal with this problem—incentives to tempt judges to retire sooner,⁵⁰ informal cajoling by colleagues or chiefs,⁵¹ motions to disqualify by counsel,⁵² and even formal legislative action like the Federal Judicial Conduct

⁴⁴ See Fair Labor Standards Amendments of 1974, Pub. L. No. 93-259, 88 Stat. 55. The language exempted:

[A]ny person elected to public office in any State or political subdivision of any State by the qualified voters thereof, or any person chosen by such officer to be on such officer's personal staff, or an appointee on the policymaking level or an immediate adviser with respect to the exercise of the constitutional or legal powers of the office.

29 U.S.C. § 630(f) (2012).

⁴⁵ *Gregory v. Ashcroft*, 501 U.S. 452, 455, 467 (1991).

⁴⁶ *Id.* at 470–73.

⁴⁷ See Shen, *supra* note 1, at 278.

⁴⁸ *Theile v. Michigan*, No. 17-CV-12066, 2017 WL 6504009, at *2 (E.D. Mich. Oct. 4, 2017) (granting state's motion to dismiss), *aff'd*, 891 F.3d 240, 241 (6th Cir. 2018).

⁴⁹ See Shen, *supra* note 1, at 280–83.

⁵⁰ *Id.* at 260–61.

⁵¹ *Id.* at 267–74.

⁵² *Id.* at 262–65.

and Disability Act of 1980⁵³—are simply too tame, too burdensome, too overinclusive, and/or too underinclusive to be effective solutions, especially compared to the neuropsychological instruments we currently have at our disposal to make reliable individualized judgments about a given judge’s cognitive ability.⁵⁴

No formal assessments are required under any of these traditional methods of dealing with cognitive judicial loss. Indeed, the only health assessments currently being done are done entirely at the front end of the process.⁵⁵ Judicial nominees are typically required to self-report on a myriad of conditions, including several that are specifically psychological and neurological in nature.⁵⁶ In addition to self-reporting, some nominating systems require physical examinations and that the results of those examinations be released to the nominating authorities.⁵⁷ But all of this information, by self-report or

⁵³ 28 U.S.C. § 351–64 (2012); Shen, *supra* note 1, at 265–67. This Act, though mostly a procedural solution whose “sanctions” are generally informal, does contain sections that allow judicial councils to request that the Judicial Conference report a judge’s disability to the House of Representatives for possible impeachment. 28 U.S.C. § 355(b). A 2006 study of the Act commissioned by Chief Justice Roberts and performed by a group led by Justice Breyer found that a paltry 3.6% of formal complaints about federal judges were for mental or physical disability. Shen, *supra* note 1, at 267 n.238 (citing THE JUDICIAL CONDUCT & DISABILITY ACT STUDY COMM., IMPLEMENTATION OF THE JUDICIAL CONDUCT AND DISABILITY ACT OF 1980: A REPORT TO THE CHIEF JUSTICE 25 (2006), *reprinted in* 239 F.R.D. 116 (2006)). The report’s findings were that:

Table 5 indicates that misconduct allegations far outweighed disability allegations. Of the 5,227 allegations, only 190 (3.6%) were for conduct related to mental or physical disability. Among all allegations, by far the most common were charges of prejudice or bias (28.4%) and abuse of judicial power (23.4%), together constituting 52% (2,733 of 5,277) of all allegations. The “other” category constitutes 17% (933) of the allegations.

THE JUDICIAL CONDUCT & DISABILITY ACT STUDY COMM., *supra* note 53, at 25. Many states have similar legislatively created judicial conduct commissions. *See generally* Cynthia Gray, *How Judicial Conduct Commissions Work*, 28 JUST. SYS. J. 405 (2007) (describing judicial conduct commissions across the country).

⁵⁴ *See* Shen, *supra* note 1, at 248–57.

⁵⁵ *Id.* at 292–93.

