



PERSPECTIVE ESSAY

Cognitive decline and political leadership

Steven Gong¹, Zifeng P. Hu¹, S. Nassir Ghaemi^{2,3}, Dave Min⁴, Mark Mapstone¹, S. S. Sanbar⁵, Manijeh Berenji⁶, Shawn Rosenberg^{7,8}, Davin Phoenix⁷ and Mark Fisher¹

¹Department of Neurology, University of California, Irvine, Irvine, CA, USA; ²Department of Psychiatry, Tufts University School of Medicine, Boston, MA, USA; ³Department of Psychiatry, Harvard Medical School, Boston, MA, USA; ⁴California State Senate, Sacramento, CA, USA; ⁵University of Oklahoma Health Sciences Center, Oklahoma City, OK, USA; ⁶Department of Environmental and Occupational Health, University of California, Irvine, Irvine, CA, USA; ⁷Department of Political Science, University of California, Irvine, Irvine, CA, USA and ⁸Department of Psychological Science, University of California, Irvine, Irvine, CA, USA

Corresponding author: Mark Fisher; Email: mfisher@hs.uci.edu

Abstract

The cognitive deterioration of politicians is a critical emerging issue. As professions including law and medicine develop and implement cognitive assessments, their insights may inform the proper strategy within politics. The aging, lifetime-appointed judiciary raises legal and administrative questions of such assessments, while testing of older physicians experiencing cognitive decline provides real-life examples of implementation. In politics, cognitive assessment must contend with the field's unique challenges, also taking context-dependent interpretations of cognitive-neuropsychological status into account. These perspectives, from legal and medical experts, political scientists, and officeholders, can contribute toward an equitable, functioning, and non-discriminatory system of assessing cognition that educates the public and enables politicians to maintain their public responsibilities. With proper implementation and sufficient public knowledge, we believe cognitive assessments for politicians, particularly political candidates, can be valuable for maintaining properly functioning governance. We offer recommendations on the development, implementation, and execution of such assessments, grappling with their democratic and legal implications.

Keywords: neuropolitics; neuroscience; cognitive test; neuropsychological evaluation; mental exam; brain aging; politicians; public office

Introduction

As the American workforce ages, with nearly a fourth of the American population expected to exceed 65 years by 2060, a proportional increase in cognitive dysfunction is expected due to the effects of aging on the brain (Nasser, 2021). In all fields, but particularly service-based ones lacking general upper age limits—such as medicine, law, and politics—the aging workforce may indicate a need for cognitive assessments where such assessments have traditionally not existed. This issue has received recent institutional attention in law and medicine. However, it has not been seriously and systematically addressed in the field of politics.

Cognitive assessment refers to the evaluation of the brain's capabilities by testing for deficits in knowledge, thought process, or judgment (Borson et al., 2006). Generally geared toward elderly populations experiencing age-related deficits, cognitive assessments are used to screen for cognitive decline that may prevent individuals from functioning optimally in everyday or job-related tasks. Cognitive assessments typically include the ability to learn from sensory inputs; the ability to think and process; the ability to remember and store information as short- and long-term memory; the ability to judge and make decisions; the ability to focus and maintain attention; and the ability to use and

understand language, spoken or written. These assessments may come in different forms, such as intelligence quotient (IQ), memory, or reasoning tests. Most commonly, cognitive assessments are performed to screen for cognitive impairment or decline.

For people in professions requiring high levels of cognitive functioning (e.g., pilots, engineers, and heavy machinery operators), cognitive assessments are often mandatory, primarily to prevent possible harm to fellow workers and the public (Callister *et al.*, 1996). They can also be used to predict job performance, particularly for higher complexity positions (Bertua *et al.*, 2005). However, in the profession of politics, cognitive assessments have not been rigorously studied despite the older age range associated with this career, the subsequent elevated risk of cognitive decline, and the growing attention aging leaders have received—both in the public sphere and academic research. For example, one study examining the link between leader age and military conflict found that aging may have a militarizing effect out of a concern for establishing legacies among older male leaders (Horowitz *et al.*, 2005). Another study argued that aging leaders with evidence of cognitive decline are more likely to be diplomatically “bypassed,” while cognitively intact aged leaders may be seen as wise and attractive targets for diplomatic engagement (Byun & Carson, 2023). Studies such as these two underscore the increasing focus aging politicians have received and the subsequent need to consider cognitive status. Given the high levels of cognition required, the risk of public harm from cognitive dysfunction, and the general lack of an upper age limit to practice or serve, the demands of being a politician suggest cognitive assessments may be necessary.

However, the issue of requiring cognitive assessments for politicians raises a host of thorny legal questions, which may very well preclude such an idea from being implemented. People seeking office at the federal level need only meet Constitutional requirements relating to age, residence, and citizenship. We anticipate low prospects for widespread support for an Amendment that adds a benchmark of mental capacity to that set of requirements. Yet, political figures at the highest levels of office often adhere to norms and conventions that they are not legally required to uphold. A prominent example is the tradition that presidential candidates disclose their tax returns—one that nearly every presidential and vice-presidential contender has complied with for the past 30 years.

While requiring political candidates to disclose cognitive assessments is a legal and political non-starter, we can nonetheless surmise the value in establishing a norm of doing so. How might knowledge of a political figure’s cognitive condition help inform prospective voters’ decision at the polls? What safeguards could be put into place to ensure that political figures’ cognitive status would not be arbitrarily wielded against them by opponents operating in bad faith? Relatedly, what reframings of cognitive functioning and impairment would need to take place within the public discursive space, so that cognitive divergences revealed about political figures would not constitute a scarlet letter? We attempt to attend to such questions here.

Drawing from expert perspectives at the symposium on cognitive decline and politicians hosted by the UC Irvine Center for Neuropolitics, this paper will offer suggestions on the direction of cognitive assessments in politics, and how this issue is informed by current practices in law and medicine. We attempt to elucidate the value of establishing a norm in which political figures undergo and disclose the results of their cognitive assessments. We grapple with the cognitive burden placed on elites within the United States democratic system. And we consider how cognitive divergences need not necessarily be a barrier to effective officeholding in all instances. We begin with considerations of how the legal and medical professions address the issue of cognitive assessment, to ascertain whether they offer a roadmap for how cognitive assessments could become incorporated within the fabric of officeholding.

