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IQ, INTELLIGENCE TESTS, “ETHNIC ADJUSTMENTS” AND *ATKINS*

ROBERT M. SANGER*

In Atkins v. Virginia the U.S. Supreme Court declared that executing the intellectually disabled violated the U.S. Constitution’s Eighth Amendment prohibition against cruel and unusual punishment. In Atkins, the Court relied heavily on medical standards, which indicated that individuals with an IQ of approximately or below seventy and who met the other criteria for intellectual disability were ineligible for the death penalty. Twelve years later, in Hall v. Florida, the Court evaluated a Florida statute that created a bright line rule, making anyone whose IQ was above seventy eligible for execution, regardless of other factors suggesting the defendant was, despite his IQ score, intellectually disabled. Finding the statute violated the Constitution, the Court stated that the Florida statute’s bright line rule made the possibility too great that an intellectually disabled person would be executed.

Since Atkins, some prosecution experts have begun using so-called “ethnic adjustments” to artificially raise minority defendants’ IQ scores, making defendants who would have been protected by Atkins and its progeny eligible for the death penalty. This Article details this practice, looking at several cases in which prosecutors successfully adjusted a defendant’s IQ score upward, based on his or her race. The Article then turns to the arguments put forth by these prosecutors for increasing minority defendants’ IQ scores, namely that it would be improper not to adjust the scores. Statistically, some minority cohorts

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tend to perform worse on tests than White cohorts; prosecutors argue that this discrepancy is not based on intellectual inferiority, but rather that there are testing biases and behavioral factors that cause minority test-takers to underperform. Thus, the argument goes, minority IQ scores should be increased to control for these biases and behavioral factors.

Evaluating the merits of these arguments, this Article concludes that ethnic adjustments are not logically or clinically appropriate when computing a person's IQ score for Atkins purposes. This Article looks at epigenetics to explain the discrepancies in IQ scores, concluding that environmental factors—such as childhood abuse, poverty, stress, and trauma—can cause decreases in actual IQ scores and which can be passed down from generation to generation. Therefore, given that individuals who suffered these environmental factors disproportionately populate death row, ethnic adjustments make it more likely that individuals who are actually intellectually disabled will be put to death. Ultimately, after looking at the Supreme Court's affirmative action jurisprudence, this Article concludes that the practice of ethnic adjustments for the purpose of determining eligibility for the death penalty violates the Fourteenth Amendment's Equal Protection Clause and would not survive strict scrutiny.

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INTRODUCTION

In the last few years, courts in the United States have approved of, or acquiesced in, expert testimony offered by the prosecution in death penalty cases to the effect that several points (generally, five to fifteen) should be added to the intelligence quotient (IQ) scores of African American and Latina/o¹ defendants in determining whether

1. The term “Latina/os” is currently the accepted way to refer to the people whom the prosecution experts and courts seem to be categorically classifying as Mexican or Hispanic or, in some cases, for whom they do not make a clear ethnic designation. For a taxonomy of the various available terms, see Lilian Comas-Díaz, *Hispanics, Latinos, or Americanos: The Evolution of Identity*, 7 CULTURAL DIVERSITY & ETHNIC MINORITY PSYCHOL. 115, 115–19 (2001). However, none of the terms refer to a “race.” See *State & County Quick Facts: Hispanic Origin*, U.S. CENSUS BUREAU, http://quickfacts.census.gov/qfd/meta/long_RHI725212.htm (“Hispanics or

they are intellectually disabled (mentally retarded)². Generally, after increasing the test scores, the prosecution argues that the defendant is not eligible for relief from execution under *Atkins v. Virginia*.³ In such cases, the “ethnic adjustment”⁴ of test scores based on the race of the defendant has the effect of qualifying people of color, who otherwise would be exempted, for execution.

Placing this in context, in 2002, the U.S. Supreme Court held in *Atkins* that it is unconstitutional for the government to execute an intellectually disabled person.⁵ The determination of whether a particular individual is intellectually disabled is based, in significant part, on IQ test scores.⁶ The purported “ethnic adjustment” of IQ scores in capital cases, therefore, plays a significant role in determining who will be executed. This Article addresses whether it

Latinos are those people who classified themselves in one of the specific Spanish, Hispanic, or Latino categories . . . as well as those who indicate that they are ‘another Hispanic, Latino, or Spanish origin.’ . . . Origin can be view [sic] as the heritage, nationality group, lineage, or country of birth of the person or the person’s parents or ancestors before their arrival in the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.”)

2. This Article will use “intellectual disability” as identical to, and generally instead of, “mental retardation.”

3. 536 U.S. 304, 321 (2002) (citing *Ford v. Wainwright*, 477 U.S. 399, 405 (1986)).

4. See Robert K. Heaton et al., *Demographic Influences and Use of Demographically Corrected Norms in Neuropsychological Assessment*, in *NEUROPSYCHOLOGICAL ASSESSMENT OF NEUROPSYCHIATRIC AND NEUROMEDICAL DISORDERS* 127, 146–47 (Igor Grant & Kenneth M. Adams eds., 3d ed. 2009) (using the term “demographic corrections” interchangeably with “adjustments”) [hereinafter Heaton et al., *Neuropsychological Assessment*]; ROBERT K. HEATON ET AL., *REVISED COMPREHENSIVE NORMS FOR AN EXPANDED HALSTEAD-REITAN BATTERY: DEMOGRAPHICALLY ADJUSTED NEUROPSYCHOLOGICAL NORMS FOR AFRICAN AMERICAN AND CAUCASIAN ADULTS* 6 (2004) [hereinafter HEATON ET AL., *REVISED COMPREHENSIVE NORMS*] (same); see also *In re Champion*, 322 P.3d 50, 67 (Cal. 2014) (illustrating how witnesses, such as Dr. Charles Hinkin, have used the term “ethnically corrected”).

5. *Atkins*, 536 U.S. at 317 (using the terminology “mental retardation”). But see AM. ASS’N ON INTELLECTUAL DEV. & DISABILITY, *INTELLECTUAL DISABILITY: DEFINITION, CLASSIFICATION, AND SYSTEMS OF SUPPORTS* 33 (11th ed. 2010) [hereinafter AAIDD MANUAL] (using the current clinical terminology: “intellectual disability”). See generally *Hall v. Florida*, 134 S. Ct. 1986, 1990 (2014) (approving of use of the term “intellectual disability” in lieu of “mental retardation” during discussions of eligibility for execution under *Atkins* (citing Rosa’s Law, Pub. L. No. 111-256, 124 Stat. 2643 (2010) (removing references to “mental retardation” in the U.S. Code and replacing the phrase with “intellectual disabilities”))).

6. See *Hall*, 134 S. Ct. at 2001 (recognizing that IQ test scores have clinical significance but are not dispositive in diagnosing intellectual disability); see also *Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015) (noting that an IQ test result of seventy-five was “in the range of potential intellectual disability”).

is appropriate constitutionally, logically, or clinically to “ethnically adjust” the IQ scores of African Americans and Latina/os for the purpose of determining whether they are eligible for execution.⁷

Last Term, the United States Supreme Court had an opportunity to address this issue. In *Hernandez v. Stephens*,⁸ a Latino defendant,⁹ whose IQ the prosecution successfully argued should be adjusted upward, applied for relief under *Atkins* in Texas.¹⁰ The U.S. Court of Appeals for the Fifth Circuit nevertheless affirmed his death sentence,¹¹ and the U.S. Supreme Court subsequently denied certiorari.¹² Meanwhile, as described in this Article, other courts have either approved of or acquiesced in ethnic adjustments.¹³

This Article proceeds in five Parts. Part I reviews the basic law regarding intellectual disability and the death penalty. In so doing, this Part explores the two major Supreme Court cases considering the constitutionality of executing the intellectually disabled, *Atkins* and *Hall v. Florida*.¹⁴ Part I then examines the definition of intellectual disability as established by the medical community, the legislature, and the judiciary. Finally, this Part considers the Court’s specific treatment of IQ testing in *Hall* along with the Court’s conclusion that rigid reliance on IQ scores should not deprive persons facing the death penalty of the opportunity to show that the Constitution prohibits their execution.

7. Although the topic references the death penalty, the same question would also apply to the purported “ethnic adjustment” of IQ scores in any forensic setting. This would include eligibility for treatment or services, civil liability, or non-capital criminal mitigation.

8. 537 F. App’x 531 (5th Cir. 2013) (per curiam), *cert. denied*, 134 S. Ct. 1760 (2014).

9. It is not clear from the opinions and record whether Mr. Hernandez was a Mexican National, or an American of Mexican descent. The U.S. Court of Appeals for the Fifth Circuit indicated only that Mr. Hernandez’s mother and sister lived in Mexico and that he may have spent his childhood in Mexico. *Id.* at 541.

10. *Id.* at 535–36. The prosecution’s expert adjusted an IQ score of sixty-two to a seventy to conform with “Mexican norms.” *Id.* at 536.

11. *Id.* at 543.

12. *Hernandez*, 134 S. Ct. 1760.

13. See, e.g., *Maldonado v. Thaler*, 625 F.3d 229, 238 (5th Cir. 2010) (affirming that “cultural and educational factors” could have “suppressed” the defendant’s IQ scores, so his scores had to be adjusted upward); *Hodges v. State*, 55 So. 3d 515, 525 (Fla. 2010) (per curiam), *cert. denied*, 132 S. Ct. 164 (2011) (stating that the defendant’s low IQ scores could be discounted because “IQ tests tend to underestimate particularly the intelligence of African-Americans”); *Ex parte Rodriguez*, 164 S.W.3d 400, 404 (Tex. Crim. App. 2005) (Cochran, J., concurring) (stating that the defendant’s scores did not necessarily show mental retardation because the verbal IQ test “is really culturally based”).

14. 134 S. Ct. 1986 (2014).

Part II of this Article examines the testimony of expert witnesses to the effect that points should be *added* to the IQ scores of African Americans and Latina/os for the purpose of determining whether such individuals meet the first criterion of intellectual disability. This Part discusses California Supreme Court and Fifth Circuit cases decided in 2014, along with cases from other death penalty jurisdictions in the United States that either accepted or acquiesced in the ethnic adjustment of IQ scores.

Part III of this Article examines the justification for ethnic adjustments, both as a matter of logic and in clinical practice. Accordingly, Part III discusses under what circumstances, if any, race or ethnicity can be considered in calculating IQ scores. This Part then evaluates the argument that the state must ethnically adjust IQ scores in capital cases to *avoid* racism, an analysis that challenges the paradigm that has perpetuated the practice of ethnic adjustments. This Part also analyzes whether race neutral variables have a demonstrated relationship to decreased intellectual ability and to lower IQ test scores. It further examines whether something like race—where there might be an imperfect statistical correlation (on average) to lower scores—could be used to justify the imposition of the death penalty on any individual.

Part IV evaluates the issue within a new paradigm, looking to the ways in which environmental factors, rather than race itself, affect IQ scores. Specifically, this Part examines the effects of childhood abuse, stress, poverty, and trauma on an individual—both behaviorally and through the process of epigenetics.¹⁵ This Part argues that any correlation between the average IQ test scores of racial cohorts (or comparing average scores of cohorts to the overall community norm) is not attributable to race and is heavily influenced by race-neutral environmental factors. Further, it asserts that adverse environmental factors result in phenotypic manifestations, which include epigenetic changes affecting intellectual ability. Ultimately, these epigenetic changes result in a disproportionate number of those exposed to adverse environmental factors being intellectually disabled. These individuals are disproportionately represented in the population of people facing the death penalty in the United States.

Part V of this Article examines the constitutional validity of using racial classifications in determining eligibility for the death penalty and

15. Epigenetics is the study of “a stably heritable phenotype resulting from changes in a chromosome without alterations in the DNA sequence.” Shelley L. Berger et al., *An Operational Definition of Epigenetics*, 23 GENES & DEV. 781, 781 (2009).

explores whether it is a violation of the Fourteenth Amendment’s Equal Protection Clause to make a decision of life and death as a result of adjustments based on race. Through this analysis, this Article argues that, for *Atkins* determinations (or for any other forensic purpose), the “ethnic adjustment” of IQ scores is unconstitutional and contrary to both logic and medical science. Therefore, this Article concludes that it is not only logically, clinically, and constitutionally inappropriate to “ethnically” adjust IQ scores, but that, in the context of the death penalty, there is a likelihood that people whose intellectual abilities are actually depressed by adverse environmental factors will be subjected to a false increase in their IQ scores. Thus, the “ethnic adjustment” (or adjustment based on any subgroup cohort) of IQ scores has the effect of making those who are actually intellectually disabled more susceptible to capital punishment.

I. INTELLECTUAL DISABILITY, INELIGIBILITY FOR EXECUTION, AND “INTELLIGENCE”

This Part will review the constitutionality of executing the intellectually disabled by analyzing the Supreme Court’s decisions in *Atkins* and *Hall*. This Part further explains the definition of intellectual disability that the courts, legislature, and medical community have widely accepted. Finally, this Part will identify the Court’s specific treatment of IQ testing in *Hall* and will evaluate the Court’s conclusion that rigid reliance on IQ scores should not deprive people facing the death penalty of a chance to illustrate that their execution is unconstitutional.