⁵⁶ *Id.*

⁵⁷ *See id.* at 238; *see also* Rachel Brand, *A Practical Look at Federal Judicial Selection*, ADVOCATE, Winter 2010, at 82–83, <http://www.wilmerhale.com/-/media/c0cacbde8df34952959403f3df1abbfe.pdf> [<https://perma.cc/46M9-Z7LZ>]. For example, federal judicial candidates whose names are presented to the Senate by the candidate’s local senators are treated as presumptive nominees, about which the Senate begins to gather information long before any formal presidential nomination. Brand, *supra* note 57, at 82–83. As part of that information gathering, the Senate requires these presumptive nominees to take a comprehensive medical examination, and sign releases for those examinations. *Id.* at 83. Thus, we care about whether forty and fifty-year-old candidates for the federal judiciary are healthy, but not whether those same people, once appointed, are healthy, let alone think, when they are eighty.

otherwise, is only required of judicial nominees, not of sitting judges.⁵⁸ What a crazy process!

It is hard to deny, after reading Shen's article, that there is a pressing need for individualized cognitive assessments of judges. Shen proposes a system in which judges, both state and federal, trial and appellate, are required to take cognitive health assessments over time (every five years), so that they themselves may have a better sense of whether they are suffering cognitive decline sufficient to step down voluntarily.⁵⁹ Shen's proposal has three significant elements: the assessments will be mandatory; they will be free to the judge; and their results will be confidential and shared only with the judge.⁶⁰ Is this proposal feasible?

II. SHEN'S PROPOSAL SEEMS FEASIBLE

Precisely because the "system" we have now is really no system at all, I think Shen's proposal is feasible in the sense that it should be attractive to the authorities charged with implementing and administering it, whether that be legislatures, chief judges, chief justices, or various kinds of judicial review commissions. Those authorities are already facing the delicate problem of the aging judge, but today they have virtually no tools at their disposal, either to protect judges from baseless claims of incompetence or to protect the public from truly incompetent judges. What these authorities desperately need is data, and what they have now is almost always just rumors and hearsay about anecdotes.

Imagine a system in any labor sector where anyone is forced, or even just cajoled, to resign for non-cognitive health reasons—say, a nurse is suspected of having a deadly and highly contagious virus—but the evidence of the health problem is all anecdotal. "Janine just came back from China, and I saw her cough the other day, so I think she may have the coronavirus." Supervisors who already have the unenviable task of making these decisions would welcome some actual data.

Candidly, I think this system will be harder to sell to judges themselves than to their judicial administrators or legislatures. No one likes to be told he or she must submit to a medical examination, let alone a mental capacity examination. And by our very natures and institutional training, judges are fiercely independent creatures deeply committed to our own autonomy and openly hostile to any attempts by anyone to interfere with that autonomy. Many of us will also be resistant because these assessments, like making wills or buying life insurance, will force us to confront the fact of our own inevitable decline. That's precisely why the assessments must be mandatory.

⁵⁸ Shen, *supra* note 1, at 292–93.

⁵⁹ *Id.* at 238.

⁶⁰ *Id.*

One might be tempted as a tactical matter to jettison the requirement of mandatory assessments, even just on a trial basis, to make the program more palatable to judges. I think that would be a strategic mistake, and I was glad to see that Shen's plan insists on mandatory assessments.⁶¹ Voluntary assessment is unlikely to generate enough participation to make the data valuable. Self-selection will taint the numbers in any voluntary system.⁶² Most judges just will not bother with assessments until they have some reason to think they are suffering some cognitive losses, and then it might be too late to establish a meaningful baseline. Baselines are critical, because it is the trajectory from one's individual baseline, and not where one compares with other judges at any point on that trajectory, that will have the most predictive value.

In the end, I think judges may buy into a system like the one Shen proposes because we are more interested in the pace of our own decline than anyone else, and, with the right explanations, we will realize that, because there is so much individual variation in cognitive decline, the most critical measurement is change and to measure individual change we need a baseline and regular assessments.