Cognitive assessment in law

In recent years, conversations surrounding the need for cognitive assessment in the legal community have grown, particularly with regard to age-related cognitive decline in the judiciary (Kaufman, 2021). Due to both the cognitive demands of judicial decision-making and the current lack of cognitive

assessment for aging judges—especially those at the federal level, who typically hold lifetime appointments—the issue of cognitive decline in aging judges holds significant implications for the legal and justice system.

Based on the theories of legal formalism and legal realism (Posner, 1986), the cognitive capacity of judges undoubtedly affects judicial decision-making. Legal formalism theorizes that judges apply legal reasoning that is logical, rational, deliberative, and mechanical. Legal realism theorizes that individual psychological, political, and social factors influence judicial decisions. Both theoretical approaches imply that judges should possess certain cognitive skills to serve fairly and honorably, including:

1. Critical reasoning skills: judges must apply the rules of law and should not let their own personal assumptions interfere with legal proceedings.
2. Decision-making skills: judges must be able to weigh facts, apply the law, and make quick decisions.
3. Listening skills: judges must pay close attention to what is being said, in order to evaluate information.
4. Reading comprehension: judges must be able to evaluate and distinguish important facts from large amounts of complex information.
5. Writing skills: judges write recommendations or decisions on appeals or disputes. They must be able to write their decisions clearly, so that all sides understand the decision.

With the average age of America's federal judges now at 69 years (Yoon, 2017)—older than any other time in the country's history—neuroscience may provide insight into cognitive assessment for aging judges. Based on current-day standards of brain connectivity which model brain function as coordinated cognitive networks distributed across specialized brain areas, disruption of these networks varies in their cognitive-behavioral effects (Buckner & Krienen, 2013). Such network disruption can be focal, impacting local nodes that can impact specific domains immediately. Alternatively, they can be diffuse, in which degradation of the brain is non-specific and generalized (Rodrigo et al., 2007). Based on the localization of neurological damage and whether the affected domain is functionally independent or interdependent of other neural domains, the effects of age-related neurological damage are variable; a small lesion such as a stroke in a specific location can cause a major network disruption, but generalized degradation may be compensated for—often for a relatively long period of time—until a critical tipping point (Hartwigsen, 2018).

Such neurological degradations can be measured via standardized neuropsychological evaluations, which can screen across a clinical framework of six cognitive domains:

1. Executive function, consisting of planning, decision-making, working memory, responding to feedback, inhibition, and flexibility. Exemplars of cognitive tests used to evaluate executive function include the Trail Making Test (Reitan, 1955) and the Wisconsin Card Sorting Test (Berg, 1948).
2. Attention is a multidimensional construct, consisting of sustained attention, divided attention, selective attention, and processing speed. Evaluation of attention and processing speed may include the digit span test and the Stroop test (Stroop, 1935).
3. Perceptual-motor function, consisting of visual perception, visuo-constructional reasoning, and perceptual-motor coordination. Visuospatial evaluation may include tests such as the Rey-Osterrieth Complex Figure test (Osterrieth, 1944).
4. Language, consisting of object naming, word finding, fluency, grammar and syntax, and receptive language. Evaluating for language includes assessing for verbal fluency and may include the Boston Naming Test (Kaplan et al., 2001).
5. Learning and memory, consisting of free recall, cued recall, recognition memory, semantic and autobiographical long-term memory, and implicit learning. Evaluation in this area may include the California Verbal Learning Test (Delis et al., 1988).

6. Social cognition, consisting of the recognition of emotions, theory of mind, and insights. Evaluation of affect includes measures such as the Florida Affect Battery (Bowers *et al.*, 1998) and the Emotion Evaluation Test (Westerhof-Evers *et al.*, 2014).

These domains are variably addressed in neuropsychological screening measures such as the Mini-Mental State Exam (MMSE) and the Montreal Cognitive Assessment (MoCA) (Folstein *et al.*, 1975).

For lawyers, and especially the judiciary, the professional requirements of the legal field place emphasis on “higher-order” cognitive abilities associated with executive function. Thus, executive dysfunction—such as that associated with aging—can result in perseveration, disinhibition, poor problem-solving, rule violations, poor organization, mental inflexibility, and errors due to poor self-monitoring (Fjell *et al.*, 2017). In particular, aging principally affects fluid abilities which may present as declines in processing speed, learning efficiency, and the free recall of newly learned material, as well as a need for more effort when focusing attention (Salthouse, 2012). Such cognitive outcomes may inhibit a judge’s ability to fairly and honorably adjudicate. On the other hand, crystallized abilities—such as vocabulary usage and “expert knowledge”—remain relatively stable and have been reported to be preserved through the age of 80 (Park & Bischof, 2013).

A notable distinction is to be made for dementia, which is a collection of symptoms related to cognitive decline. Alzheimer’s disease, a progressive neurodegenerative disorder of older adults, is the most common cause of dementia and is considered an age-related disease. Alzheimer’s disease is characterized by the accumulation of abnormal proteins that lead to neuronal cell death, brain volume loss, and psycho-behavioral-cognitive decline, and is projected to affect nearly 14% of the United States population by 2060—up from 6.1% in 2021 (Alzheimer’s Association, 2021). In its most common presentation, Alzheimer’s disease affects memory functions early and most severely; however, executive dysfunction is also commonly seen. Given the disease’s increasing prevalence and worsening severity in aging populations, Alzheimer’s disease needs to be addressed with regard to the aging judiciary.

Consequently, questions of how to go about addressing the dysfunctional cognitive effects of Alzheimer’s and other similar diseases remain to be answered at the intersection of neuroscience and the law. Such questions include:

1. Does age-related cognitive impairment erode trust in the justice system?
2. Is there a moral imperative to monitor the aging judiciary?
3. What is the harm associated with assessment and/or intervention? What is the benefit?
4. Should there be term limits for judges?
5. Should there be periodic monitoring of judges, and if so, should it be age-based?
6. What is the most efficient and fairest way to assess judges?

Imposing a term limit on federal judges would require a Constitutional amendment, as Article III of the Constitution stipulates that the position is a lifetime appointment. There have been notable attempts to implement some form of term limits in the past, including the “Supreme Court Renewal Act” proposed by a Cornell law professor in 2005 (Teitelbaum, 2006). Yet, these ultimately futile efforts are generally advanced to address issues such as perceived politicization of the courts, stagnation, or an increasing disconnect between justices’ positions and public opinion. Little impetus for such movements has been centered around the potential implications of a graying court for justices’ cognitive capacities.