A. *A Person Convicted of a Capital Crime Who Is Intellectually Disabled Cannot Be Executed*

In 2002, the Supreme Court, in *Atkins v. Virginia*, held that executing a person who is “mentally retarded” (intellectually disabled) constituted “excessive” punishment under the Eighth Amendment¹⁶ and therefore violated the Constitution.¹⁷ The Court

16. *Atkins v. Virginia*, 536 U.S. 305, 321 (2002). The Eighth Amendment to the U.S. Constitution provides: “Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.” U.S. CONST. amend. VIII. As stated in *Atkins*,

A claim that punishment is excessive is judged not by the standards that prevailed in 1685 when Lord Jeffreys presided over the “Bloody Assizes” or when the Bill of Rights was adopted, but rather by those that currently prevail. As Chief Justice Warren explained in his opinion in *Trop v. Dulles*[:] “The basic concept underlying the Eighth Amendment is nothing

reasoned that the execution of the mentally retarded is “excessive” in that “the Constitution ‘places a substantive restriction on the State’s power to take the life’ of a mentally retarded offender.”¹⁸ The Court further explained that mentally retarded offenders “by definition [] have diminished capacities to understand and process information, to communicate, to abstract from mistakes and learn from experience, to engage in logical reasoning, to control impulses, and to understand the reactions of others.”¹⁹

The Court’s holding in *Atkins* has resulted in a legal process whereby the courts make a binary determination about whether a defendant is intellectually disabled. That process is outcome-determinative regarding life or death. Consequently, as with any term upon which significant legal consequences depend, there has been legislation,²⁰ litigation,²¹ and controversy²² over its “legal”

less than the dignity of man. . . . The Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society.” *Atkins*, 536 U.S. at 311–12 (citing *Trop v. Dulles*, 356 U.S. 86, 100–01 (1958)).

17. *Id.* at 321 (“We are not persuaded that the execution of mentally retarded criminals will measurably advance the deterrent or the retributive purpose of the death penalty. Construing and applying the Eighth Amendment in the light of our ‘evolving standards of decency,’ we therefore conclude that such punishment is excessive and that the Constitution ‘places a substantive restriction on the State’s power to take the life’ of a mentally retarded offender.” (citing *Ford v. Wainwright*, 477 U.S. 399, 405 (1986))).

18. *Id.* (quoting *Ford*, 477 U.S. at 405).

19. *Id.* at 318.

20. Compare IND. CODE § 35-36-9-2 (2015) (defining an individual with an intellectual disability as one “who, before becoming twenty-two years of age, manifests: (1) significantly sub-average intellectual functioning; and (2) substantial impairment of adaptive behavior”), with OR. REV. STAT. § 427.005 (2015) (defining intellectual ability as “significantly subaverage general intellectual functioning . . . with significant impairment in adaptive behavior, that is manifested before the individual is [eighteen] years of age”).

21. Compare the Supreme Court of Tennessee in *Van Tran v. State*, 66 S.W.3d 790, 795 (Tenn. 2001) (citing AM. PSYCHIATRIC ASS’N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 39 (4th ed. 1994) [hereinafter DSM-IV]) (narrowing the definition of adaptive behavior by stating that “[an intellectually disabled] person will have significant limitations in at least two of the following basic skills: communication, self-care, home living, social/interpersonal skills . . . and safety”), with the Texas Court of Appeals in *Ex parte Briseno*, 135 S.W.3d 1, 7 (Tex. Crim. App. 2004) (citing AM. ASS’N ON MENTAL DEFICIENCY, CLASSIFICATION IN MENTAL RETARDATION 11 (Herbert J. Grossman ed., 1983)) (failing to specify a particular number of skills that should be impaired in making the determination that an individual is intellectually disabled).

22. See Benjamin L. Handen, *Intellectual Disability (Mental Retardation)*, in ASSESSMENT OF CHILDHOOD DISORDERS 551, 553 (Eric J. Mash & Russell A. Barkley

definition. This controversy arises because “mental retardation” (intellectual disability) is both a legal and medical (or clinical) term.²³ After *Atkins*, this confluence of contexts from which the term arises left unsettled whether its meaning evolved with changes in understanding in the medical community.

Determining whether the *Atkins* Court intended “mental retardation” to be a legal term with a fixed definition or whether it is a term of art dependent on the evolving medical interpretation entails three further questions: first, whether the court would acknowledge any change in terminology to the legal definition based on a change in usage in the medical profession; second, whether the definition is intended to be static, that is, fixed at the time of the *Atkins* decision, or dynamic based on subsequent legal and medical developments; and third, whether the definition is intended to be implemented in individual cases based on clinical judgment or based on a rigid application of legal rules.

The U.S. Supreme Court did not directly answer these questions in *Atkins*, nor did it address any definitional issues under *Atkins* until its 2014 decision in *Hall v. Florida*.²⁴ The Court in *Hall* concluded that IQ scores used to ascertain the intelligence of persons facing the death penalty should be treated with “studied skepticism” and that courts must recognize these tests’ imprecision.²⁵

Years before *Hall* came down, the medical community stopped using the term “mental retardation” and began using the term “intellectual disability,”²⁶ with the American Association on Intellectual and Developmental Disabilities (“AAIDD”) leading the

eds., 4th ed. 2007) (discussing the revised definitions of “intellectual disability” over the last few decades, which today places greater emphasis on associated deficits in adaptive functioning, although there is “little agreement over both the definition of ‘adaptive behavior’ and how to assess it”).

23. See *infra* notes 24–29 and accompanying text.

24. 134 S. Ct. 1986, 1990 (2014); cf. *People v. Barrett*, 281 P.3d 753, 755 & n.2 (Cal. 2012), *reh’g denied*, 2012 Cal. LEXIS 8950 (Cal. Sept. 19, 2012) (opining that California courts should use the term “developmentally disabled” or “intellectually disabled” rather than “mental retardation”).

25. *Hall*, 134 S. Ct. at 2000–01, see *Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015). The holding in *Hall* will be addressed in more detail later in this Article. See *infra* Part I.A–B (discussing the definitional structure of intellectual disability and the legal significance of IQ scores, respectively).

26. Robert L. Schalock et al., *The Renaming of Mental Retardation: Understanding the Change to the Term Intellectual Disability*, 45 INTELLECTUAL & DEVELOPMENTAL DISABILITIES 116, 116 (2007).

charge.²⁷ Indeed, the organization changed its name from the American Association on Mental Retardation (“AAMR”) to its current name to reflect its commitment to abandoning the term “mental retardation” in favor of “intellectual disability.”²⁸ Thereafter, the American Psychiatric Association (“APA”) accepted the change in terminology in the *Diagnostic and Statistical Manual-5* (“DSM-5”).²⁹

Answering this terminological question, Justice Kennedy, writing for the majority in *Hall*, held that the Court would adopt the current medical appellation.³⁰ The Court chose to abandon the term “mental retardation” and its variants in favor of “intellectual disability,”³¹ considering the two terms to be “identical” for legal purposes.³² Hence, as a matter of constitutional law, the terms are interchangeable. Congress amended the U.S. Code thereafter, confirming this change in terminology.³³

The second question, now that the Court used “the term ‘intellectual disability’ to describe the *identical* phenomenon,”³⁴ was whether the definition of “intellectual disability” was static and fixed at the time of *Atkins* or subject to evolution over time in the course of medical practice. The AAIDD held that the change in terms reflected a change in the understanding of the clinical phenomenon as well as a change of label.³⁵ During the course of discussing the specific issues in *Hall*, the Court acknowledged that the definition of intellectual disability was neither static and frozen in time by *Atkins*

27. KRONKOSKY CHARITABLE FOUND., INTELLECTUAL DISABILITY 1 (2015) [hereinafter KRONKOSKY RESEARCH BRIEF], <http://www.kronkosky.org/Research/Foundation-Research/Research-Briefs>; see also AAIDD MANUAL, *supra* note 5, at xiii–xvi (explaining that the AAIDD has led the field of intellectual disabilities in “understanding, defining, [] classifying[,]” and educating the public).

28. AAIDD MANUAL, *supra* note 5, at xiii.

29. See AM. PSYCHIATRIC ASS’N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 33 (5th ed. 2013) [hereinafter DSM-5]. The modern Diagnostic and Statistical Manual was created by the American Psychiatric Association (“APA”) in the early 1950s in an effort to standardize diagnostic criteria within the mental health professions. *Id.* at 6.

30. *Hall*, 134 S. Ct. at 1990.

31. *Id.*

32. *Id.*; cf. *People v. Barrett*, 281 P.3d 753, 755 n.2 (Cal. 2012).

33. See *Rosa’s Law*, Pub. L. No. 111-256, 124 Stat. 2643 (2010) (changing all references in the U.S. Code from “mental retardation” to “intellectual disability”).

34. *Hall*, 134 S. Ct. at 1990 (emphasis added). See generally *Barrett*, 281 P.3d at 755 n.2 (recommending “that California courts should speak only in terms of persons who are . . . ‘intellectually disabled’” and should discontinue using the term “mental retardation”).

35. See KRONKOSKY RESEARCH BRIEF, *supra* note 27, at 1.

itself, nor detached from medical science by legislative enactment.³⁶ The Court discussed the current clinical understanding of intellectual disability at length, saying, “In determining who qualifies as intellectually disabled, it is proper to consult the medical community’s opinions.”³⁷ The Court went on to cite numerous scholarly and diagnostic materials written long after the *Atkins* decision.³⁸ In that way, it acknowledged both that the terminology identifying the phenomenon is *legally interchangeable* and that the legal concept should reflect that the phenomenon itself is subject to changes in clinical understanding.³⁹

Finally, the Court addressed the third question, namely whether the Court’s definition was to be applied in individual cases as a strict set of legal rules or if it was subject to clinical interpretation.⁴⁰ On this question, the Court held that the legal definition used for *Atkins* purposes is substantially based on clinical assessment rather than “rigid” legal rules.⁴¹ The use of rigid rules, the Court concluded, “create[d] an unacceptable risk that persons with intellectual disabilit[ies] will be executed, and thus is unconstitutional.”⁴² In other words, the determination of intellectual disability in any given case will be based on clinical assessment and not limited by a mechanical application of strict rules.

In summary, a person who is intellectually disabled cannot be constitutionally executed, and the legal meaning of intellectual disability, which is synonymous with mental retardation, evolves with the medical understanding of the term and should be assessed in individual cases based on clinical judgment. Having acknowledged this, however, intellectual disability is not totally amorphous. There is a basic structure to the definition both legally and clinically. We will turn to the structure of that definition as interpreted by the Supreme Court and look at the sources upon which the Court relied.

36. *Hall*, 134 S. Ct. at 1993.

37. *Id.*

38. *Id.* at 1995 (citing the latest literature on interpretation of IQ scores, including the DSM-5, *supra* note 29, at 37, and the AAIDD MANUAL, *supra* note 5, at 22).

39. *Id.* at 1990.

40. *Id.* at 2000 (citing DSM-5, *supra* note 29, at 37).

41. *Id.* (stating that “[t]he legal determination of intellectual disability is distinct from a medical diagnosis, but it is informed by the medical community’s diagnostic framework”).

42. *Id.* at 1990.

B. *Hall and Further Reflection on the Definitional Structure of Intellectual Disability*

Acknowledging that the legal definition would evolve with the medical community's understanding and foreshadowing where the Court would focus more attention in the future, the *Atkins* court cited two "clinical definitions"⁴³: the first derived from the AAMR's manual, *Mental Retardation: Definition, Classification, and Systems of Support*; the second came from the APA's *Diagnostic and Statistical Manual for Mental Disorders* ("DSM").⁴⁴ In 2014, twelve years after *Atkins*, the U.S. Supreme Court addressed, for the first time, questions directly related to the definitional structure of intellectual disability,⁴⁵ relying heavily on clinical sources.⁴⁶ Significantly, since *Atkins*, the medical community's understanding of intellectual disability had progressed considerably.⁴⁷

43. *Atkins v. Virginia*, 536 U.S. 305, 317 (2002); *see id.* at 308 n.3 (noting the similarities between the American Association on Mental Retardation's and the APA's definitions of mental retardation).

44. AM. ASS'N OF MENTAL RETARDATION, *MENTAL RETARDATION: DEFINITION, CLASSIFICATION, AND SYSTEMS OF SUPPORT* (10th ed. 2002); DSM-IV, *supra* note 21. These were the authoritative clinical publications at the time of the *Atkins* decision in 2002. Each has been revised since the publication of *Atkins*: DSM-5, *supra* note 29 and AAIDD MANUAL, *supra* note 5. It does not seem controversial that the definitional structure of a medical or clinical psychological term would be based on the understanding of doctors and clinical psychologists. Not all areas where the law and psychology intersect can make this claim. Insanity in most states relates, in part, to a clinical diagnosis, but it is strictly a legal concept and has a legal definition that is independent of any one clinical diagnosis. The standard in *M'Naghten's Case*, 8 Eng. Rep. 718, 719 (1843), is used in many states. It is a cognitive test that examines whether an individual knows right from wrong or knows the nature and quality of one's acts. Whereas the MODEL PENAL CODE § 4.01 (AM. LAW INST. 1985), followed in other jurisdictions, has both a cognitive and volitional aspect. Both depend on a mental disease or defect that would be informed by medical and clinical opinion but ultimately, the definition of insanity is legal, not medical.

45. *Hall*, 134 S. Ct. at 1993.

46. *Id.* at 1994 (citing *Atkins*, 536 U.S. at 308 n.3) (using the APA's three criteria for defining an intellectual disability). APA has now published the DSM-5, *supra* note 29. *See infra* Part I.B. for a more detailed discussion.