One other aspect of the proposal bears mentioning in the context of whether this can be sold to judges. We will be much more skeptical than the average person about promises to keep the results of our assessments confidential. After all, we are regularly asked to order the release of privileged or confidential information. No one knows better than judges that there is no such thing as inviolate privacy. As these systems get designed and presented, it will be paramount that the walls of privacy be made as high as possible,⁶³ but it will also be paramount that privacy not be oversold to this audience of special skeptics.

Finally, as I discuss in the next Part, widespread buy-in by judges may not be necessary if the right supervisory authority is selected—namely chief judges and chief justices.

III. SUGGESTIONS

There are four areas of Shen's proposal that will require much more fleshing out, as he himself recognizes: the particular assessment tools to be included in the "cognitive toolbox;" the administrative structure of the proposal; and, related to that administrative structure, how the assessments will be paid for; and how they will be kept confidential. Let me briefly touch on each of these areas.

Building these cognitive toolboxes will be extraordinarily challenging. "Cognition" is a single word that hides a large number of complex brain

⁶¹ *Id.*

⁶² *Bias in Survey Sampling*, STAT TREK, <https://stattrek.com/survey-research/survey-bias.aspx> [<https://perma.cc/65GB-ZWS9>] (discussing the bias that occurs when sample members are self-selected).

⁶³ *But see* discussion *infra* p. 16 (arguing there should be some limited exception to confidentiality for profoundly disabled judges).

functions and even more complex relationships between those functions, none of which is fully understood. Just in the category of “executive function”—which psychologists and cognitive neuroscientists generally define as the set of processes that enable us to manage ourselves and our environment in a way that allows us to achieve goals—many sub-functions have been identified with labels like planning, coordination, sequencing, and monitoring.⁶⁴ In the category of memory there is short-term memory, long-term memory, and working memory.⁶⁵ Any comprehensive “toolbox” to measure cognitive function must take into account these, and many other, aspects of cognition.

Shen identifies a long list of existing and reliable neuropsychological tests aimed at different cognitive dimensions.⁶⁶ These include two tests readers may recognize: the Mini-Mental State Exam (MMSE) (measuring general cognitive impairment),⁶⁷ and the Wechsler Adult Intelligence Scale IV (WAIS IV) (general intellectual ability).⁶⁸ Shen also lists many more instruments readers probably will not recognize: the Montreal Cognitive Assessment (general cognitive impairment),⁶⁹ the Test of Premorbid Functioning (baseline general cognitive ability and memory),⁷⁰ the Wechsler Memory Scale IV (auditory, visual, and working memory),⁷¹ the Delis-Kaplan Executive Function System (idea assessment, focus, inhibition, flexible thinking, verbal fluency, problem solving, creativity, rule following, visual perception speed, pattern recognition),⁷² the Wisconsin Card Sorting Task (flexible thinking),⁷³ the Booklet Category Test (concept formation and abstraction),⁷⁴ the California Verbal Learning Test (verbal learning and memory),⁷⁵ and the Validity Indicator Profile (designed to detect cognitive malingering).⁷⁶ Shen even delves into the possibility of looking for biomarkers using genetics, biochemical testing, and even neuroimaging as part of these assessments.⁷⁷

⁶⁴ See Shen, *supra* note 1, at 250–51.

⁶⁵ See generally Nelson Cowan, *What Are the Differences Between Long-Term, Short-Term, and Working Memory?*, in 169 PROGRESS IN BRAIN RESEARCH 323 (Wayne S. Sossin et al. eds., 2008).

⁶⁶ Shen, *supra* note 1, at 297–304.

⁶⁷ *Id.* at 298–300.

⁶⁸ *Id.* at 301.

⁶⁹ *Id.* at 299–300.

⁷⁰ *Id.* at 301.

⁷¹ *Id.*

⁷² Shen, *supra* note 1, at 302.