Vociferous pushbacks consistently arise against the move for term limits for justices, often echoing arguments made against imposing term limits for members of Congress—that they do not increase representativeness of the political body, they do not inhibit the effects of partisan polarization, and they contribute to unnecessary loss of institutional memory (Carey *et al.*, 2006; Gruhl, 1997; Kousser, 2005; Olson & Rogowski, 2020). Accordingly, we do not view the implementation of term limits for the judiciary to be a viable mechanism to address potential concern of cognitive decline among justices. Nonetheless, a norm of federal justices regularly taking and disclosing the results of their cognitive assessments could help to assuage concerns about their mental capacities to fulfill their obligations to the

court. This pattern can aid to puncture the veil of secrecy that clouds federal justices—particularly those on the Supreme Court. The judiciary has been intended from its inception to be relatively insulated from public scrutiny. Yet, a combination of controversial rulings and possible scandals—the overruling of *Roe v. Wade*, the end of affirmative action, and Justice Clarence Thomas’ possible ethics violations, to name a few—has raised renewed questions about the court’s credibility in the eyes of the public (Liptak, 2023).

Of course, as non-elected officials serving lifetime appointments, justices face little incentive to become more revelatory in order to increase public appeal. However, they may find that doing so may help to mute calls for more radical departures from their status quo, such as court packing (Phillips, 2020). Ultimately, it is a scant prospect that members of the judiciary reach a point where they voluntarily consent to regular taking and sharing of cognitive assessments, despite the potential value of this process for ensuring the judiciary is continuously staffed with people capable of meeting the rigorous challenges of adjudicating the law. Perhaps the odds of such a process becoming a reality are higher among political figures who rely directly on the support of voters for the maintenance of their positions.

Cognitive assessment in medicine

As of 2020, there exist over 1 million licensed physicians in the United States, including both MD and DO degree-holding physicians (AAMC, 2019). According to the United States Census Bureau, the mean age of physicians is 51.7 years, with 30% of all physicians over the age of 60 (Young et al., 2021). Previous studies have found that 12–18% of people aged 60 years or above have some features of mild cognitive impairment, and 10–15% of this population will develop dementia each year (Eshkoor et al., 2015).

The duties of a physician—to provide medical care to patients, practice safe and quality medicine to those in need, and manage in a professional manner and with high cognitive function—may be threatened by cognitive impairment. As of today, physicians over the age of 65 are subject to multiple safeguarding policies against their own cognitive decline. The Centers for Medicare & Medicaid Services require their participating physicians to annually assess cognitive function and driver safety. Physician self-diagnosing and reporting is mandatory to retain licensing and credentialing by the state. Some states require medical peers to report impaired doctors, and increasing numbers of hospitals are requiring mandatory screenings, with some requesting medical records of the practitioner as proof (Ganguli et al., 2004).

Considering the association between aging and deterioration in cognitive function, it is expected that older physicians may find difficulty practicing medicine at high standards comparable to their younger counterparts—especially for surgical procedures. Research has found that older surgeons performing carotid endarterectomy—a surgery performed to restore normal blood flow in the carotid artery—had higher patient mortality rates than their younger counterparts (O’Neill et al., 2000). Another study found that laparoscopic inguinal herniorrhaphy (a type of hernia repair) performed by older surgeons led to higher hernia recurrence rates (Neumayer et al., 2005).

It is also important to note that memory loss is part of the deterioration of cognitive function. It would not be unexpected to find that older physicians have less declarative medical knowledge (Choudhry et al., 2005). However, some studies suggest otherwise, such as one finding that procedures conducted by obstetricians who have practiced for more decades resulted in fewer maternal complications (Epstein et al., 2013).

Considering the potential risks of having older physicians practice with diminished cognitive function, the American Medical Association (AMA), the American College of Surgeons, and the Society of Surgical Chairs have endorsed voluntary or mandatory cognitive assessment by the age of 65 (Devi et al., 2021). These endorsements faced immediate opposition, stemming from concerns over age discrimination. Older physicians in the United States cannot legally be singled out for cognitive testing. Therefore, it is not a common practice to perform screening of cognitive health for older physicians and

healthcare providers. However, other countries, such as New Zealand and Canada, have already started to implement similar screenings to some degree (Devi *et al.*, 2021).

Recently, cognitive health in older practitioners has received more attention and action. Several institutions in California have the capabilities to screen older physicians' cognitive health, such as the UC San Diego Medical Center, Scripps, and Stanford. Hospitals such as the Yale New Haven Hospital implemented the Late Career Practitioner Policy aimed to test older physicians for their vision, fluency in language usage, executive function, speed and accuracy under decision pressure, and other measures associated with cognitive health (Burling, 2020). Within a period of time, the New Haven Hospital screened 141 medical personnel, including physicians. Of those screened, 24% of 141 showed minor abnormalities and were allowed to re-credential. Eighteen of the 141 personnel, all over the age of 70, showed cognitive deficits. Ultimately, 6 of those 18 practitioners experiencing cognitive decline retired, while the remaining 12 consented to limit their practice under close supervision (George, 2020).

What implications can be drawn from the health domain to inform this subject in the field of politics? First, while there is a positive association between aging and cognitive impairment, singling out older individuals for cognitive assessment runs afoul of the law. A universal norm of cognitive assessment, however, would circumvent this legal issue. Related to this first point, the impetus for medical institutions to subject physicians to regular cognitive screenings is clear. Ensuring that health professionals remain up to the demanding task of attending to the needs of their patients has literal life or death consequences. While the consequences may not be as clear-cut for political figures, their professional activities similarly have an inordinate influence on the well-being of the citizenry. Accordingly, framing the cognitive functioning of political elites as a matter of transparency and public good may help to elide opposition to the practice. Again, in the absence of required cognitive assessment, creating a norm of expectation may be the path forward.