47. The Court acknowledged the subsequent editions of the American Association on Mental Retardation Manual (now the American Association on Intellectual and Developmental Disabilities (AAIDD) Manual), the DSM-5, and also cited treatises and articles such as R. MICHAEL FURR & VERNE R. BACHARACH, *PSYCHOMETRICS: AN INTRODUCTION* 118 (2d ed. 2014) and W. Joel Schneider, *Principles of Assessment of Aptitude and Achievement*, in *THE OXFORD HANDBOOK OF CHILD PSYCHOLOGICAL ASSESSMENT* 286, 289–91, 318 (Donald H. Saklofske et al. eds., 2013). *Hall*, 134 S. Ct. at 1995.

The specific issue before the Court was whether Florida could preclude potentially intellectually disabled persons from *Atkins*'s protections by creating a bright line rule excluding anyone with an IQ of more than seventy from such protection.⁴⁸ In *Hall*, unlike *Atkins*, the Court conducted a lengthy analysis of intellectual disability's definitional structure,⁴⁹ relying extensively on medical and clinical authorities.⁵⁰ As a result, three broad criteria derived from the term's clinical definition emerged, establishing the term's legal definition⁵¹: “(1) significantly subaverage intellectual functioning, (2) deficits in adaptive functioning[,] . . . and (3) onset of these deficits during the development period.”⁵² These three broad definitional criteria are now common to all legal and clinical definitions of intellectual disability;⁵³ since *Atkins*, states generally agree⁵⁴ on this framework.⁵⁵ Unsurprisingly, these three broad

48. *Hall*, 134 S. Ct. at 1994.

49. *Id.* at 1998–99.

50. *Id.* at 1993–94, 2000–01.

51. *Id.* at 1994.

52. *Id.* at 1994.

53. These three criteria can be traced back to the definition given in 1959 by Rick Heber. See generally Rick Heber, *A Manual on Terminology and Classification in Mental Retardation*, 64 AM. J. MENTAL DEFICIENCY 55, 55–56, 65 (1959). The same criteria have been carried through from inception to both the AAIDD MANUAL and the DSM-5. The history is set forth in the AAIDD MANUAL, *supra* note 5, at 8–9 tbl.1.1.

54. See ALA. CODE 1975 § 15-24-2 (2015), ARIZ. REV. STAT. § 13-753(K)(3) (2015); ARK. CODE ANN. § 5-4-618 (2015); CAL. PENAL CODE § 1376 (West 2015); COLO. REV. STAT. § 18-1.3-1101 (2015); DEL. CODE ANN. tit. 11, § 4209(d)(3)(d)(2) (2015); FLA. STAT. § 921.137 (2015); GA. CODE ANN. § 17-7-131(a)(3) (2015); IDAHO CODE § 19-2515A(1)(a) (2015); IND. CODE § 35-36-9-2 (2015); KAN. STAT. § 76-12b01(d) (2015); KY. REV. STAT. ANN. § 532.130(2) (West 2015); LA. CODE CRIM. PROC. ANN. art. 905.5.1(H) (2015); MAINE REV. STAT. tit. 34-B, § 5001(3) (2015)*; MASS. GEN. LAWS ch. 123B, § 1 (2015)*; MICH. COMP. LAWS § 330.1100b(12) (2015)*; MISS. CODE ANN. § 41-21-61(f) (2015); MO. REV. STAT. § 630.005(20) (2015); NEV. REV. STAT. § 174.098(7) (2015); N.C. GEN. STAT. § 15A-2005(a)(1)(a) (2015); OKLA. STAT. tit. 21, § 701.10b (2015); S.C. CODE ANN. § 44-20-30(12) (2015); TENN. CODE ANN. § 39-13-203(a) (2015); TEX. HEALTH & SAFETY CODE ANN. § 591.003(15-a) (West 2015); UTAH CODE ANN. § 77-15a-102 (LexisNexis 2015); VT. STAT. ANN. tit. 1, § 146 (2015)*; VA. CODE ANN. § 19.2-264.3:1.1(A) (2015); WASH. REV. CODE § 10.95.030(2)(a) (2015); WYO. STAT. ANN. § 25-5-102(b)(xx) (2015).

* Denotes that the state does not have the death penalty but does have a statute defining intellectual disability.

55. The federal statute does not purport to define mental retardation. See 18 U.S.C. § 3596(c) (2012) (merely stating, “A sentence of death shall not be carried out upon a person who, as a result of mental disability, lacks the mental capacity to understand the death penalty and why it was imposed on that person”).

definitional criteria derive from the clinical definitions⁵⁶ and form the starting point for the more nuanced medical and legal discussions of who qualifies as intellectually disabled in the context of an *Atkins* hearing.⁵⁷

C. *IQ Tests and the First Criterion: Impaired Intelligence or Subaverage General Intellectual Functioning*

Forensically, in capital punishment litigation, the question of intellectual disability is presented by way of evidence at an *Atkins* hearing. The specific interpretation of each of the three clinical criteria and the overall evidence of clinical judgment is the subject of expert testimony at such hearings.⁵⁸ Ultimately, if the trier of fact determines that the defendant facing the death penalty is intellectually disabled based on these three criteria, the defendant is not eligible for execution and, instead, is subject to life in prison without the possibility of parole.⁵⁹

IQ test scores are a factor in assessing the first criterion for intellectual disability—impairment in intelligence or subaverage general intellectual functioning. This Article analyzes “ethnic adjustments” to IQ scores under the first criterion; specifically, whether “ethnic adjustments” to IQ testing are constitutionally, logically, or clinically appropriate.

The three broad criteria in the definition of intellectual disability, as a matter of constitutional law, must be construed in a way that recognizes the acute need to avoid improper execution and gives a fair opportunity to those who are intellectually disabled to show they are not eligible. In other words, the constitutional requirement is that the definitional criteria be construed in a manner that, if there is error, the error is in favor of *not* executing the defendant.⁶⁰ In the

56. AAIDD MANUAL, *supra* note 5, at 33–34. The APA has now published the DSM-5, *supra* note 29.

57. *Hall*, 134 S. Ct. at 1995; *Atkins v. Virginia*, 536 U.S. 304, 318 (2002).

58. *E.g.*, *Commonwealth v. DeJesus*, 58 A.3d 62, 67–75 (Pa. 2012) (describing the defendant’s *Atkins* hearing, which was conducted over twelve days and included testimony from multiple mental health experts and witnesses who knew the defendant well).

59. In the event that the death penalty is not imposed, most jurisdictions with the death penalty allow capital convictions to be punished with life in prison without the possibility of parole. *See* ROGER HOOD & CAROLYN HOYLE, *THE DEATH PENALTY: A WORLDWIDE PERSPECTIVE* 478 (5th ed. 2015).

60. *See Hall*, 134 S. Ct. at 2001; *see also* *Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015) (reiterating that it is unconstitutional to foreclose examination of a capital defendant’s intellectual disability merely because his IQ is above seventy).

context of the first criterion, impairment in intelligence or “subaverage general intellectual functioning,” error can occur in IQ testing.⁶¹

The idea of “full scale intelligence quotient” (“FSIQ”) testing⁶² is to determine the “*g*” or general intelligence of the individual and then compare the individual’s *g* to the norm.⁶³ This comparison results in an IQ score. There is much written on the extent to which there is a *g* and, if there is, the extent to which intelligence tests actually measure it.⁶⁴ Nevertheless, the predominant clinical opinion is that, while subject to error, current IQ testing is fairly accurate.⁶⁵ Thus, IQ testing remains a significant factor in making both the legal and clinical assessment of intelligence or intellectual functioning under the first criterion.⁶⁶

An individual’s IQ is measured by standardized testing that is “normed” against a cross-section of the larger community.⁶⁷ The norm for the cross-section is 100.⁶⁸ It is generally accepted that an FSIQ score of approximately two standard deviations below the norm, which is approximately thirty points or an FSIQ of approximately seventy, is considered “subaverage” for the diagnosis of intellectual disability.⁶⁹ For many reasons, both clinically and legally, the score is important, but not dispositive.⁷⁰

61. *Atkins*, 536 U.S. 305, 308 n.3, 318; see *Hall*, 134 S. Ct. at 1995–96.

62. “Full scale intelligence quotient” (“FSIQ”) is a term used for an individual’s complete cognitive capacity. Tests include the Wechsler Intelligence Scale for Children (“WISC-IV”) and the Wechsler Adult Intelligence Scale (“WAIS-IV”) for adults. The FSIQ test consists of fifteen subtests that measure four different aspects of intellectual ability: verbal comprehension, working memory, perceptual reasoning and processing speed. See generally ELIZABETH LICHTENBERGER & ALAN KAUFMAN, *ESSENTIALS OF WAIS-IV ASSESSMENT* 9 (2d ed. 2013) (listing the origins of the fifteen subtests and the aspect of intellectual disability covered by each).

63. A key consideration in IQ testing is the “degree to which an IQ test score is saturated” with general intelligence or “*g*”. Dale G. Watson, *Intelligence Testing, in THE DEATH PENALTY AND INTELLECTUAL DISABILITY* 113, 113 (Edward A. Polloway ed., 2015). Some tests are better than others, but the “*g*-loading” of the WAIS-IV and other major intelligence batteries is fairly high. *Id.* at 127.

64. See, e.g., LICHTENBERGER & KAUFMAN, *supra* note 62, at 36–37; Roberto Colom et al., *Education, Wechsler’s Full Scale IQ, and g*, 30 *INTELLIGENCE* 449, 450–51 (2002).

65. See Watson, *supra* note 63, at 114–15, 131–32.

66. AAIDD MANUAL, *supra* note 5, at 40 (“It must be stressed that the diagnosis of [intellectual disability] is intended to reflect a clinical judgment rather than an actuarial determination.”).

67. Watson, *supra* note 63, at 116.

68. *Id.*

69. AAIDD MANUAL, *supra* note 5, at 39–40; DSM-5, *supra* note 29, at 37.

70. See, e.g., *Brumfield v. Cain*, 135 S. Ct. 2269, 2277–78 (2015) (concluding that it would be unreasonable to ignore potential errors in measurement and other factors necessary in assessing adaptive functioning); *Hall v. Florida*, 134 S. Ct. 1986,

Scientists agree that testing in general, and psychometric testing in particular, is not absolutely precise.⁷¹ Scientific measurement is subject to a standard error of measurement (“SEM”).⁷² Properly administered IQ testing has an SEM of about plus or minus three to five points.⁷³ Therefore, to the extent that IQ test scores contribute to a determination of whether the first criterion is met for the purpose of determining intellectual disability, the scores should be subject to interpretation based, at a minimum, on the SEM.⁷⁴

The SEM, however, is an arbitrary figure;⁷⁵ best practices require that any IQ score be reported with an associated confidence interval.⁷⁶ That confidence interval should be considered as a part of any diagnosis of intellectual disability. For instance, one SEM (plus or minus four points) may give a confidence level of somewhere around sixty-six, while two (plus or minus eight points) might give a level of ninety-five.⁷⁷ Hence, even an SEM of plus or minus eight points does not convey full confidence. Therefore, although a plus or minus five point SEM is considered clinically reasonable, it will encompass the *g* score of most, but not all, of the test takers.⁷⁸

In addition to the SEM, there may be an adjustment based on the date of the norming of the particular test.⁷⁹ This is commonly known as the “Flynn Effect.”⁸⁰ In essence, intelligence has increased in the

2001 (2014) (“It is not sound to view a single factor as dispositive of a conjunctive and interrelated assessment.” (citation omitted)).

71. Watson, *supra* note 63, at 113–15.

72. *Id.* at 119; *see also* Stephen Greenspan & J. Gregory Olley, *Variability of IQ Test Scores*, in *THE DEATH PENALTY AND INTELLECTUAL DISABILITY* 141, 149 (Edward A. Polloway ed., 2015) (describing standard error of measurement (“SEM”) as an “estimate” of variability in a sample).

73. AAIDD MANUAL, *supra* note 5, at 36.

74. Watson, *supra* note 63, at 119.

75. *Hall*, 134 S. Ct. at 1995–96; *see Brumfield*, 135 S. Ct. at 2278 (explaining that any IQ test is subject to a margin of error, represented by the SEM).

76. *See Hall*, 134 S. Ct. at 1995 (noting that IQ test professionals have concluded that test scores are better understood as a range, rather than as a fixed score).

77. AAIDD MANUAL, *supra* note 5, at 36.

78. *Id.* This raises a larger issue about error rates in criminal convictions, or, here, imposition of capital punishment. The concept of an error rate is problematic when deciding to take a life. *See generally* LARRY LAUDAN, *TRUTH, ERROR, AND CRIMINAL LAW* 3–9 (2006) (analyzing the question of error as it applies to criminal convictions).

79. *See United States v. Davis*, 611 F. Supp. 2d 472, 485–86 (D. Md. 2009) (defining normalization on a population, with respect to IQ scores, as an average around a mean of 100, with intellectual disability falling about two standard deviations below 100).

80. *See id.* at 486 (describing that the “Flynn Effect” is an observation that the overall population has sustained an increase in test scores since scientists began normalizing the tests).

general population by about three points every ten years or .33 per year.⁸¹ Therefore, it would be proper to subtract three points from the IQ score of a person who took a test that was normed ten years earlier, because the actual norm at the time of testing would have been three points higher than at the time the test was normed.⁸²

Furthermore, in evaluating the significance of test scores, the clinician and testifying expert should consider the manner in which the test was given.⁸³ It should be administered on an individualized basis and with concern for cultural and lingual differences.⁸⁴ In addition, if a subject has been retested on the same or similar instrument previously, there may be a “practice effect” that artificially inflates the subject’s score.⁸⁵

Even if the IQ test accurately determines the IQ of an individual, it is not dispositive and is only a part of the overall clinical assessment of the first criterion.⁸⁶ The DSM-5 addresses this: “Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience,

81. See generally James R. Flynn, *Massive IQ Gains in 14 Nations: What IQ Tests Really Measure*, 101 *PSYCHOL. BULL.* 171, 187–88 (1987) (concluding that, based on IQ testing data from fourteen different countries, the Flynn Effect suggests that IQ tests do not measure intelligence, but rather that IQ tests measure “abstract problem-solving ability (APSA),” which is not the same as “real-world problem-solving” ability); see also AAIDD MANUAL, *supra* note 5, at 37 (observing that the Flynn Effect presents problems for practitioners diagnosing intellectual disabilities). For a more recent survey of the literature confirming the significance of the Flynn effect, see Lisa H. Trahan et al., *The Flynn Effect: A Meta-Analysis*, 140 *PSYCHOL. BULL.* 1332 (2014).