⁷³ *Id.* at 302–03.

⁷⁴ *Id.* at 303.

⁷⁵ *Id.*

⁷⁶ *Id.* at 303–04.

⁷⁷ *Id.* at 304–05. Biomarkers are data—from DNA, blood, or neuroimaging—that have become associated statistically with the risk of developing some condition. See Richard Mayeux, *Biomarkers: Potential Uses and Limitations*, 1 NEURORX 182, 182–83 (2004), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC534923/pdf/neurorx001000182.pdf> [https

The biggest academic challenge in building the toolbox will be to select a set of tests that is specifically tuned to the job of judging. The cognitive tools required to be a stand-up comic, for example, are likely to be quite different than those required to be a judge. Even within the profession of judging, the cognitive demands of a trial judge are likely different from the cognitive demands of an appellate judge. Shen quite readily and wisely admits that this toolbox-building step will be so critical that before anything else is done to advance his proposal a group of experts will need to be convened—presumably, psychologists and neuroscientists but also judges—to identify possible testing methods.⁷⁸

The toolbox will not only have to reliably measure judge-related aspects of cognition, it will have to do so under the practical constraints of time and cost. These assessments cannot take too long, or judges will never accept them, and judicial administrators or legislatures will never mandate them. And they cannot be too expensive, or the requiring authorities will not pay for them. My own guess is that time and cost will be the biggest impediments to any widespread adoption of this plan.

I am not an expert on any of these neuropsychological tests, but I have talked to people who are, including neuropsychologists who have performed some assessments I have ordered. I understand from them that even the most basic assessments will be costly and time consuming. A bare bones cognitive battery—using, for example, just the MMSE, the Montreal Cognitive Assessment, and the WAIS IV—will cost at least \$1000 and take about two hours to administer. Now imagine this time and these costs spread over an entire judiciary. And imagine the increased time and costs if a few other tests are thrown into the toolbox.

Shen anticipates judge resistance to using biomarkers to predict cognitive decline, on the theory that judges will be uncomfortable submitting to probabilistic instruments.⁷⁹ But I am actually more sanguine on this front. Judges reason probabilistically all the time—from questions of whether a particular drug caused a particular individual plaintiff to have a given disease or condition, when the only scientific evidence is group data, to whether a collection of facts proves a proposition by a preponderance. The bigger problem with biomarkers, in my judgment, will be time and cost. I understand the cost of genetic testing has plummeted over the years, as I presume is also true of the

[://perma.cc/J5ME-546Q](https://perma.cc/J5ME-546Q)]. Unlike other clinical instruments, which measure existing cognitive abilities, biomarkers assess future risk. Shen, *supra* note 1, at 292. So, for example, a cognitive biomarker might predict that an assessed judge's existing cognitive abilities might decline more (or less) rapidly over time than average. Because they are predictions about the future, the use of biomarkers has raised a slew ethical issues, including who should be able to obtain their predictive information and on what conditions. *Id.* at 306–08.

⁷⁸ Shen, *supra* note 1, at 290.

⁷⁹ See *id.* at 306–08.

detection of biomarkers by biochemical testing.⁸⁰ And recovering these two biomarkers should not add significantly to overall testing time, requiring only a blood draw.⁸¹ But I know from my own experiments that neuroimaging is still very expensive and also takes lots of time.⁸²

Shen assumes some of the costs of his proposed cognitive assessment will be covered by existing health insurance plans.⁸³ But I am not at all sure about that, given the vagaries of individual health insurance policies and plans and their interactions with a very complex regulatory universe. Will the fact that assessments are required change whether they are covered under some health insurance policies or plans? Will it matter who requires them—legislatures, or chief judges, or justices? Will the people doing the assessments have to be part of a plan's provider network? What about insurers who provide their own self-contained medical care, like Kaiser Permanente?