Cognitive-neuropsychological health in politicians

As with cognitive decline, mood disorders are frequent in older individuals and are expected to increase with significant population aging as well (Sajatovic *et al.*, 2015; Valiengo *et al.*, 2016). Although there exist medical—and to a lesser extent, legal—standards of cognitive health and neuropsychological health in general, the interpretations of whether the resulting conclusions of these assessments are positive or negative (“good” or “bad”) can depend on the context in which cognitive and neuropsychological functioning is demanded. That is, beyond ensuring individuals are not a threat to themselves and the public, certain cognitive and neuropsychological states may be beneficial in some contexts and harmful in others. There exists a subjective area in which professionals—and particularly medical, legal, and professional workforce leaders—can exhibit mild cognitive or neuropsychological dysfunction that is actually beneficial, given a particular set of circumstances.

Drawing examples from famous leaders with manic-depressive traits who, from their mild neuropsychological illnesses, arguably had their leadership abilities and professional work enhanced in their respective situations, the same logic may possibly be applied to cognitive health. In the right circumstances and mild severities, cognitive dysfunction, deficits, and even impairment may neutrally and even positively affect leadership. There are nuanced considerations to whether or not certain cognitive conditions are considered “good” or “bad.” Among professionals in medicine, law, politics, and beyond, cognitive traits considered to be abnormal may be considered non-issues and even positive depending on the contexts in which they are to be applied. Such a concept will be explored through examples of neuropsychological illness, specifically depression and mania, enhancing leadership in certain contexts.

Extensive psychological research shows that there are some benefits to depression and the mood state of mania, such as enhanced leadership capabilities in times of crisis, greater expressions of creativity, and positive linkages between bipolar disorder and entrepreneurship (Barling & Cloutier, 2017; Bowins, 2008; Ghaemi, 2012; Johnson *et al.*, 2018; Ludwig, 1995; Zhao *et al.*, 2022). Though leadership in non-crisis times has conventionally been accepted to be optimally provided by mentally healthy leaders,

leadership during crises can benefit from manic-depressive leaders via four traits: realism and empathy from depression, and creativity and resilience from mania (Galvez et al., 2011). These traits may serve to enhance leaders' capacity to overcome crisis-specific challenges and optimally serve their constituents.

Psychological studies spanning 40 years reveal that individuals with depression exhibit greater realism compared to the general non-depressed ("normal") population (Allan et al., 2007; Haaga & Beck, 1995; Moore & Fresco, 2012). Normal people tend to possess "positive illusion," a tendency to be more optimistic than reality would support (Moore & Fresco, 2012; Taylor et al., 2000). This is generally considered a beneficial trait in everyday life. However, in times of crisis, such optimism can be problematic for leaders on whom people, institutions, and states depend. Although some may otherwise consider it pessimism, enhanced realism from depression can facilitate leaders' consideration of suboptimal factors and even worst-case scenarios. This helps them to effectively avoid pitfalls and thus come closer to achieving their leadership goals. Documented examples of depressive realism include Abraham Lincoln regarding the Civil War and slavery (Shenk, 2005), and Winston Churchill regarding the rise of Nazism (Moran, 1966). Both leaders, popularly revered today, had severe depression with enhanced realism that would have been beneficial in considering—and importantly, avoiding—plans that could have resulted in unnecessary risk, deaths, and defeat.

Empathy is another such benefit amplified by depression. Research indicates that, compared to non-depressed persons, people with depression have more empathy toward others (Galvez et al., 2011). A leader can capitalize on this by intuitively finding unifying messages and themes to organize people together toward a common goal (Pauley & McPherson, 2010). Examples include Martin Luther King Jr. and Mahatma Gandhi, both of whom experienced significant depression (Ghaemi, 2012; King, 2023). Their nonviolent politics can be viewed as a politics of radical empathy.

One characteristic of mania—a condition in which an individual's mood and energy may be abnormally elevated—is creativity (Akiskal & Akiskal, 2007; Soeiro-de-Souza et al., 2011), which can enhance leaders' decision-making. Commonly associated with artists and writers (Jamison, 1989), mania enables leaders to challenge the status quo and find novel approaches to achieve their goals. Such creativity can engender both novel solutions and the posing of novel questions. Greater creativity enables leaders to overcome traditional, long-standing barriers to their goals. A prominent example is Ted Turner, the entrepreneur and television producer diagnosed with bipolar illness, who revolutionized the news and cable industries (Ghaemi, 2012; Napoli, 2020).

Resilience is another characteristic enhanced by mania that may benefit leaders. Leaders often experience challenges and failures, and effective leadership demands the ability to recover from such setbacks; this is the definition of resilience. One protective factor associated with mania is hyperthymic temperament (Galvez et al., 2011), which is associated with—among other traits—a strong sense of humor, future orientation, and hopefulness. These enhanced qualities enable individuals experiencing mania to be more resilient and "bounce back" faster from adversity, providing leaders with the stamina to lead through crises. Franklin Roosevelt, for example, likely had hyperthymia (Ghaemi, 2012; Janiri et al., 2018), which may have aided him in guiding the United States through the generation-defining crises of the Great Depression and the onset of World War II.

However, there are obvious harms to severe mental illness in leadership. An important example is Adolf Hitler's diagnosed manic-depression, which was worsened by daily intravenous amphetamine treatment (Ghaemi, 2012; Heston & Heston, 1979). Accordingly, it is imperative that the idea of neuropsychological illness and cognitive deficiency being context-dependent must be accompanied by a strict emphasis on ensuring individuals are neither a threat to themselves nor to the public.

In sum, manic-depressive illness, especially when mild, may promote important traits that are beneficial for crisis leadership. Beyond world-defining events, manic-depressive illness can promote qualities that engender successful leadership in the medical and political fields, including realism, empathy, creativity, and resiliency. Thus, addressing cognitive assessment and dysfunction in the workforce—particularly in fields with the potential for relative crisis—may not entail a simple binary judgment between the presence or absence of cognitive deficits. Rather, as exemplified by the aforementioned examples of manic-depression and crisis leadership, certain cognitive deficits may prove to be

beneficial in certain circumstances, suggesting the need for more holistic cognitive assessments that account for both people's cognitive states and their work environment.

Discussion

In an ever-aging world, cognitive assessments of medical, legal, and political professionals—those directly and non-exclusively responsible for societal health and functioning—must be further examined. Considering the complicated dimensions to their usage, the administration of cognitive assessments must be intentionally grounded in common understanding of their potential benefits, which should only increase given the population's aging. Therefore, in order to implement cognitive assessments, greater work needs to be done to organize a functional, equitable, and intuitive framework that is free of prejudice to all parties involved.