82. See Geraldine W. Young, Note, *A More Intelligent and Just Atkins: Adjusting for the Flynn Effect in Capital Determinations of Mental Retardation or Intellectual Disability*, 65 *VAND. L. REV.* 615, 617 (2012) (arguing that the Flynn Effect renders old IQ tests’ norms obsolete and, as such, test scores should be reduced by 0.3 points for every year between standardization and when the subject took the test).

83. Greenspan & Olley, *supra* note 72, at 144–45. (“One should attempt to determine the circumstances under which any given IQ test was administered before assuming that the result is valid.”).

84. AAIDD MANUAL, *supra* note 4, at 41. (“[O]ne should employ an individually administered, standardized instrument that yields a measure of general intellectual functioning. Further, the selection of a specific standardized measure with which to assess intelligence should be based on several factors, such as the individual’s social, linguistic and cultural background.”); see also *United States v. Salad*, 959 F. Supp. 2d 865, 871 (E.D. Va. 2013) (describing the statistical principles underlying IQ tests); Jeffrey Usman, *Capital Punishment, Cultural Competency, and Litigating Intellectual Disability*, 42 *U. MEM. L. REV.* 855 (2012) (promoting consideration of “cultural competency” in litigation on the issue of whether a given defendant is intellectually disabled).

85. See AAIDD MANUAL, *supra* note 5, at 38; Alan S. Kaufman, *Practice Effects*, in 2 *ENCYCLOPEDIA OF HUMAN INTELLIGENCE* 828–33 (Robert J. Sternberg ed., 1994).

86. See *Hall v. Florida*, 134 S. Ct. 1986, 1995–96 (2014); DSM-5, *supra* note 29, at 33.

[should be] confirmed by both clinical assessment and individualized, standardized intelligence testing.”⁸⁷ Therefore, clinically, considering the SEM and other factors, IQ test scores are not precise and, even if relatively well-controlled, not clinically conclusive.

D. The Legal Significance of IQ Scores and the First Criterion: Impaired Intelligence or Subaverage General Intellectual Functioning

Between the *Atkins* decision in 2002 and the *Hall* decision in 2014, the U.S. Supreme Court did not address the legal definition of impaired intelligence or subaverage general intellectual functioning.⁸⁸ In particular, the Court had not addressed the legal significance of IQ test scores.⁸⁹ Meanwhile, the state of Florida had legislatively created a bright line rule, such that a person was not entitled to invoke the protection the Court announced in *Atkins* if he or she had an IQ above seventy.⁹⁰ The Florida courts interpreted this to mean that there was no consideration of any error, even the SEM, associated with IQ testing and, therefore, no room for clinical judgment for scores above seventy.⁹¹

The Florida statute read in relevant part: “The term ‘significantly subaverage general intellectual functioning,’ for the purpose of this section, means performance that is two or more standard deviations from the mean score on a standardized intelligence test”⁹² The Florida Supreme Court then interpreted this statute literally in *Cherry v. State*⁹³ to mean that there was a bright line cut off at an IQ of seventy.⁹⁴ Accordingly, the Florida court said, “One standard deviation on the WAIS-III, the IQ test administered in the instant case, is fifteen points, so two standard deviations away from the mean of 100 is an IQ score of [seventy] [T]he statute does not use the word approximate, nor does it reference the SEM.”⁹⁵ Any defendant with

87. DSM-5, *supra* note 29, at 33.

88. *See Hall*, 134 S. Ct. at 1991–92.

89. *See id.* at 1990–92.

90. FLA. STAT. § 921.137 (2014) (challenged by *Hall v. Florida*, 134 S. Ct. 1986 (2014)).

91. *See, e.g., Nixon v. State*, 2 So. 3d 137, 146 (Fla. 2009) (per curiam) (addressing petitioner’s postconviction argument that a cut-off score of seventy “creates an irrebuttable presumption that no one with an IQ over [seventy] is mentally retarded”), *abrogated by Hall v. Florida*, 134 S. Ct. 1986 (2014).

92. FLA. STAT. § 921.137 (2015).

93. 959 So. 2d 702 (Fla. 2007) (per curiam), *abrogated by Hall v. Florida*, 134 S. Ct. 1986 (2014).

94. *Id.* at 712–13.

95. *Id.*

an IQ score above seventy would, therefore, be eligible for execution, no matter what other evidence there was of his or her actual impairment.⁹⁶

In 2012, the Florida Supreme Court affirmed the death sentence of Freddie Lee Hall on the basis of *Cherry*.⁹⁷ The U.S. Supreme Court granted certiorari in *Hall*⁹⁸ and subsequently rejected Florida’s bright line approach.⁹⁹ There, the Court said,

Florida’s rule disregards established medical practice in two interrelated ways. It takes an IQ score as final and conclusive evidence of a defendant’s intellectual capacity, when experts in the field would consider other evidence. It also relies on a purportedly scientific measurement of the defendant’s abilities, his IQ score, while refusing to recognize that the score is, on its own terms, imprecise.¹⁰⁰

In other words, Florida’s bright line rule overemphasized the significance of IQ scores in the determination of intellectual disability in that IQ scores constitute only a part of what should be considered in determining whether a person has deficient general intellectual functions.¹⁰¹ The definition of intellectual disability still required clinical judgment. In that way, Florida’s inflexible use of an IQ score failed to acknowledge that the score is approximate and subject to variables, including the SEM.¹⁰²

The Court stated that “the medical community accepts that all of this evidence,”¹⁰³ made manifest by the defendant’s failure or inability to adapt to his social and cultural environment, including medical histories, behavioral records, school tests and reports, and testimony regarding past behavior and family circumstances, “can be probative of intellectual disability, including for individuals who have an IQ test

96. *See Franqui v. State*, 59 So. 3d 82, 91–92 (Fla. 2011) (per curiam) (disregarding the other two elements to prove intellectual disability because the evidence showed Franqui’s IQ score was seventy-five).

97. *Hall v. State*, 109 So. 3d 704, 708 (Fla. 2012) (per curiam), *rev’d*, 134 S. Ct. 1986 (2014).

98. 134 S. Ct. 471 (2014).

99. *See Hall v. Florida*, 134 S. Ct. 1986, 1994–98 (2014) (“The rejection of the strict [seventy] cutoff in the vast majority of States and the ‘consistency in the trend,’ toward recognizing the SEM provide strong evidence of consensus that our society does not regard this strict cutoff as proper or humane.” (citation omitted)).

100. *Id.* at 1995.

101. *See id.* at 1999 (providing that a person’s IQ score may fluctuate on any given day based on factors such as health and location of test administration).

102. *See id.* (positing that the SEM demonstrates it is unreasonable to boil down an individual’s intellect to a “single numerical score”); *see also Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015) (finding that the lower court was unreasonable in concluding that the petitioner’s IQ score “demonstrated that he could not possess subaverage intelligence”).

103. *Hall*, 134 S. Ct. at 1994.

score above [seventy].”¹⁰⁴ Throughout the *Hall* opinion, the Court relied on and cited extensively to clinical practices.¹⁰⁵

The Supreme Court also established the government’s purpose behind *Atkins* and the reason for conducting *Atkins* hearings, emphasizing the need to protect individuals who suffer from intellectual disabilities.¹⁰⁶ “No legitimate penological purpose is served by executing a person with intellectual disability. To do so contravenes the Eighth Amendment, for to impose the harshest of punishments on an intellectually disabled person violates his or her inherent dignity as a human being.”¹⁰⁷

Although this was the first time the Supreme Court addressed this issue, the California Supreme Court had already acknowledged this clinical understanding in 2005 in *In re Hawthorne*.¹⁰⁸ There, the California Supreme Court said that the question of whether a person is intellectually disabled is a question of fact: “It is not measured according to a fixed intelligence test score or a specific adaptive behavior deficiency, but rather constitutes an assessment of the individual’s overall capacity based on a consideration of all the relevant evidence.”¹⁰⁹ Two years later, the California high court again addressed the issue in *People v. Superior Court (Vidal)*.¹¹⁰ The court in

104. *Id.*

105. *See id.* at 1995. The Court cites R. MICHAEL FURR & VERNE R. BACHARACH, *PSYCHOMETRICS: AN INTRODUCTION* 118 (2d ed. 2014), and W. Joel Schneider, *Principles of Assessment of Aptitude and Achievement*, in *THE OXFORD HANDBOOK OF CHILD PSYCHOLOGICAL ASSESSMENT* 286, 289–91, 318 (Donald H. Saklofske et al. eds., 2013), for the proposition that the SEM must be recognized because a person’s “intellectual functioning cannot be reduced to a single numerical score.” *Hall*, 134 S. Ct. at 1995; *see also Brumfield*, 135 S. Ct. at 2283 (“We do not deny that Brumfield’s crimes were terrible, causing untold pain for the victims and their families. But we are called upon today to resolve a different issue. There has already been one death that society rightly condemns. The question here is whether Brumfield cleared the [Antiterrorism and Effective Death Penalty Act]’s procedural hurdles, and was thus entitled to a hearing to show that he so lacked the capacity for self-determination that it would violate the Eighth Amendment to permit the State to impose the law’s most severe sentence, and take his life as well.” (citations omitted)).

106. *See Hall*, 134 S. Ct. at 1992, 2001 (explaining that in a case involving the death penalty, which is the “gravest sentence our society may impose,” the United States has a “duty to teach human decency as the mark of a civilized world”).

107. *Id.* at 1992 (citation omitted).

108. 105 P.3d 552 (Cal. 2005).

109. *Id.* at 558.

110. 155 P.3d 259 (Cal. 2007).

Vidal addressed a specific issue eventually considered by the U.S. Supreme Court in *Hall*.¹¹¹

In *Vidal*, the prosecution argued that the defendant’s FSIQ was significantly higher than the traditional range and that he was, therefore, automatically excluded from consideration for relief under *Atkins*.¹¹² The California court held that the trial court used the correct legal standard in assessing intellectual disability when it rejected the State’s argument:

That Vidal’s Full Scale Intelligence Quotient on Wechsler IQ tests (Full Scale IQ) has generally been above the range considered to show mental retardation does not, as a matter of law, dictate a finding he is not mentally retarded. The legal definition of mental retardation . . . does not incorporate a fixed requirement of a particular test score. The trial court, therefore, did not commit legal error in giving less weight to Vidal’s Full Scale IQ scores and greater weight to other evidence of significantly impaired intellectual functioning, including Verbal Intelligence Quotient scores on Wechsler IQ tests (Verbal IQ) in the mental retardation range.¹¹³

As described by the Court in *Hall*, most states had come to the same conclusion.¹¹⁴ Only Virginia and Delaware seemed to have established a bright line cut off similar to Florida’s rule.¹¹⁵ By rejecting the idea of a “bright line” at a seventy IQ,¹¹⁶ the Court established both that IQ scores were subject to error and that they were only a part of the clinical judgment required to make the determination of intellectual disability.¹¹⁷ Both of these principles were recognized as vital to a person facing the death penalty and that person’s right to a “fair opportunity to show that the Constitution prohibits [his] execution.”¹¹⁸

111. *See id.* at 267 (determining how much weight California courts should give to IQ scores in resolving “how best to measure intellectual functioning in a given case”).

112. *See id.* at 266 (discussing the argument that courts should rely on the full IQ score, not on subtest scores).

113. *Id.* at 260–61.

114. *Hall v. Florida*, 134 S. Ct. 1986, 1996–98 (2014) (“Thus in [forty-one] States an individual in Hall’s position—an individual with an IQ score of [seventy-one]—would not be deemed automatically eligible for the death penalty.”).

115. *Id.* at 1996; *see Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015).

116. *Hall*, 134 S. Ct. at 2001 (“Florida seeks to execute a man because he scored a [seventy-one] instead of a [seventy] on an IQ test.”).

117. *See id.*

118. *Id.* at 2000–01.

II. THE PROSECUTION'S RECENT ATTEMPTS TO INCREASE FSIQ SCORES BASED ON "ETHNIC ADJUSTMENTS"

Part II examines expert testimony in a number of cases around the country supporting the practice of adding points to African American and Latina/o IQ scores for the purposes of an *Atkins* hearing. Then, this Part includes for more detailed analysis three cases in which courts considered "ethnic adjustments" of IQ scores: two from California, and one from the Fifth Circuit.