I do agree with Shen's underlying assumption: no judicial officer will ever order mandatory cognitive assessments if their individual judges will have to go out-of-pocket to pay for those assessments.⁸⁴ And legislatures could not constitutionally force judges to pay for them, since doing so would effectively reduce judicial pay.⁸⁵ In any event, I think the problem of cost is a more significant problem than Shen is willing to admit, and it will raise complicated questions that will need much more careful consideration.

When and if we can develop reasonably priced and efficient assessment tools, I think the most delicate and important decision that will then need to be made is the selection of the entity that will order and then manage the assessment program. That entity selection could affect everything from whether the program will be constitutional, to whether judges will buy into it, to the confidentiality of its assessments.

⁸⁰Ellen Sheng, *Genetic Testing Is Coming of Age, but for Consumers It's Buyer Beware*, CNBC (July 17, 2018), <https://www.cnbc.com/2018/07/12/genetic-testing-is-coming-of-age-but-for-consumers-its-buyer-beware.html> [<https://perma.cc/8A4E-Z99G>].

⁸¹But in fact, it will probably add significantly to the time of the assessment, if our judges have to report to a neuropsychologist's office for cognitive testing and to a doctor's office or hospital for a blood draw. Maybe this suggests using psychiatrists, who presumably could do both, but I have no idea how many practicing psychiatrists are proficient in administering neuropsychological tests. I know from my own experience that very few psychiatrists I have appointed do their own neuropsychological testing, but there are a few.

⁸²Granted, most research scanning is functional scanning, while I presume biomarker scanning will be structural. But even structural scanning takes time—just think of the last time you or a loved one had an MRI at a hospital. On the other hand, it appears that much quicker and more affordable scanning, and even some kinds of remote neuroimaging, may be on the horizon. See Kelly Servick, *Cheap, Portable Scanners Could Transform Brain Imaging. But How Will Scientists Deliver the Data?*, SCIENCE (Apr. 16, 2019), <https://www.sciencemag.org/news/2019/04/cheap-portable-scanners-could-transform-brain-imaging-how-will-scientists-deliver-data> [<https://perma.cc/P7YE-P35L>].

⁸³Shen, *supra* note 1, at 296.

⁸⁴Shen, *supra* note 1, at 296.

⁸⁵See U.S. CONST. art. III, § 1, cl. 2.

The first and most important choice will be whether these proposals should be made to legislatures by way of proposed legislation to mandate and fund the testing, or to judiciaries, through their chief judges and chief justices, with funding coming out of general judicial budgets. I can even imagine some combination—with legislation mandating the assessments but deferring to judiciaries to create the machinery to accomplish them.

I am no expert on the politics of legislation, but it seems that until there is some widely reported public scandal about some demented judge doing something terrible, the average legislature will not have much of an appetite for adopting mandatory testing, let alone paying for it. On the other hand, Shen does report on efforts in a few states to raise or even eliminate state mandatory judicial retirement,⁸⁶ and it seems to me that an individualized assessment requirement could be a perfect complement to those efforts.

As for federal judges, I think it is a good bet that Congress will never enter this fray of mandatory judicial cognitive assessments, based on its past failed attempts to impose mandatory retirement,⁸⁷ and especially in the current highly divided political climate. Shen labels as an example of “momentum” a recent effort by former Congressman Darrell Issa to mandate cognitive testing of federal judges.⁸⁸ But that effort didn’t even get out of the Judiciary Committee.⁸⁹

Where congressional or state legislative prospects seem dim, proponents could still sell this idea to chief judges and chief justices. I have not done any analysis of their authority across the relevant jurisdictions, but my guess is that, as chief administrators of their judiciaries, most chief judges and chief justices could adopt Shen’s proposal at the stroke of a pen via chief judge or chief justice directives. This route, if available, has lots of other advantages over legislation.