A common reason for opposition to cognitive assessments is that they discriminate against the older, more “cognitively impaired” workforce. The aging patterns previously mentioned have led to recent increases in the labor force participation rates of persons age 65 and older (Button, 2020). Experts have identified best practices for effective management of workplaces with increasing age diversity (Wang & Fang, 2020). Nevertheless, bias against older workers in hiring and firing decisions may have recently accelerated due to exogenous economic shocks such as the Great Recession and the COVID-19 pandemic. This discrimination is estimated to have potentially caused \$850 billion in GDP losses and \$545 billion in lost wages annually (Suh, 2021). Whereas the Age Discrimination in Employment Act (ADEA) of 1967 protects individuals 40 years of age and older from discriminatory treatment, the 2009 Supreme Court ruling in *Gross v. FBL Financial Services* created a significantly higher bar for plaintiffs alleging age discrimination, relative to those alleging race or gender-based discrimination (Gonzales *et al.*, 2021). Thus, for an older population that is both comprising a greater proportion of the workforce while also possibly facing a higher prevalence of discriminatory treatment with limited legal avail, the concept of cognitive assessment can reasonably be viewed with skepticism. A norm of such testing might reinforce the stereotype that *only* older people are affected by cognitive decline and impairment.

However, when performed correctly, cognitive assessments are usually a component of a larger, more holistic approach that assesses persons as individuals, rather than subjects with pre-determined risk. Instead of singling out specific at-risk populations to be cognitively screened, assessments can alternatively be framed as being applied to all, such as an approach suggesting a mandatory retirement age of 65, regardless of cognitive status. Such an approach can not only be non-discriminatory, but can also benefit both the individual and society at large when executed correctly. Accordingly, the mutually agreed-upon purpose for performing cognitive assessments must be to protect professional integrity and standards, rather than to disqualify people from their posts.

The intent of cognitive assessments must be framed as improving individuals' daily functioning and their capacity to fulfill their responsibilities to the public. The cognitive health of political figures is of paramount importance given their influential effects on individuals' lived experiences and society's general functioning. Therefore, it can be argued that there should be transparent and public accounting of political actors' cognitive health. As mentioned earlier, it is frequently expected (albeit not required) for politicians to disclose personal information such as financial standings, tax returns, owned properties, known affiliations, and even certain medical conditions. There is value in applying such logic to their cognitive health. As public-servants, politicians' cognitive functioning may be subject to public scrutiny to ensure democratic accountability and societal trust.

Executive dysfunction based on a neurodegenerative disorder has been suggested for former Israeli Prime Minister Ariel Sharon (Fisher *et al.*, 2014). However, being marked as “abnormal” need not necessarily be interpreted as a loss of function or raise objective criticism of an individual. Energetic appearances and reliability—markers for potential mania, according to the DSM (Gartner, 2009)—have been celebrated in politicians known for their charisma, such as former United States President Bill Clinton. Therefore, designing an equitable system of cognitive assessments that holistically considers

individuals and their intended cognitive workload is a critical step in their responsible administration among political officials. Additionally, ensuring that such assessments are discussed in a manner that both advances understanding of, and reduces stigmas around, neurodivergences is essential for ensuring that such assessments do not reinforce the invisible barriers that currently limit the participation of individuals with disabilities from political leadership.

In order for the cognitive assessments for political figures to be useful, the public needs to be educated on the matter. Understanding cognitive diagnoses and its potential implications, however, is no simple task. Cognitive issues are not typically black and white; varied shades of gray may depend on the individual, the context in which their cognition is demanded, and the interpretation by the examiner. Even experts may struggle to agree on conclusions. To advance common understanding and acceptance of cognitive assessments, an interdisciplinary framework developed by academics in medical and cognitive fields can provide a common foundation for research and knowledge-building that then can be intuitively understood by non-specialists and the public.

Additionally, the integrity of cognitive assessments must be protected. Politicians and political parties may challenge rivals with misleading, agenda-driven claims based on unrepresentative performances. It is reasonable to presume that if cognitive assessments were to be prevalent in the future, the cognitive status of politicians may very well be used in a similarly misleading and agenda-driven manner. The AMA has provided guidance for ethical physician conduct in the media, recommending that physicians not make clinical diagnoses regarding public officials, celebrities, and other persons in the news they have not had the opportunity to personally examine (AMA, 2017). This was an expansion of the so-called “Goldwater Rule” of the American Psychiatric Association (APA), which generally prohibited psychiatrists from offering professional opinions on political candidates or other public figures (APA, 1973). These rules are, however, routinely ignored. It is therefore important to organize a balanced and unbiased system for performing cognitive assessments, and to educate the public about cognitive health, cognitive assessments, and their implications.

The future of cognitive assessment in medicine, law, and politics

Because of the cognitive demands of being a physician, lawyer, or politician, the risk of public harm from cognitive dysfunction, and the general lack of an upper age limit to practice or serve in these professions, some form of cognitive assessment is recommended to both prevent public harm and to optimize the rendering of professional services. Some form of cognitive assessments for physicians and other clinicians (such as physician assistants and nurse practitioners) are well underway, as evidenced by the aforementioned examples of the Centers for Medicare & Medicaid Services and the New Haven Hospital. However, equitably implementing such cognitive assessments must be done in a non-discriminatory manner, particularly with respect to age. Given that stereotypes of older adults may predict voting behavior (Monahan et al., 2021), one approach is to perform cognitive assessments universally, regardless of age. A shift in cultural acceptance of universal cognitive assessments is also necessary, rooted in framing the benefits of widespread testing outweighing the costs of public harm from cognitive dysfunction, age-related or otherwise.

Unless spurred by a shift in public culture that strongly favors healthy cognitive functioning, the issue of cognitive assessments will remain unaddressed in an aging society in which the proportion of cognitive decline is anticipated to rise. As noted by California State Senator Dave Min, politicians and elected officials generally gravitate toward ideas that are associated with broadly popular sentiment; thus, if it is demonstrated that cognitive assessments are popular amongst the public, politicians’ support for such assessments could rise. With the far-reaching and direct effects of medicine, law, and politics on individual and societal health, functioning, and progress, the complexities of implementing cognitive assessments should be explored further, and cognitive assessment, in one form or another, is recommended.