A. *The Prosecution's Claim to Add Points to African American and Latina/o IQ Scores in Florida and Other Death Penalty Jurisdictions*

At the same time that Florida was taking the position that a "bright line" cut off at seventy prevented a defendant from getting relief if his score was *above* the line,¹¹⁹ the State argued that a score *below* the line could be ethnically adjusted upward to allow execution.¹²⁰ In other words, the "bright line" was "bright" in only one direction based on a person's perceived or assigned race.¹²¹ In *Hodges v. State*,¹²² the Florida Supreme Court held that the legal significance of a Black defendant's low IQ score could be discounted because, as one prosecution expert testified, "IQ tests tend to underestimate particularly the intelligence of African-Americans."¹²³ Therefore, in Florida prior to *Hall*, a score over seventy automatically disqualified a person from relief from the death penalty but a low score could still be "ethnically adjusted" upward to exceed seventy, once again precluding a

119. *Cherry v. State*, 959 So. 2d 702, 713–14 (Fla. 2007) (per curiam), *abrogated by* *Hall v. Florida*, 134 S. Ct. 1986 (2014).

120. *Hodges v. State*, 55 So. 3d 515, 525 (Fla. 2010) (per curiam).

121. The terms "race" and "ethnicity" are not consistently applied or understood by the witnesses and courts. In fact, even the Brief of Public Law Scholars makes significant errors. See generally Brief of Public Law Scholars as Amici Curiae Supporting Petitioner at 20, *Hernandez v. Stephens*, 134 S. Ct. 1760 (2014) (No. 13-8004), 2014 WL 333536 (using the terms seemingly interchangeably). Race is a social construct, and ethnicity is largely self-described. Both "African American" and "Latina/o" are a description of origin or affinity with some group. Black and Brown may describe pigmentation of the skin but are more likely to describe some group affiliation. See, e.g., Comas-Díaz, *supra* note 1, at 115–20; Jennifer J. Manly & Ruben J. Echemendia, *Race-Specific Norms: Using the Model of Hypertension to Understand Issues of Race, Culture, and Education in Neuropsychology*, 22 CLINICAL NEUROPSYCHOLOGY 319, 322 (2007).

122. 55 So. 3d 515 (Fla. 2010) (per curiam).

123. *Id.* at 525 (upholding the trial court's ruling that Hodges did not prove mental retardation despite both parties' experts concluding sub-seventy scores because of Hodges' functional intelligence and relationships). The court credited witnesses who testified that Hodges was able to travel independently, date women, and work labor-intensive jobs. See *id.*

person, specifically a Black or Brown person, from relief.¹²⁴ While the U.S. Supreme Court found the Florida “bright line” cut off rule unconstitutional, the Court has not yet considered the merits of the claim that “ethnically adjusting” scores upward is constitutional.¹²⁵

“Ethnic adjustments” are not confined to Florida. Prosecutors and their experts have advocated for upward, ethnic adjustments to minority IQ scores in Texas, Alabama, Tennessee, Missouri, California, Pennsylvania, and Ohio state courts as well as before the Fifth Circuit.¹²⁶ For example, Texas courts held, based on the testimony of prosecution expert Dr. James Sherman, that the defendant’s scores did not necessarily show mental retardation because the verbal IQ test “is really culturally based.”¹²⁷ The Fifth Circuit considered, at length, the testimony of Dr. George Denkowski¹²⁸ in a separate case allowing for adjustments to minorities’ IQ scores on the theory that “cultural” factors could have “artificially suppressed” the defendant’s scores.¹²⁹

124. *See id.* at 523–25 (recognizing the State’s witness reliance on factors outside the IQ score because “cultural aspects can affect how a person performs on IQ tests”).

125. The Supreme Court denied certiorari. *Hodges v. Florida*, 132 S. Ct. 164, 164 (2011).

126. *See infra* Part II.

127. *Ex parte* Rodriguez, 164 S.W.3d 400, 404 (Tex. Crim. App. 2005) (per curiam) (“Dr. Sherman testified again and stated that the fact that a person has a subaverage IQ score does not necessarily mean that he is mentally retarded.”).

128. *But see* Matamoros v. Stephens, 783 F.3d 212, 226 n.10 (5th Cir. 2015) (“[W]e have not given any weight to Dr. Denkowski’s testimony or opinions.”). The *Matamoros* court made a point to explain that “Denkowski entered into a settlement agreement with the Texas State Board of Examiners of Psychologists, in which he agreed to ‘not accept any engagement to perform forensic psychological services in the evaluation of subjects for mental retardation or intellectual disability in criminal proceedings.’” *Id.* at 214; *see Ex parte* Gallo, No. WR-77940-01 2013 WL 105277, at *1 (Tex. Crim. App. Jan. 9, 2013) (per curiam) (noting that Dr. Denkowski’s license was “reprimanded”); *see also* Pierce v. Thaler, 355 F. App’x 784, 794 (5th Cir. 2009) (per curiam) (noting that Dr. Denkowski was subject to disciplinary proceedings for “improperly . . . overstat[ing] the impact of sociocultural factors on these [adaptive] deficits”).

129. *Maldonado v. Thaler*, 625 F.3d 229, 237–38 (5th Cir. 2010) (upholding the trial court’s decision that petitioner failed to show adaptive deficits). While the Fifth Circuit criticized the methodology of Dr. Denkowski involving a number of issues—including the use of a translator—the idea of cultural adjustment was not rejected. *See id.* The Fifth Circuit ultimately adopted the findings of the state’s habeas court that, based on [Maldonado’s] “minimal amount of education and his criminal lifestyle, [his] poor academic functioning is consistent with the dynamics of lack of opportunity, underachievement, and poor life choices, rather than lack of intellectual functioning” and does not establish significantly subaverage intellectual functioning. *Maldonado v. Thaler*, 662 F. Supp. 2d 684, 717 (S.D. Tex. 2009); *see Maldonado*, 625 F.3d at 244.

In *Ex parte Smith*,¹³⁰ the Supreme Court of Alabama accepted the testimony of a prosecution expert, Dr. Harry McClaren. Dr. McClaren testified that the defendant was not intellectually disabled because his IQ score was “spuriously lowered by things such as exposure to domestic violence, poverty, cultural deprivation, ethnicity, [and] perhaps intoxication.”¹³¹ In another case from Alabama, *Brown v. State*,¹³² an expert testified that the defendant’s IQ might be higher than what he scored, explaining that “[s]ometimes[,] individuals of African-American background don’t score quite as high on formal testing.”¹³³ The court ultimately accepted this testimony and concluded that the defendant was not intellectually disabled.¹³⁴

Expert witness Dr. Charles Hinkin testified in California in favor of altering test results on the basis of race, arguing that “because Blacks ordinarily perform more poorly than Whites on those tests, it is preferable to use ethnically corrected norms when scoring the tests.”¹³⁵ Other experts, such as Dr. Richard Coons who testified in Texas in *Hernandez*, went further, describing the defendant’s “cultural group” this way: “[The Defendant’s behavior was in] keeping with the cultural group, . . . people getting into drugs, and . . . using drugs” and that using drugs was “a common thing in that cultural group.”¹³⁶

The highest courts in other states have also allowed IQ adjustments to ethnic minority scores. Based on the testimony of the same Dr. Denkowski who testified in Texas, the Supreme Court of Pennsylvania in *Commonwealth v. DeJesus*¹³⁷ said that a Puerto Rican defendant’s poor adaptation should be discounted because he was a member of “the criminal socio-culture.”¹³⁸ In *Black v. State*,¹³⁹ a Tennessee

130. No. 1080973, 2010 WL 4148528 (Ala. Oct. 22, 2010). Although Mr. Smith’s “race” is not identified, the expert referred to his “ethnicity” as a factor that “spuriously lowered” his IQ scores. *Id.* at *3.

131. *See id.* (quoting part of the trial court’s transcript found within the intermediate appellate court’s ruling in *Smith v. State*, No. CR-97-1258, 2007 WL 2459291, at *1 (Ala. Crim. App. Aug. 31, 2007) (per curiam)).

132. 982 So. 2d 565 (Ala. Crim. App. 2006).

133. *Id.* at 604–05 (holding that Brown was not intellectually disabled because he had a seventy-six IQ, and “had some education as well as personal relationships”).

134. *Id.* at 605.

135. *In re Champion*, 322 P.3d 50, 67 (Cal. 2014).

136. *See* Brief for United Mexican States as Amicus Curiae Supporting Petitioner at 14, *Hernandez v. Stephens*, 134 S. Ct. 1760 (2014) (No. 13-8004), 2014 WL 316661, at *14.

137. 58 A.3d 62 (Pa. 2012).

138. *Id.* at 72–73 (remanding to the trial court so the prosecution could introduce new evidence regarding DeJesus’ functioning capabilities and his participation in a scheme to smuggle a cell phone into prison to defeat his *Atkins* claim).

139. No. M2004-01345-CCA-R3-PD, 2005 WL 2662577 (Tenn. Crim. App. Oct. 19, 2005).

appellate court accepted testimony that “IQ tests have historically been biased against minorities.”¹⁴⁰ The court went on to state that “[i]f you have an African-American who tests in the seventies, the clinician must be very cautious”¹⁴¹ The Supreme Court of Missouri in *Johnson v. State*¹⁴² quoted the prosecution’s expert testimony that the defendant’s IQ score should be raised three to six points because the test is “culturally prejudiced against him.”¹⁴³ Finally, in Ohio, the state’s intermediate appellate court accepted testimony in *State v. Were*¹⁴⁴ that the defendant’s sixty-nine IQ score, was “artificially lower” because the “tests were culturally biased against minorities,”¹⁴⁵ without ever identifying the defendant’s race, referring to him only as a “Muslim.”¹⁴⁶

In each of these cases, the expert testified about the members of the defendant’s racial group generally and without explanation as to how this bias affected the defendant specifically, other than to note that he or she was a member of that minority group.¹⁴⁷ In the majority of cases, the record does not make clear why courts accepted, without challenge, the ethnic adjustment of IQ scores. There is no discussion of scientific research other than a vague conclusion that minorities do not “do as well” and, therefore, based on the race of the defendant, an adjustment should be made.¹⁴⁸ The courts, in rendering their

140. *Id.* at *8.

141. *Id.* at *8, *14 (finding that Black was not excluded from the death penalty after failing to prove the third element of showing retardation during his developmental period before he was eighteen years old).

142. 102 S.W.3d 535 (Mo. 2003) (en banc).

143. *Id.* at 539 n.10. The defendant’s race or ethnicity was not described in the opinion.

144. No. C-030485, 2005 WL 267671 (Ohio Ct. App. Feb. 4, 2005).

145. *Id.* at *10 (“Nelson stated that cultural bias tended to depress the IQ scores of minorities such as Were.”).

146. *Id.* at *2. The term “Muslim” describes a religion, not a race or ethnicity. See *A Demographic Portrait of Muslim Americans*, PEW RESEARCH CTR., <http://www.people-press.org/2011/08/30/section-1-a-demographic-portrait-of-muslim-americans> (“Muslim Americans are racially diverse. No single racial or ethnic group makes up more than [thirty percent] of the total. Overall, [thirty percent] describe themselves as white, [twenty-three percent] as black, [twenty-one percent] as Asian, [six percent] as Hispanic and [nineteen percent] as other or mixed race.”).

147. See, e.g., *Maldonado v. Thaler*, 625 F.3d 229, 238 (5th Cir. 2010); *Black v. Colson*, No. 3:00-0764, 2013 WL 230664, at *9 (M.D. Tenn. Jan. 22, 2013); *Johnson*, 102 S.W.3d at 538 n.10; *Were*, 2005 WL 267671, at *11; *Commonwealth v. DeJesus*, 58 A.3d 62, 72–73 (Pa. 2012); *Black v. State*, No. M2004-01345-CCA-R3-PD, 2005 WL 2662577 (Tenn. Crim. App. Oct. 19, 2005).

148. See, e.g., *Maldonado*, 625 F.3d at 238 (“[R]elying upon his ‘clinical judgment’ and his purported knowledge of Mexican cultural norms,” the expert gave a “true” score between [seventy-four] and [eighty-three], which resulted in the petitioner’s

opinions, also did not go into any scientific basis for the adjustments.¹⁴⁹ Rather, they either implicitly or explicitly accepted, without much discussion, the upward adjustment of minority IQ scores.¹⁵⁰

While all of these cases are significant, there are three additional cases, two decided in 2014 and one still pending review, that deserve a more detailed analysis. All three were capital cases. The California Supreme Court decided one,¹⁵¹ the second is pending in the same court,¹⁵² and the Fifth Circuit decided the third.¹⁵³

B. *Ethnic Adjustments in California*

The first two cases adopted for more detailed analysis serve to illustrate the mechanism by which the ethnic adjustment of IQ scores in death penalty cases are used nationally. The first California Supreme Court case to mention ethnic adjustments without adverse comment was *In re Champion*.¹⁵⁴ In *Champion*, decided in 2014, the defendant argued that he had brain damage as evidenced by, among other things, his intellectual impairment.¹⁵⁵ As such, he argued that his attorney had provided him ineffective assistance of counsel when the attorney failed to introduce evidence of the defendant's brain damage at the penalty phase of his capital trial.¹⁵⁶ The court denied relief and affirmed Champion's death sentence.¹⁵⁷

response that the expert lacked the proper "established methodology" or "cultural knowledge"); *Colson*, 2013 WL 230664, at *9 ("Weighing against the Petitioner's arguments for reductions of his school test scores is the expert testimony that IQ tests tended to underestimate the intelligence of African American children in the 1960s. According to Dr. Vaught, this cultural bias 'was one of the reasons why that diagnostic criterion was changed back in the '70s, from one standard deviations [sic] to two standard deviations below the mean.'"); *Werez*, 2005 WL 267671, at *10 (concluding that because there was *credible* and *reliable* evidence to support trial court's finding that defendant was not intellectually impaired as a result of culturally biased IQ tests, it would not overrule the trial court's determination).