These judicial CEOs are already the authoritative source of most existing formal judicial conduct commissions or committees.⁹⁰ Using those existing architectures to implement this testing will not only have the benefit of leveraging those architectures already designed to deal with highly confidential information, it will also avoid the politics of legislation.⁹¹ Judicially based assessment programs will also avoid the shadows of unconstitutionality lurking in any legislatively mandated system, as well as judges’ natural institutional resistance to any kind of inter-branch force. They would also go a long way toward solving any issues of individual judge buy-in.

Judges, more than anyone else, expect that judicial orders will be followed, and we are very practiced at following other judges’ orders, even ones with

⁸⁶ Shen, *supra* note 1, at 245–48.

⁸⁷ See *supra* text accompanying note 41.

⁸⁸ Shen, *supra* note 1, at 311–12.

⁸⁹ *Id.* at 312.

⁹⁰ But not in the federal system, as a result of the federal Judicial Conduct and Disability Act of 1980, 28 U.S.C. §§ 351–64 (2012), discussed generally in *supra* note 57 and accompanying text.

⁹¹ Though I admit not the politics of judicial administration.

which we disagree. Every day our trial court judgments are overturned by intermediate appellate courts, and every day supreme courts overturn intermediate courts. In many kinds of administrative contexts, we are trained and dedicated to follow the directives of our chief judges and chief justices. So, in this very narrow sense we have a population that is actually more malleable to these kinds of systemic assessment reforms than perhaps in any other segment of work life. If our chief judges and justices, or of course our legislatures, order us to comply, we will.

Admittedly, chiefs themselves may be reluctant to adopt these kinds of mandatory assessment programs if they sense widespread disaffection among the judicial troops. But here, Shen's proposal may enjoy an edge with chief judges and chief justices not enjoyed with rank-and-file judges or legislators. Chiefs tend to be older than other judges, and older certainly than state legislators, and my guess is that these older chiefs will tend to be much more interested in cognitive assessments. Chiefs are also the supervisors who in most jurisdictions have to deal informally with the issues of a cognitively disabled colleague, and should, therefore, be especially interested in having a cognitive assessment that backs up their opinion that a colleague should step down.

Finally, I think chiefs are also likely to be receptive targets because if they do not step in and order cognitive assessments for the members of their own branch, they risk legislatures doing so, and all the inter-branch complications that come from that.

There is one area where I might suggest that Shen's proposal is too timid: the commitment that the assessment results will, without exception, only be shared with the assessed judge and never anyone else.⁹² The salient problem with cognitive decline, of course, is that the decline itself may impair our ability to recognize it in ourselves. I worry about those cases where judges are profoundly disabled, and where the assessments show they are profoundly disabled, but the judges simply refuse to accept their condition. In those extreme cases, perhaps the process should recognize a limited exception to confidentiality and allow chief judges and chief justices access to the assessment results. The chiefs could use the data from the assessments informally to try to cajole an incompetent judge into resigning or retiring. And perhaps the chiefs should even be empowered to share the data with disciplinary/impeaching authorities if their efforts to talk the incompetent judge into voluntarily stepping down fail.

I admit that many details would have to be worked out to implement such an exception to confidentiality. Perhaps the neuropsychologists administering the test results could themselves be authorized to release extremely bad results to chiefs. Perhaps chiefs could have all results on an anonymous basis and be given the authority to obtain the names of any extreme outliers.

I don't want to press this criticism too strongly. I appreciate that Shen has made the judgment call that to release this information to anyone but the

⁹² See Shen, *supra* note 1, at 283.

assessed judge may make the proposal so unpalatable that it is simply not worth the effort.⁹³ But, of course, that depends on two factors: 1) the number of incompetent judges who simply will not step down on their own, even with the enlightening benefit of their own assessments; and 2) how unpalatable an exception to confidentiality will really be.

As to the former factor, Shen acknowledges that there is an ongoing debate about the effectiveness of informal mechanisms to cajole judges to step down, but that the debate is largely uninformed with any actual data.⁹⁴ I suggest that much more attention needs to be paid to this open empirical question before we can categorically assume there is no need to breach confidentiality because the informal system will work just fine if boosted with assessment data shared only with the judge in question.