We acknowledge that a discursive shift would need to take place within the general public, reframing the narrative around cognitive impairment to remove the stigma around it. As recent examples attest, people who exhibit cognitive impairment can still prove capable of meeting the urgent demands of political leadership. In 2011, Arizona Congressional Representative Gabby Giffords suffered substantial brain injury when shot during an assassination attempt. Despite resigning from office in 2012 to focus on her recovery, Giffords rose to prominence as a national anti-gun violence advocate.

In 2022, John Fetterman was elected to the U.S. Senate approximately 6 months after suffering a major stroke, which left him with a language disorder limiting his communication capabilities. Disability advocates pointed to the torrent of questions and challenges levied at Fetterman's fitness to serve as indicative of the biases that preclude disabled people from seeking and winning elective office. Additionally, advocates argued that someone needing to carry out the traditional functions of the office in a *different* manner is not necessarily carrying out those functions in an *inferior* manner (Chan, 2022; Morris, 2022).

Actionable recommendations

With an ever-aging population and workforce, cognitive health is becoming increasingly important. In the fields of medicine, law, and politics, cognitive assessments are recommended to ensure professionals of these disciplines continue to uphold their direct and significant responsibilities toward individual and societal health, functioning, and progress. The fields of law and medicine have made significant progress on this issue. Developments in these fields can and should inform the issue in the political sphere.

We therefore recommend that cognitive assessments for politicians are appropriate and necessary. The assessments should be made across-the-board, without regard to the age of the politician. The assessments should be incorporated into a standard set of disclosures for political candidates running for office. Initial implementation is most appropriate for candidates for federal office.

The actual content of cognitive assessments for politicians should be developed by a multidisciplinary group led by neuropsychologists. The assessment should be more than a simple screening device (e.g., MMSE or MoCA) but substantially less than a full neuropsychological examination. All six standard cognitive domains should be addressed: executive function, complex attention, perceptual-motor function, language, learning and memory, and social cognition. Scoring can be on a simple pass-fail basis.

Results of a cognitive assessment can thus be disclosed by politicians, who may find it beneficial to incorporate a cognitive passing grade among a group of disclosures. Nevertheless, reluctance of politicians to engage in the assessment is to be expected. Implementation will require sustained efforts in bringing the issue to public attention. One might anticipate that there would be enthusiasm for the assessment among political candidates whose opponents have been subject to questions regarding their cognitive capabilities. Regardless, cognitive assessment for politicians is an issue whose time has come.

References

- AAMC. (2019). Active physicians with a U.S. Doctor of Medicine (U.S. MD) Degree by specialty. <https://www.aamc.org/data-reports/workforce/interactive-data/active-physicians-us-doctor-medicine-us-md-degree-specialty-2019>
- Akiskal, H. S., & Akiskal, K. K. (2007). In search of Aristotle: Temperament, human nature, melancholia, creativity and eminence. *Journal of Affective Disorders*, *100*(1–3), 1–6.
- Allan, L. G., Siegel, S., & Hannah, S. (2007). The sad truth about depressive realism. *Quarterly Journal of Experimental Psychology*, *60*(3), 482–495.
- Alzheimer's Association. (2021). Alzheimer's disease facts and figures. <https://www.alz.org/media/Documents/alzheimers-facts-and-figures.pdf>
- AMA. (2017). AMA adopts guidance for ethical physician conduct in the media. <https://www.ama-assn.org/press-center/press-releases/ama-adopts-guidance-ethical-physician-conduct-media>
- American Psychiatric Association. (1973). Goldwater rule. <https://www.psychiatry.org/news-room/goldwater-rule>