149. See *DeJesus*, 58 A.3d at 72–73 (stating Dr. Denkowski's opinion that cultural factors have "different effects" without describing or explaining those effects); see also *Werez*, 2005 WL 267671, at *10 (describing the experts' discussion of "cultural bias" vaguely, which affected "other factors" in the determination and "led to changes in the tests").

150. See *supra* Part II.

151. *In re Champion*, 322 P.3d 50 (Cal. 2014).

152. *In re Lewis*, No. S117235 (Cal. filed July 2, 2003). The author of this Article is counsel for the Petitioner in *Lewis*.

153. *Hernandez v. Stephens*, 537 F. App'x 531 (5th Cir. 2013) (per curiam), *cert. denied*, 134 S. Ct. 1760 (2014).

154. 322 P.3d 50 (Cal. 2014).

155. See *id.* at 59.

156. See *id.* at 68–69.

157. See *id.* at 83; see also CAL. PENAL CODE § 190.3 (West 2015).

In the middle of the opinion, the court referred to the evidence offered by the experts regarding Champion’s intellectual disability. The court specifically made reference to the State’s expert, Dr. Charles Hinkin,¹⁵⁸ and seemed to comment favorably on his interpretation of the IQ test data.¹⁵⁹ The court said, “Dr. Hinkin disagreed with Dr. Riley’s method of scoring the tests given. He explained that because Blacks ordinarily perform more poorly than Whites on those tests, it is preferable to use ethnically corrected norms when scoring the tests, which Dr. Riley did not do.”¹⁶⁰

The Attorney General’s brief to the California Supreme Court referenced the State’s expert testimony that identified various factors potentially causing the disparity between Black and White IQ test scores. These factors include “a lack of equivalent quality of education, even though both sets of individuals completed the same level of education; parental education levels; socioeconomic status; and acculturation.”¹⁶¹ This conclusory statement is typical of others across the country in that it conflates a number of environmental influences in a broad justification for an “ethnic correction” of scores based on race¹⁶² without specifically referencing the defendant.

A second case in California, *In re Lewis*,¹⁶³ involves testimony from the same Dr. Hinkin.¹⁶⁴ After granting an evidentiary hearing on a habeas corpus petition in 2009, the California Supreme Court sent *Lewis* back to the Los Angeles Superior Court. The lower court was tasked

158. See *In re Champion*, 322 P.3d at 67–68. Dr. Hinkin’s prior experience as a psychologist testifying on behalf of insurance companies in conjunction with Dr. Faerstein, a psychiatrist colleague who also testified in *Champion*, was discussed in *Cardiner v. Provident Life & Accident Ins.*, 158 F. Supp. 2d 1088, 1100–01 (C.D. Cal. 2001).

159. See *In re Champion*, 322 P.3d at 67 (noting that “[t]he referee found that Drs. Riley, Hinkin, and Faerstein were ‘all impressive, well qualified witnesses,’ but he was persuaded by the reasoning of prosecution experts Hinkin and Faerstein”).

160. *Id.*

161. Respondent’s Reply to Petitioner’s Exceptions to the Referee Report and Brief on the Merits, *In re Champion*, 322 P.3d 50 (Cal. 2014) (No. S065575), 2010 WL 3316766, at *62.

162. Dr. Hinkin specifically testified that he was “ethnically correct[ing]” the IQ scores based on discrepancies in tests scores of “Blacks” and “Whites.” *In re Champion*, 322 P.3d at 67–68.

163. *In re Lewis*, on remand from the California Supreme Court, Case No. S117235, for a reference hearing on *Atkins* issues before the Honorable Robert Perry, Judge of the Los Angeles Superior Court, Case No. A0227897. This case is currently pending before the California Supreme Court. Reference Hearing Transcripts are on file with the court and with the author.

164. 12 Reference Hearing Transcripts at 1960, *In re Lewis*, No. S117235 (Cal. June 24, 2011) (on file with author).

with making referee findings on *Atkins* and claims of ineffective assistance of counsel during the penalty phase.¹⁶⁵ After extensive hearings over a period of more than a year, the court found that the defendant was intellectually disabled and thus ineligible for execution.¹⁶⁶ *Lewis* is now back before the California Supreme Court.¹⁶⁷

In *Lewis*, Dr. Hinkin testified that African Americans generally score fifteen points lower than White individuals on IQ tests, although the gap narrowed in recent years to about a ten point range.¹⁶⁸ He said that race is a “proxy” for differences in “educational opportunities [and] occupational opportunities, the kinds of things that would . . . affect IQ test performance.”¹⁶⁹ Dr. Hinkin said that the petitioner was not from a “mainstream” group¹⁷⁰ and speculated, without doing any testing of his own, that his poor performance might be due to illiteracy rather than mental retardation,¹⁷¹ even though he admitted that the Wechsler tests used to evaluate the defendant’s IQ did not involve reading.¹⁷² Taking all of these concerns into account, Dr. Hinkin concluded: “I think that the IQ Subaverage intellect prong is probably closer to the mental retardation [sic]. I don’t think that’s it, but that one is certainly in the ballpark.”¹⁷³ Nevertheless, he opined that the petitioner did not qualify as intellectually disabled.¹⁷⁴ The Attorney General of the State of California is urging the Supreme Court to consider the testimony of Dr. Hinkin and to find that the petitioner is eligible to be executed.¹⁷⁵

In the *Champion* case, the California Supreme Court quoted, but did not decide on, the propriety of the “ethnic” correcting of norms.¹⁷⁶ The court said, regarding the neuropsychological tests in the case in general, “We need not resolve this dispute. We did not

165. The Court also referred certain questions pertaining to ineffective assistance of the original trial counsel at the penalty phase of the trial. Habeas Hearing Order, *In re Lewis*, No. S117235 (Cal. Dec. 10, 2008) (on file with author).

166. Referee’s Report at 42, *In re Lewis*, No. S117235 (Cal. Mar. 23, 2012) (on file with author).

167. *In re Lewis*, No. S117235 (Cal. July 2, 2003).

168. 12 Reference Hearing Transcripts at 2011, *In re Lewis*, No. S117235 (Cal. June 24, 2011) (on file with author).

169. *Id.* at 2011–12.

170. *Id.* at 2009.

171. *Id.* at 2000–01.

172. *Id.* at 1992.

173. *In re Lewis*, No. S117235 at 2017.

174. *Id.* at 2074.

175. Respondent’s Response to Petitioner’s Exceptions & Reply Brief on the Merits at 27, *In re Lewis*, No. S117235 (Cal. Aug. 14, 2014) (on file with author).

176. See *In re Champion*, 322 P.2d 50, 67 (Cal. 1964).

ask the referee to decide whether petitioner was neuropsychologically impaired at the time of his capital trial, and the answer to that question does not assist us in deciding whether Defense Counsel Skyers competently assisted him at the penalty phase of trial.”¹⁷⁷ Therefore, because *Lewis* is still pending and the court did not resolve the issue in *Champion*, the issue is unresolved by the California Supreme Court as to whether ethnic adjustments are constitutionally permitted.¹⁷⁸

C. *Prosecution’s Attempt to Add Points to a Latino’s Scores in Texas*

The third significant case, *Hernandez v. Stephens*, also decided in 2014, came out of Texas and involved upwardly adjusting the IQ score of a Mexican defendant in an *Atkins* hearing.¹⁷⁹ In *Hernandez*, the prosecution’s witness, who did not test the defendant personally,¹⁸⁰ claimed that the defendant’s test scores should be normed based on a cohort of Mexicans and not the standardized norm of the community as a whole.¹⁸¹

The case went from the Texas courts to the Fifth Circuit.¹⁸² The Circuit Court stated in conclusory terms that “[w]hen scaled to Mexican norms, [the defendant] scored exactly [seventy] on the *one . . . test*.”¹⁸³ Hernandez’s IQ scores were as low as fifty-two, fifty-four, and fifty-seven when scaled to so-called “American norms.”¹⁸⁴ Nevertheless, the Fifth Circuit allowed the adjusted score of seventy to stand.¹⁸⁵

The defendant in *Hernandez* sought review of Texas’s use of ethnic adjustments, filing a writ of certiorari before the U.S. Supreme Court.¹⁸⁶ Several organizations filed amicus curiae briefs urging the

177. *Id.* at 68.

178. *Id.* However, the issue is before the court in *In re Lewis*, No. S117235 (Cal. July 2, 2003).

179. *Hernandez v. Stephens*, 537 F. App’x 531, 536 (5th Cir. 2013) (per curiam), *cert. denied*, 134 S. Ct. 1760 (2014). It is unclear from the opinion whether the defendant was a Mexican or American citizen. The Fifth Circuit indicated only that Mr. Hernandez’s had family living in Mexico and that he may have been raised there. *Id.* at 541.

180. *See id.* at 536.

181. *See id.* at 539 (expressing a prosecution witness’s concern with the results of the defendant’s IQ testing because parts of the tests lacked “comparative norms”).

182. *Id.*

183. *Id.* at 539.

184. *Id.* at 536.

185. *Id.* at 540 (concluding that Hernandez did not rebut the presumption of correctness of the lower court’s determination that he was not intellectually disabled).

186. Petition for Writ of Certiorari, *Hernandez v. Stephens*, 134 S. Ct. 1760 (2014) (No. 13–8004).

Court to grant certiorari.¹⁸⁷ An amicus curiae brief filed on behalf of constitutional law scholars highlighted that ethnic adjustments in *Atkins* cases were occurring nationwide and argued that such adjustments violated Equal Protection under the Fourteenth Amendment.¹⁸⁸ Several other briefs made similar arguments.¹⁸⁹ Nevertheless, the Supreme Court denied certiorari in 2014 without opinion.¹⁹⁰ Although a denial of certiorari is not a decision on the merits, the reality is that immediately after the denial in April of 2014, Texas executed Mr. Hernandez.¹⁹¹

III. THE LOGICAL AND CLINICAL ANALYSIS OF “ETHNIC ADJUSTMENTS” AND DISCREPANCY ANALYSIS

This Part examines the logical and clinical justifications for ethnic adjustments, which informs the constitutional discussion in Part V. Since *Atkins*, discrepancy analysis has generated considerable scholarly and clinical discussion, including whether there is a logical or clinical basis for ethnic adjustments in any setting. Accordingly, through that lens, this Part considers whether race or ethnicity can be considered in creating IQ scores; and if they can be considered, under which circumstances such considerations are appropriate. This Part then explores whether race neutral variables have a demonstrated relationship to decreased intellectual ability and to lower IQ test scores. It concludes by examining whether race can be used scientifically to justify the imposition of the death penalty on an individual.

187. See Brief for American Ass’n on Intellectual & Developmental Disabilities & the Arc of the United States as Amici Curiae Supporting Petitioner, 134 S. Ct. 1760 (2014) (No. 13-8004), 2014 WL 262250; Brief for League of United Latin American Citizens et al. as Amici Curiae Supporting Petitioner, *Hernandez v. Stephens*, 134 S. Ct. 1760 (2014) (No. 13-8004), 2014 WL 316660; Brief of Public Law Scholars, *supra* note 121; Brief for United Mexican States as Amicus Curiae Supporting Petitioner, *supra* note 136.

188. Brief of Public Law Scholars, *supra* note 121, at 1, 5, 13–18, 23.

189. See, e.g., Brief of Public Law Scholars, *supra* note 121, at 4 (“This Court’s equal-protection jurisprudence demands that such arguments satisfy strict scrutiny.”); Brief for League of United Latin American Citizens, *supra* note 187, at *24 (“*Atkin*’s bar on the execution of the mentally retarded must apply equally, regardless of race, culture, or nationality.”).

190. *Hernandez v. Stephens*, 134 S. Ct. 1760 (2014).

191. Ian Smith, *How Race-Based IQ Handicapping Led to A Man’s Execution*, DAILY CALLER (Aug. 28, 2014, 7:38 PM), <http://dailycaller.com/2014/08/28/how-race-based-iq-handicapping-led-to-a-mans-execution>.

A. *The Logical and Clinical Fallacy*

In determining an intelligence quotient, it is a fallacy, both logically and clinically, to make the determination based on comparing an individual's performance on a test to norms of a particular group rather than the standardized norms of the community as a whole. Logically, comparison to the community norm is comparison to the standardized norm based on a cross-section of the community, not the norm of a limited cohort of individuals who share certain characteristics with the subject. The *reductio ad absurdum* would be to limit the cohort for the purpose of an individual's comparison to the norm of a cohort in which she or he is the only member. In other words, if the claim is that some people are subject to circumstances that result in discrepancies from the standardized norm, that individual could only be compared to the norm for people with identical circumstances. If human beings are complex and unique, using a regression analysis that corrects for every variable would result in a normative sample of one. In such a situation, each individual's test results would be normed against her or his own test results, and everyone would have a 100 IQ score.

Therefore, for norming purposes, the use of groups larger than one, but smaller than a representative cross-section of the entire population would have the potential to improperly skew the individual's IQ either up or down.¹⁹² A portion of the clinical test for intellectual disability is whether the individual tests approximately two standard deviations below the norm *of the community as a whole*.¹⁹³ That "community" is based on a cross-section of the entire population, which includes members of each race, ethnicity, and socioeconomic background.¹⁹⁴ The concept does not entail comparing a person's test scores to a cohort comprised only of a particular ethnic, socioeconomic, or other group.¹⁹⁵ Using a group of more than one but of any size less than a cross-section of the whole results in a different kind of analysis. It would be a comparison of an individual's intelligence not to the whole but to some specialized group, thus distorting the true score of the individual.¹⁹⁶

192. Watson, *supra* note 63, at 116.

193. *Id.*

194. *Id.* (explaining that IQ test scores reference a normative sample that is representative of the general population).