As to the latter factor, I repeat my contention that we judges are a strange combination of fierce lone wolves when it comes to the other two branches, in particular any attempt by those other branches to interfere with judicial process, but pretty much compliant soldiers when it comes to the orders of our judicial superiors. If proponents of this plan can get chief judges and chief justices to agree to the kind of limited exception to confidentiality I suggest, I think most judges will go along with it.

Finally, there is one aspect of Shen's plan I found too aggressive: forcing judicial applicants, in addition to sitting judges, to undergo this cognitive assessment.⁹⁵ There are several problems I see mandating cognitive assessments at the application stage.

First, and to my mind most important, there is simply no reason to require judicial applicants to undergo cognitive assessments. If the idea is to get an early baseline, we can require judges to complete an assessment sometime in their first year on the bench. Requiring these assessments at the application stage is not only unnecessary, it is significantly complicating.

Who will mandate them? If, as I have suggested, the assessments are best mandated by chief judge or chief justice directive, then expanding them to judicial candidates may well require the involvement of other institutions, including legislatures. This could be especially complicated in pure election states, or even in retention states. I imagine no other candidates for elected office in any jurisdiction must be cognitively vetted. Why judges? And then why is that information not made available to the public, when it will at least look like the whole point of it is to inform voters? Legislatively imposed assessment requirements at the application stage might also be unconstitutional to the extent they add to the established qualifications for judges set forth in that jurisdiction's constitution.

And who pays for the assessment at the application stage? Would health insurance policies or plans pay for these assessments when, in some sense, they

⁹³ *Id.* at 239.

⁹⁴ *Id.* at 274.

⁹⁵ *Id.* at 296.

really are voluntary—since the candidate is voluntarily applying to be a judge? I doubt we want to erect a thousand-dollar-or-more barrier to entry for judicial candidates, even if we constitutionally could. Must the persistent applicant undergo an assessment every time he or she applies?

The costs of expanding this assessment regimen from sitting judges to judicial applicants, whoever will ultimately bear that cost, will be enormous. For every sitting judge, there must be dozens and dozens of applicants in appointment and retention states.⁹⁶ Do we require cognitive assessments of all of them, or only those that make the interview stage? The federal definition of “applicant” can also be a problem. Once a candidate’s name is sent by his or her local senators to the Senate, the Senate begins the vetting process by having the presumptive nominee fill out an extensive questionnaire.⁹⁷ We could require the cognitive assessment at that stage. But those presumptive nominees are still just presumptive, and many may not clear the White House interview and thus never become actual nominees.⁹⁸

For all these reasons, I think Shen’s proposal will be better served if it is focused on the group we care about—judges—and not on judicial applicants. There will be plenty of opportunity to assess those applicants when and if they become judges.

IV. CONCLUSION

Shen’s proposal that judges undergo periodic cognitive assessments is important and timely. It needs attention to many details, as Shen readily admits.⁹⁹ But once some of the most important of those details are worked out—including the assessment tools to use and the branch to which the proposal will be presented—it should be taken seriously. My guess is that chief judges and chief justices, at least, will be receptive, even if only to beginning a dialogue that might eventually lead to widespread acceptance.

⁹⁶ Retention elections ask voters to vote whether the incumbent judge should remain in office for another term. *See generally Retention Election*, BALLOTPEdia, https://ballotpedia.org/Retention_election [<https://perma.cc/C6LC-XKYB>]. Judges in these elections do not face opponents and are removed from office only if a large percentage of the electorate vote that they should not be retained. *Id.*

⁹⁷ *See supra* note 55.

⁹⁸ *See supra* note 55.

⁹⁹ *See, e.g., Shen, supra* note 1, at 309 (discussing concerns about the constitutionality of judicial discipline beyond impeachment).