- Barling, J., & Cloutier, A. (2017). Leaders' mental health at work: Empirical, methodological, and policy directions. *Journal of Occupational Health Psychology*, *22*(3), 394.
- Berg, E. A. (1948). A simple objective technique for measuring flexibility in thinking. *The Journal of General Psychology*, *39*(1), 15–22.
- Bertua, C., Anderson, N., & Salgado, J. F. (2005). The predictive validity of cognitive ability tests: A UK meta-analysis. *Journal of Occupational and Organizational Psychology*, *78*(3), 387–409.
- Borson, S., Scanlan, J. M., Watanabe, J., Tu, S. P., & Lessig, M. (2006). Improving identification of cognitive impairment in primary care. *International Journal of Geriatric Psychiatry*, *21*(4), 349–355. <https://doi.org/10.1002/gps.147>
- Bowers, D., Blonder, L. X., & Heilman, K. M. (1998). *Florida affect battery*. Center for Neuropsychological Studies, Department of Neurology.
- Bowins, B. (2008). Hypomania: A depressive inhibition override defense mechanism. *Journal of Affective Disorders*, *109*(3), 221–232.
- Buckner, R. L., & Krienen, F. M. (2013). The evolution of distributed association networks in the human brain. *Trends in Cognitive Science*, *17*(12), 648–665. <https://doi.org/10.1016/j.tics.2013.09.017>
- Burling, S. (2020). Yale required cognitive testing for older physicians. Here's how many passed the test. <https://www.inquirer.com>. <https://www.inquirer.com/health/older-physicians-dementia-test-Ing-cognitive-changes-safety-yale-penn-20200117.html>
- Button, P. (2020). *Population aging, age discrimination, and age discrimination protections at the 50th anniversary of the age discrimination in employment act* (pp. 163–188). Springer International Publishing.
- Byun, J., & Carson A. (2023). More than a number: Aging leaders in international politics. *International Studies Quarterly*, *67*(1), sqad008. <https://doi.org/10.1093/isq/squad008>
- Callister, J. D., King, R. E., & Retzlaff, P. D. (1996). Cognitive assessment of USAF pilot training candidates. *Aviation, Space, and Environmental Medicine*, *67*(12), 1124–1129.
- Carey, J. M., Niemi, R. G., Powell, L. W., & Moncrief, G. F. (2006). The effects of term limits on state legislatures: A new survey of the 50 states. *Legislative Studies Quarterly*, *31*(1), 105–134.
- Chan, W. (2022, October 27). 'A lens of empathy': Disability advocates on John Fetterman and leadership. *The Guardian*. <https://www.theguardian.com/us-news/2022/oct/27/john-fetterman-senate-debate-disability-advocates>
- Choudhry, N. K., Fletcher, R. H., & Soumerai, S. B. (2005). Systematic review: The relationship between clinical experience and quality of health care. *Annals of Internal Medicine*, *142*(4), 260–273. <https://doi.org/10.7326/0003-4819-142-4-200502150-00008>
- Delis, D. C., Freeland, J., Kramer, J. H., & Kaplan, E. (1988). Integrating clinical assessment with cognitive neuroscience: Construct validation of the California Verbal Learning Test. *Journal of Consulting and Clinical Psychology*, *56*(1), 123.
- Devi, G., Gitelman, D. R., Press, D., & Daffner, K. R. (2021). Cognitive impairment in aging physicians: Current challenges and possible solutions. *Neurology Clinical Practice*, *11*(2), 167–174. <http://doi.org/10.1212/CJP.0000000000000829>
- Epstein, A. J., Srinivas, S. K., Nicholson, S., Herrin, J., & Asch, D. A. (2013). Association between physicians' experience after training and maternal obstetrical outcomes: Cohort study. *BMJ*, *346*, f1596. <https://doi.org/10.1136/bmj.f1596>
- Eshkoor, S. A., Hamid, T. A., Mun, C. Y., Ng, C. K. (2015). Mild cognitive impairment and its management in older people. *Clinical Interventions in Aging*, *10*, 687–693. <http://doi.org/10.2147/CIA.S73922>.
- Fisher, M., Franklin, D. L., & Post, J. M. (2014). Executive dysfunction, brain aging, and political leadership. *Politics and the Life Sciences*, *33*(2), 93–102. https://doi.org/10.2990/33_2_93
- Fjell, A. M., Sneve, M. H., Grydeland, H., Storsve, A. B., & Walhovd, K. B. (2017). The disconnected brain and executive function decline in aging. *Cerebral Cortex*, *27*(3), 2303–2317.
- Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). "Mini-mental state": A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, *12*(3), 189–198.
- Galvez, J. F., Thommi, S., & Ghaemi, S. N. (2011). Positive aspects of mental illness: A review in bipolar disorder. *Journal of Affective Disorders*, *128*(3), 185–190.
- Ganguli, M., Rodriguez, E., Mulsant, B., Richards, S., Pandav, R., Bilt, J. V., Dodge, H. H., Stoehr, G. P., Saxton, J., Morycz, R. K., Rubin, R. T., Farkas, B., & DeKosky, S. T. (2004). Detection and management of cognitive impairment in primary care: The Steel Valley Seniors Survey. *Journal of the American Geriatrics Society*, *52*(10), 1668–1675.
- Gartner, J. (2009). *In search of Bill Clinton: A psychological biography* (pp. 119–194). St. Martin's Griffin.
- George, J. (2020). Mandatory testing shows cognitive deficits in late-career clinicians. *MedPage Today*. <https://www.medpagetoday.com/publichealthpolicy/generalprofessionalissues/84365>
- Ghaemi, N. A. (2012). *A First-rate madness: Uncovering the links between leadership and mental illness*. Penguin
- Gonzales, E., Marchiondo, L., Ran, S., Brown, C., Goettge, K., & Krutchen, R. (2021). *Age discrimination in the workplace and its association with health and work: Implications for social policy*. The Center for Health and Aging Innovation, NYU. <http://hdl.handle.net/2451/61978>
- Gruhl, J. (1997). The impact of term limits for Supreme Court justices. *Judicature*, *81*, 66.
- Haaga, D. A., & Beck, A. T. (1995). Perspectives on depressive realism: Implications for cognitive theory of depression. *Behaviour Research and Therapy*, *33*(1), 41–48.