195. *Id.* at 116–17.

196. Greenspan & Olley, *supra* note 72, at 145–46.

Dr. Stephen Greenspan, member of the APA's Ad Hoc Committee on Mental Retardation and the Death Penalty,¹⁹⁷ and others have put this concept succinctly:

IQ tests are *norm-based*, which means that standard scores are based on the individual's performance in comparison to that of others of the same age used in the standardization sample. The norms are intended to reflect the population of the larger society which, in the case of the Wechsler and Stanford-Binet tests, is the most recent census of the United States.¹⁹⁸

Clinical psychologist Dr. Dale Watson made the same logical point when he argued that demographic variables such as gender, race, and education are not useful in assessing intellectual disability because such a diagnosis is "dependent on a comparison to the larger normative reference group."¹⁹⁹ Anything other than that does not measure whether a person is approximately two standard deviations below the norm as is required by *Atkins* and *Hall*.

B. Cohorts Do Score Differently

This is not to deny that there is a discrepancy between the average test results of particular cohorts—including cohorts selected on the basis of race, sex, and other factors—and the standardized norm.²⁰⁰ One may recall the controversy elicited by the book *The Bell Curve*, which is credited with offering evidence that it is "highly likely . . . that both genes and the environment have something to do with racial differences" in intelligence.²⁰¹ Wading in among the thousands of articles and books spawned by *The Bell Curve*, the book's conclusions have been the subject of voluminous professional criticism.²⁰² Early on, the APA confronted the raw data and tried to

197. *United States v. Hardy*, 762 F. Supp. 2d 849, 858–59 (E.D. La. 2010).

198. Greenspan & Olley, *supra* note 72, at 145.

199. Watson, *supra* note 63, at 117.

200. See Ulric Neisser et al., *Intelligence: Knowns and Unknowns*, 51 AM. PSYCHOL. 77, 91, 97 (1996) (summarizing the differences in IQ test results based on race and sex).

201. RICHARD J. HERRNSTEIN & CHARLES MURRAY, *THE BELL CURVE: INTELLIGENCE AND CLASS STRUCTURE IN AMERICAN LIFE* 311 (1994).

202. See, e.g., Jennifer J. Manly, *Advantages and Disadvantages of Separate Norms for African Americans*, 19 CLINICAL NEUROPSYCHOL. 270, 272 (2005) (maintaining that the research agendas of the authors of *The Bell Curve* "lead to dangerous and irresponsible biological and genetic interpretations"); Robert J. Sternberg et al., *Intelligence, Race, and Genetics*, 60 AM. PSYCHOL. 46, 46 (2005) (concluding that *The Bell Curve* study was "not grounded in scientifically derived constructs but rather in folk beliefs about them").

make some sense of it.²⁰³ The corresponding report surveyed the literature in response to *The Bell Curve* and concluded that there were, in fact, differences in test scores of various cohorts within the standardized group.²⁰⁴ Some of the cohorts were based on ethnicity.²⁰⁵ However, the report determined that the results are likely influenced by non-race-based, socioeconomic factors, such as poverty and exposure to toxins like lead-based paint.²⁰⁶ They also considered the general “caste-like” circumstances of minorities in American life.²⁰⁷ They concluded, in 1996, that the book’s controversial assertions were riddled with uncertainties and many “unknown[s].”²⁰⁸

Notwithstanding the APA’s findings in 1996, *The Bell Curve* raised a more fundamental issue: is there any *genetic* difference in IQ and intellectual ability based on *race*? Most contend that “[r]ace is a socially constructed concept, not a biological one[, and that i]t derives from people’s desire to classify.”²⁰⁹ Such efforts to classify based on race are arbitrary and subjective.²¹⁰ Therefore, there is no established genetic basis for identifying race itself.²¹¹ If there is no genetic basis for identifying race, there can be no genetic basis for claiming that there is a discrepancy in IQ based on perceived differences between “races.”²¹²

Since 1996, however, empirical evidence has provided further support for the conclusion that there is no genetic basis for

203. See Neisser et al., *supra* note 200, at 77 (explaining that the APA created a diverse task force to author an authoritative report on the issues raised by *The Bell Curve*).

204. *Id.* at 91–93.

205. *Id.* at 92–93.

206. *Id.* at 89, 94.

207. *Id.* at 94 (defining caste-like minorities as “grow[ing] up firmly convinced that one’s life will eventually be restricted to a small and poorly-rewarded set of social roles”).

208. Neisser et al., *supra* note 200, at 97.

209. Sternberg et al., *supra* note 202, at 49.

210. See *AAA Statement on Race*, AM. ANTHROPOLOGICAL ASS’N, <http://www.americananthro.org/ConnectWithAAA/Content.aspx?ItemNumber=2583&RDToken=47501&userID=6944> (“Historical research has shown that the idea of ‘race’ has always carried more meanings than mere physical differences; indeed, physical variations in the human species have no meaning except the social ones that humans put on them.”).

211. *Id.*

212. *Id.*; see Ta-Nehisi Coates, *The Social Construction of Race*, ATLANTIC (May 17, 2013), <http://www.theatlantic.com/national/archive/2013/05/the-social-construction-of-race/275974>; Angela Onwuachi-Willig, *Race and Racial Identity Are Social Constructs*, N.Y. TIMES (June 17, 2015, 1:40 PM), <http://www.nytimes.com/roomfordebate/2015/06/16/how-fluid-is-racial-identity/race-and-racial-identity-are-social-constructs>.

differences in IQ scores.²¹³ Statistically comparing IQ test scores based on self-identified race (or what the tester assumes the test-taker's race to be) does tend to show a disparity with the norm on the average.²¹⁴ However, this discrepancy analysis does not have a *genetic* basis.²¹⁵ It is a comparison of averages among cohorts based on self-identified claims.²¹⁶ Indeed, even in 1996, the APA concluded:

The differential between the mean intelligence test scores of Blacks and Whites (about one standard deviation, although it may be diminishing) does not result from any obvious biases in test construction and administration, nor does it simply reflect differences in socioeconomic status. Explanations based on factors of caste and culture may be appropriate, but so far have little direct empirical support. There is certainly no such support for a genetic interpretation.²¹⁷

More current studies have continued to document the existence of the discrepancies in test scores quantitatively but many, until recently, did little to explain their etiology.²¹⁸ It is still generally thought that these disparities in tests scores do not reflect a genetic or "racial" heritability but, instead, reflect the fact that children who grow up with limited resources are less likely to develop to their full genetic potential.²¹⁹ The most recent update to the 1996 APA Report

213. Richard E. Nisbett et al., *Intelligence: New Findings and Theoretical Developments*, 67 AM. PSYCHOL. 130, 130 (2012).

214. Neisser et al., *supra* note 200, at 96–97.

215. *Id.* For review of the literature, see LICHTENBERGER & KAUFMAN, *supra* note 62, at 47–49 (explaining that the results of studies "make it abundantly clear that socioeconomic status and an array of other background, behavioral, and personal variables impact a person's IQ and profile of test scores far more than the variable of ethnicity alone, and that these variables mediate the role played by ethnicity in affecting a person's IQ").

216. Neisser et al., *supra* note 200, at 90–91.

217. *Id.* at 97 n.6.

218. *But see* Christopher M. Berry et al., *Racial/Ethnic Differences in the Criterion-Related Validity of Cognitive Ability Tests: A Qualitative and Quantitative Review*, 96 J. APPLIED PSYCHOL. 881, 882 (2011) (identifying four potential causes of the discrepancies: range restriction, test error/bias, contextual influences, and actual differences in cognitive ability); Gregory Cochran et al., *Natural History of Ashkenazi Intelligence*, 38 J. BIOSOCIAL SCI. 659, 659–60 (2006) (arguing that the high IQs of the Ashkenazi Jewish population are a result of natural selection, partly because there has been little inward gene flow).

219. *See* EARL HUNT, HUMAN INTELLIGENCE 284 (2011) (recognizing a correlation between socioeconomic status and test scores); Nisbett et al., *supra* note 213, at 132–33 (summarizing that genes have practically no effect on IQ variation for families with the lowest socioeconomic statuses). *But see* N.J. MACKINTOSH, IQ AND HUMAN INTELLIGENCE 321 (2d ed. 2011) (suggesting that the correlation between scores and socioeconomic status is due more to genetics and parental attitudes than economic resources).

indicated that the discrepancy in IQ scores between African American performance on IQ tests and the standardized norm has been reduced by approximately 0.33 standard deviations or about five IQ points in recent years.²²⁰ In that time, researchers have done considerable work to understand some of the unknowns referred to in the 1996 APA Report.²²¹

Logically and clinically, it would not matter, for the purpose of assessing the IQ of a particular individual, if there were some genetic basis for differentiation from a larger group.²²² Certainly, individuals suffering from Down’s or Fragile-X Syndrome would be compared to the standardized norm for *Atkins* purposes.²²³ It would be unthinkable to claim that such a person could be executed if they failed to qualify as intellectually disabled because their IQ as compared to other Down’s Syndrome or Fragile-X subjects was “normal.”

Admittedly, the immediate reaction to this last argument is one of distress. It seems insulting to discuss this, even though scholars have demonstrated that no “race” or ethnicity suffers from any genetic

220. Nisbett et al., *supra* note 213, at 130, 146. The original discrepancy of fifteen points, having been reduced by .33 (or five points) is now an approximate discrepancy of ten points.

221. *Id.* at 130. It should be noted that non-racial variables used to select cohorts may include, amongst other variables, gender, educational level, and income. *See id.* at 132, 137, 144 (discussing the effect of social class, education, and sex). These different cohorts also have mean scores that are skewed from the standardized norm. Robert K. Heaton et al., *Demographic Effects and Use of Demographically Corrected Norms with the WAIS-III and WMS-III*, in *CLINICAL INTERPRETATION OF THE WAIS-III AND WMS-III* 181, 184 (David S. Tulsky et al. eds., 2003) [hereinafter Heaton et al., *WAIS-III and WMS-III*]. It is important to reiterate that there is no research establishing that there is a race-based or genetic phenotype that explains any difference in intelligence testing. Nisbett et al., *supra* note 213, at 146. In other words, there is no genetic difference based on race or ethnicity that explains any real or perceived discrepancy between a racial or ethnic cohort and the standardized norm, *The Bell Curve* and its aftermath notwithstanding. *Id.*

222. *See* Neisser et al., *supra* note 200, at 90 (“Group means have no direct implications for individuals.”).

223. Down’s and Fragile-X syndromes are phenotypic abnormalities, both intellectual and morphological, based on an extra chromosome twenty-one and a variation of the X chromosome, respectively. *See* ROGER E. STEVENSON ET AL., X-LINKED MENTAL RETARDATION 79–94 (2000) (describing syndromic XLMR phenotypes including physical malformations and intellectual disabilities associated with chromosome X linked variations, including Fragile-X); L. Nadel, *Down’s Syndrome: A Genetic Disorder in Biobehavioral Perspective*, 2 *GENES, BRAIN & BEHAVIOR*, 156–66 (2003) (surveying the phenotypic developmental effects of “trisomy 21[.]” a third chromosome twenty-one); *see also* Heaton et al., *Neuropsychological Assessment*, *supra* note 4, at 147 (stating that it would be “inappropriate” to adjust those with developmental disorders, including in the context of criminal prosecution).

distinction relating to intelligence, let alone anything like discrepancies associated with phenotypic disabilities based on Down's or Fragile-X.²²⁴ The stark offensiveness of this comparison serves to illustrate the absurdity of current prosecutorial comparisons. Nevertheless, proponents of ethnic adjustments argue that the failure to address the average discrepancies in IQ scores based on race is an endorsement of some unsubstantiated theory of phenotypic racial or ethnic differences. This premise, although unarticulated, is used by prosecution experts to justify the ethnic adjustment of scores.²²⁵ Therefore, this section will attempt to determine from where the existence of a race-based average discrepancy in IQ scores originates.

C. Heaton's Adjustments

Dr. Robert K. Heaton and his colleagues are often attributed with being the intellectual origin of making "ethnic adjustments" to IQ scores.²²⁶ Significantly, Dr. Heaton has published materials on the WAIS-III, a test that measures cognitive functioning in adults, supporting a theory of discrepancy analysis based on race and other variables.²²⁷ According to this theory, there are discrepancies in average demographic comparisons, and clinicians can adjust scores to include considerations for age, level of education, gender, and ethnicity.²²⁸ These scholars argue that discrepancies giving rise to ethnic adjustments could be of clinical interest in determining "brain integrity."²²⁹

224. See Sternberg et al., *supra* note 202, at 57 (concluding that any genetic differences for IQ based on race is, "when all is said and done, a leap of imagination").

225. See, e.g., *In re Champion*, 322 P.3d 50, 67 (Cal. 2014) (failing to explain why "Blacks ordinarily perform more poorly than Whites," but using that as justification for adjustments); *Hodges v. Florida*, 55 So. 3d 515, 524–25 (Fla. 2010) (*per curiam*) (quoting an expert as attributing racial differences in IQ scores to the tests "underestim[ing] particularly the intelligence of African-Americans").

226. HEATON ET AL., REVISED COMPREHENSIVE NORMS, *supra* note 4, at 1.

227. See Heaton et al., *WAIS-III and WMS-III*, *supra* note 221, at 184 (arguing that the removal of demographic variables to create new standardized scores help prevents the misclassification of cognitive impairment). For a comparison of the WAIS-IV to the WAIS-III, see LICHTENBERGER & KAUFMAN, *supra* note 62, at 39–40, and for the caution regarding ethnic discrepancies, see *id.* at 49.