- Hartwigsen G. (2018). Flexible redistribution in cognitive networks. *Trends in Cognitive Sciences*, 22(8), 687–698. <https://doi.org/10.1016/j.tics.2018.05.008>
- Heston, L. L., & Heston, R. (1979). The medical casebook of Adolf Hitler: His illnesses, doctors, and drugs.
- Horowitz, M., McDermott, R., & Stam, A. C. (2005). Leader age, regime type, and violent international relations. *The Journal of Conflict Resolution*, 49(5), 661–685. <http://www.jstor.org/stable/30045148>
- Jamison, K. R. (1989). Mood disorders and patterns of creativity in British writers and artists. *Psychiatry*, 52(2), 125–134.
- Janiri, D., De Rossi, P., Kotzalidis, G. D., Girardi, P., Koukopoulos, A. E., Reginaldi, D., Dotto, F., Manfredi, G., Jollant, F., Gorwood, P., Pompili, M., & Sani, G. (2018). Psychopathological characteristics and adverse childhood events are differentially associated with suicidal ideation and suicidal acts in mood disorders. *European Psychiatry*, 53, 31–36.
- Johnson, S. L., Madole, J. W., & Freeman, M. A. (2018). Mania risk and entrepreneurship: Overlapping personality traits. *Academy of Management Perspectives*, 32(2), 207–227.
- Kaplan, E., Goodglass, H., & Weintraub, S. (2001). Boston Naming Test.
- Kaufman A. S. (2021). The precipitous decline in reasoning and other key abilities with age and its implications for federal judges. *Journal of Intelligence*, 9(4), 52. <https://doi.org/10.3390/jintelligence9040052>
- King, E. J. (2023). *A life*. (1st ed.) Farrar, Straus and Giroux.
- Kousser, T. (2005). *Term limits and the dismantling of state legislative professionalism*. Cambridge University Press.
- Liptak, A. (2023, May 24). Chief justice says Supreme Court is working to address ethics questions. *The New York Times*. <https://www.nytimes.com/2023/05/24/us/chief-justice-roberts-supreme-court-ethics.html>
- Ludwig, A. M. (1995). *The price of greatness: Resolving the creativity and madness controversy*. Guilford Press.
- Monahan, C., Lytle, A., Inman, E., Apriceno, M., Macdonald, J., & Levy, S. (2021). Stereotypes of older adults, older men, and male leaders predict expectations, stance, and voting intentions. *Innovation in Aging*, 5(Suppl 1), 1016. <https://doi.org/10.1093/geroni/igab046.3640>
- Moore, M. T., & Fresco, D. M. (2012). Depressive realism: A meta-analytic review. *Clinical Psychology: Review*, 32(6), 496–509.
- Moran, C. M. W. (1966). Winston Churchill: The struggle for survival, 1940–1965.
- Morris, A. (2022, October 27). Fetterman debate reaction reveals stigma disabled candidates face. *Washington Post*. <https://www.washingtonpost.com/wellness/2022/10/27/fetterman-oz-debate-stroke-disability>
- Napoli, L. (2020). *Up all night: Ted Turner, CNN, and the birth of 24-hour news*. Abrams.
- Nasser, H. E. (2021). The U.S. joins other countries with large aging populations. *Census.gov*. <https://www.census.gov/library/stories/2018/03/graying-america.html>
- Neumayer, L. A., Gawande, A. A., Wang, J., Giobbie-Hurder, A., Itani, K. M., Fitzgibbons, R. J., Jr, Reda, D., & Jonasson, O. (2005). CSP #456 Investigators. Proficiency of surgeons in inguinal hernia repair: Effect of experience and age. *Annals of Surgery*, 242(3), 344–352. <https://doi.org/10.1097/01.sla.0000179644.02187.ea>
- Olson, M. P., & Rogowski, J. C. (2020). Legislative term limits and polarization. *The Journal of Politics*, 82(2), 572–586.
- O’Neill, L., Lanska, D. J., & Hartz, A. (2000). Surgeon characteristics associated with mortality and morbidity following carotid endarterectomy. *Neurology*, 55(6), 773–781. <https://doi.org/10.1212/wnl.55.6.773>
- Osterrieth, P. A. (1944). *Le test de copie d’une figure complexe; contribution à l’étude de la perception et de la mémoire*. Archives de psychologie.
- Park, D. C., & Bischof, G. N. (2013). The aging mind: Neuroplasticity in response to cognitive training. *Dialogues in Clinical Neuroscience*, 15(1), 109–119. <https://doi.org/10.31887/DCNS.2013.15.1/dpark>
- Pauley, G., & McPherson, S. (2010). The experience and meaning of compassion and self-compassion for individuals with depression or anxiety. *Psychology and Psychotherapy: Theory, Research and Practice* 83(2), 129–143.
- Phillips, A. (2020, October 8). What is court packing, and why are some Democrats seriously considering it? *Washington Post*. <https://www.washingtonpost.com/politics/2020/09/22/packing-supreme-court/>
- Posner, R. A. (1986). Legal formalism, legal realism, and the interpretation of statutes and the constitution. *The Case Western Reserve Law Review*, 37, 179.
- Reitan, R. M. (1955). The relation of the trail making test to organic brain damage. *Journal of Consulting Psychology*, 19(5), 393.
- Rodrigo, S., Naggara, O., Oppenheim, C., Golestani, N., Poupon, C., Cointepas, Y., Mangin, J. F., Le Bihan, D., & Meder, J. F. (2007). Human subinsular asymmetry studied by diffusion tensor imaging and fiber tracking. *AJNR. American Journal of Neuroradiology*, 28(8), 1526–1531. <https://doi.org/10.3174/ajnr.A0584>
- Sajatovic, M., Strejilevich, S. A., Gildengers, A. G., Dols, A., Al Jurdi, R. K., Forester, B. P., Kessing, L. V., Beyer, J., Manes, F., Rej, S., Rosa, A. R., Schouws, S. N., Tsai, S. Y., Young, R. C., & Shulman, K. I. (2015). A report on older-age bipolar disorder from the International Society for Bipolar Disorders Task Force. *Bipolar Disorders*, 17(7), 689–704. <https://doi.org/10.1111/bdi.12331>
- Salthouse, T. (2012). Consequences of age-related cognitive declines. *Annual Review of Psychology*, 63, 201–226.
- Shenk, J. W. (2005). *Lincoln’s melancholy: How depression challenged a President and fueled his greatness*. Houghton Mifflin Harcourt.
- Soeiro-de-Souza, M. G., Dias, V. V., Bio, D. S., Post, R. M., & Moreno, R. A. (2011). Creativity and executive function across manic, mixed and depressive episodes in bipolar I disorder. *Journal of Affective Disorders*, 135(1–3), 292–297.
- Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18(6), 643.

- Suh, J. Y.** (2021). Age discrimination in the workplace hurts us all. *Nature Aging*, *1*(2), 147.
- Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L.** (2000). Psychological resources, positive illusions, and health. *American Psychologist*, *55*(1), 99.
- Teitelbaum, J. C.** (2006). Age and tenure of the justices and productivity of the US Supreme Court: Are term limits necessary? *The Florida State University Law Review*, *34*, 161.
- Valiengo, L. C., Stella, F., & Forlenza, O. V.** (2016). Mood disorders in the elderly: Prevalence, functional impact, and management challenges. *Neuropsychiatric Disease and Treatment*, *12*, 2105–2114. <https://doi.org/10.2147/NDT.S94643>
- Wang, M., & Fang, Y.** (2020). Age diversity in the workplace: Facilitating opportunities with organizational practices. *Public Policy & Aging Report*, *30*(3), 119–123.
- Westerhof-Evers, H. J., Visser-Keizer, A. C., McDonald, S., & Spikman, J. M.** (2014). Performance of healthy subjects on an ecologically valid test for social cognition: The short, Dutch Version of The Awareness of Social Inference Test (TASIT). *Journal of Clinical and Experimental Neuropsychology*, *36*(10), 1031–1041.
- Yoon, A.** (2017). *The Oxford handbook of U.S. judicial behavior* (Epstein, L., & Lindquist, S. A., eds., pp. 83–98). Oxford University Press.
- Young, A., Chaudhry, H. J., Pei, X., Arnhart, K., Dugan, M., & Simons, K. B.** (2021). FSMB census of licensed physicians in the United States, 2020. *Journal of Medical Regulation*, *107*(2), 57–64. <https://doi.org/10.30770/2572-1852-107.2.57>
- Zhao, R., Tang, Z., Lu, F., Xing, Q., & Shen, W.** (2022). An updated evaluation of the dichotomous link between creativity and mental health. *Frontiers in Psychiatry*, *12*, 781961.

Cite this article: Gong, S., Hu, Z. P., Ghaemi, S. N., Min, D., Mapstone, M., Sanbar, S. S., Berenji, M., Rosenberg, S., Phoenix, D., & Fisher, M. (2024). Cognitive decline and political leadership. *Politics and the Life Sciences*, 1–13. <https://doi.org/10.1017/pls.2024.7>