228. Heaton et al., *WAIS-III and WMS-III*, *supra* note 221, at 184.

229. Keith A. Hawkins & David S. Tulsky, *WAIS-III WMS-III Discrepancy Analysis: Six-Factor Model Index Discrepancy Base Rates, Implications, and a Preliminary Consideration of Utility*, in *CLINICAL INTERPRETATION OF THE WAIS-III AND WMS-III* 211, 213 (David S. Tulsky et al. eds., 2003).

Dr. Heaton’s discrepancy analysis work evoked considerable controversy.²³⁰ Nevertheless, he has defended his theory on a limited clinical application, namely in diagnosing impairment, not a description of deficiency.²³¹ Dr. Heaton claims that, in establishing a *baseline* to determine if an individual has sustained the effects of a brain injury, it would be appropriate to compare current test scores with the individual’s “ethnic” (or other) cohort.²³² Dr. Heaton agrees, however, that using specific cohorts should not be used for evaluating intellectual disability in a forensic context.²³³

Others who see some usefulness in Dr. Heaton’s discrepancy analysis in performing a neuropsychological assessment also urge caution in the diagnosis of intellectual disability.²³⁴ For example, Dr. Jennifer Manly, Professor of Neuropsychology at Columbia University, was troubled by the possibility that physical and cognitive differences might result in test score discrepancies based on some correlation to ethnicity, concluding that “[u]nexplained racial differences in cognitive test scores leave ample room for harmful misinterpretation.”²³⁵ Similarly, Dr. Watson found that using subgroup norms based on demographic variables may be useful in neuropsychological evaluation but cannot be used to diagnose intellectual disability, namely because such a diagnosis requires a comparison to the “larger normative reference group.”²³⁶

An extensive review of the literature did not locate any peer reviewed scientific studies that support the scientific use of ethnic adjustments for forensic purposes and, therefore, none that support such adjustments in *Atkins* cases in particular. The limited study of ethnic discrepancies in IQ scores for application in brain damage assessment does not support ethnic adjustments in forensics. Both

230. See, e.g., Watson, *supra* note 63, at 117 (arguing against using demographically adjusted norms for diagnosing intellectual disability); Manly, *supra* note 202, at 272 (discussing that separate racial norms for minority testers may promote misunderstandings about the results).

231. Heaton et al., *Neuropsychological Assessment*, *supra* note 4, at 147.

232. *Id.* at 146.

233. *Id.* at 147.

234. Manly & Echemendia, *supra* note 121, at 320.

235. Manly, *supra* note 202, at 272; see also Manly & Echemendia, *supra* note 121, at 323 (concluding that clinicians must carefully consider when to use race-specific norms). Dr. Manly is a professor at the Taub Institute for Research on Alzheimer’s Disease and the Aging Brain and at the Department of Neurology at Columbia University. Manly, *supra* note 202, at 270.

236. Watson, *supra* note 63, at 117.

the AAIDD and Dr. Heaton himself²³⁷ take the position that there should be no ethnic adjustments in death penalty cases.²³⁸ Nevertheless, some prosecution experts continue to urge for ethnic adjustment, and judges apparently continue to acquiesce or give this testimony weight in *Atkins* decisions, despite the *Hall* Court's conclusion that in determining whether a defendant is intellectually disabled, courts look to the clinical understanding of the term.

D. Why Courts Acquiesce in "Ethnic Adjustments"

Although the constitutionality of ethnically adjusting IQ scores in *Atkins* cases must be decided on the basis of the law and the Constitution itself, other implicit factors often influence judges' decisions to uphold or reject the practice. As Oliver Wendell Holmes, Jr.²³⁹ and others²⁴⁰ recognized, judges are influenced by many factors, including race. To be sure, it is a worthy goal to deconstruct any process that may have anything to do with race.²⁴¹ Prejudices are subtle and hard to identify.²⁴² Anytime a claim of racism comes into the picture, particularly in the United States, it quite

237. Heaton et al., *Neuropsychological Assessment*, *supra* note 4, at 147.

238. See Watson, *supra* note 63, at 117 (noting that while norm-based testing can be useful in neuropsychological evaluation, it cannot be used to diagnose intellectual disability because intellectual disability can only be evaluated by comparing the subject to the general population).

239. OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* 1 (Lawbook Exchange 2009) (1881) ("The life of the law has not been logic: it has been experience.").

240. See, e.g., *CRITICAL RACE THEORY: THE CUTTING EDGE* 3 (Richard Delgado & Jean Stefancic eds., 3d ed. 2013) (collecting the works of the phenomenologists and post-modern deconstructionists with the underlying theory of the existence of a "homeostatic mechanism that ensures that racial progress occurs at just the right pace"). As it applies here, Justice Holmes's comment in his *Lochner v. New York* dissent is instructive: "General propositions do not decide concrete cases." 198 U.S. 45, 76 (1905) (Holmes, J., dissenting), *overruled by* *Ferguson v. Skrupa*, 372 U.S. 726 (1963). So here, it is not a principle (constitutional, logical, or clinical) that is allowing ethnic adjustments into evidence in individual cases, it is the judge. Therefore, we take the liberty of going beyond principle to try to understand the phenomenon.

241. Jennifer Manley entitled one section of her paper on discrepancy analysis, "Deconstruction of Race." Manley & Echemendia, *supra* note 121, at 322.

242. Michael Yudell, *A Short History of the Race Concept*, in *RACE AND THE GENETIC REVOLUTION, SCIENCE, MYTH AND CULTURE* 27 (Sheldon Krinsky & Kathleen Sloan, eds. 2011) ("History has shown that even acknowledging that race has both a social and a scientific meaning cannot disconnect the concept from its typology and racist past (or present). Despite the best intentions of many scientists and scholars, race will always remain what Ashley Montagu once called a 'trigger word; utter it and a whole series of emotionally conditioned responses follow.'" (quoting ASHLEY MONTAGU, *STATEMENT ON RACE* 65 (Oxford Univ. Press 1972) (1951))).

properly evokes a strong response.²⁴³ That is precisely why it is important to make an evidence-based assessment and examine why judges are attracted to ethnically adjusting IQ scores. Although ethnic adjustment in *Atkins* cases appear to be unconstitutional, courts still accept the theory with literally *fatal* consequences for people of color.²⁴⁴

A superficial attraction of the prosecution's argument is its appeal to a sort of benign political correctness.²⁴⁵ Chiefly, the argument is that to *not* adjust African Americans' or Latina/os' scores would be to make the racist assumption that members of each ethnic group are genetically inferior.²⁴⁶ This argument strikes an emotional chord, but is not based in scientific fact. The argument rests on the inaccurate assumption that to reject it is to concede that race causes lower test scores.

This argument may be appealing precisely because it accepts the current paradigm.²⁴⁷ As Thomas Kuhn, American physicist, historian, and philosopher, famously demonstrated, scientists work within an established paradigm to refine it and demonstrate its internal consistency.²⁴⁸ However, to make progress, a paradigm must shift. Here, the paradigm seems to include acceptance of the premise that IQ testing is not adequate and that adjusting testing discrepancies automatically on a race-wide basis will achieve some sort of equilibrium. Once it is accepted that the testing process is reasonably accurate and that there is no genetic difference by race or ethnicity, the old paradigm cannot account for reality. A shift to a new

243. The culture in the United States is still permeated by the vestiges of historical racism and by a new form of racism that is, perhaps, more subtle but just as devastating. *See, e.g.*, MICHELLE ALEXANDER, *THE NEW JIM CROW: MASS INCARCERATION IN THE AGE OF COLORBLINDNESS 2* (2010) (arguing that instead of relying directly on race, today's society uses the criminal justice system to label African Americans as "criminals," which is then used as the basis for discrimination); ISABEL WILKERSON, *THE WARMTH OF OTHER SUNS: THE EPIC STORY OF AMERICA'S GREAT MIGRATION 10* (2010) (chronicling how the Great Migration of African Americans from the Jim Crow South changed their lives and still affects the United States today).

244. *See* *Maldonado v. Thaler*, 625 F.3d 229, 238–39 (5th Cir. 2010) (upholding the death penalty sentence of a lower court, which relied on an ethnically motivated adjustment of the defendant's IQ scores); *supra* notes 179–90 and accompanying text (discussing *Hernandez v. Stephens*, 537 F. App'x 531, 536–37 (5th Cir. 2013) (per curiam)).

245. *See, e.g.*, *Johnson v. Missouri*, 102 S.W.3d 535, 539 n.10 (Mo. 2003) (en banc) (quoting the prosecution's expert as describing the IQ test as "culturally prejudiced against" the defendant).

246. *See id.*

247. *See* THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* vii (2d ed. 1970) (explaining that paradigms are "universally recognized scientific achievements that for a time provide model problems and solutions").

248. *Id.* at 23.

paradigm provides a framework that allows thinking to accommodate evidence-based explanations for discrepancies in IQ scores and to resolve the question of whether ethnic adjustments are justified.

Dr. Heaton, perhaps unintentionally, helped to develop the old paradigm.²⁴⁹ He developed a modern theory of discrepancy analysis and advocated a limited application of ethnic adjustments.²⁵⁰ Viewed simplistically, his work suggested that if there are, *on average*, disparities in IQ test scores between groups and the standardized norm, those scores should be adjusted group-wide.²⁵¹ If the group is based on race, the adjustment would apply to the entire race.²⁵² This paradigm is based on the further assumption that, to avoid being a racist, the test scores are assumed to be based on some behavioral explanation, like lack of motivation or cultural deprivation, that deserves a correction.²⁵³ Although there is no evidence showing that race directly causes lower test scores, there is evidence of correlation between race and lower test scores.²⁵⁴ Thus, the logic goes, to test an individual's true *g*, within the old paradigm, an adjustment based on race is required.

Of course, this paradigm purports to avoid racism but is, in fact, racist itself.²⁵⁵ The argument, even in its most benign form, assumes that every African American or Latina/o who comes before the court is a poor test taker, unmotivated, or somehow subject to the factors that these experts claim artificially cause false discrepancies in their IQ scores.²⁵⁶ It is obviously false that the IQ score of every African American or every Latina/o is lower because every African American and Latina/o is a poor test taker or unmotivated. Whether the proponents of

249. See Manly & Echemendia, *supra* note 121, at 319 (stating that ethnic adjustments are a popular method to compensate for IQ tests that are not validated for minorities, and citing Heaton among its sources).

250. Heaton et al., *Neuropsychological Assessment*, *supra* note 4, at 146–47.

251. *Id.* at 146 (stating that the best option is to compare a patient's test results to the patient's entire cohort).

252. *Id.*

253. See *id.* at 149 (noting that race is used as a proxy for influences that are more complex and difficult to assess, such as culture, values, and beliefs).

254. *Id.*

255. For more information, see the collection of scholarly essays in RACE AND THE GENETIC REVOLUTION: SCIENCE, MYTH AND CULTURE 190 (Sheldon Krimsky & Kathleen Sloan, eds. 2011). In particular, see Pilar N. Ossorio, *Myth and Mystification: The Science of Race and IQ in RACE AND THE GENETIC REVOLUTION: SCIENCE, MYTH AND CULTURE* 173, 190 (Sheldon Krimsky & Kathleen Sloan, eds. 2011) (“Taken together, the evidence suggests that differences in IQ scores are the *result* of social inequality rather than its cause.”).

256. See, e.g., Manly, *supra* note 202, at 272 (noting that attitudes about test taking and motivation during the testing session may play a role in racial differences in IQ scores).

ethnic adjustments would agree with this evaluation is unknown because, as far as the records show, experts have failed to offer further explanation as to how this logical leap is justified in the *Atkins* context. Once this paradigm is challenged, however, progress can be made.

The inverse to the obviously false argument that all minority test-takers are lazy is the argument that the disparity in test results is not the fault of the test taker, but rather that the problem lies with the test itself. Criticism relating to possible bias in testing gained traction in the 1970s and 1980s when it appeared that there was an over-diagnosis of intellectual disability in African American children.²⁵⁷ As a result, students were "tracked" through special education rather than "mainstreamed."²⁵⁸ The racially correlated misdiagnosis of intellectual disability ultimately led the Ninth Circuit to prohibit California public schools from using standardized tests to determine which students would be placed in special education classes.²⁵⁹ This was a legitimate concern.

The argument that the test itself is the reason for the disparities assumes that the differences in test scores between a cross-section of the community and a race based cohort must be the result of culturally insensitive testing as opposed to intellectual disability.²⁶⁰ The assumption is that the tests are not fair or are not administered in a way that discerns other attributes, like being a poor test taker or being unmotivated.²⁶¹

However, there is no scientific support for either logical leap, particularly in current forensic testing.²⁶² The testing companies

257. *E.g.*, *Larry P. v. Riles*, 793 F.2d 969, 975 (9th Cir. 1984) ("No pupil may be placed in a special education program for the mentally retarded unless a complete psychological [sic] examination by a credentialed school psychologist investigating such factors as developmental history, cultural background, and school achievement substantiates the retarded intellectual development indicated by the individual test scores. This examination shall include estimates of adaptive behavior [and the ability to engage in social activities and perform everyday tasks]." (alteration in original) (citing CAL. EDUC. CODE § 56504 (West 1978) (repealed 1980))).

258. *See* EDWARD ZIGLER & ROBERT HODAPP, UNDERSTANDING MENTAL RETARDATION 223–26 (1986).

259. *Larry P.*, 793 F.2d at 972. *But see* *Parents in Action on Special Educ. v. Hannon*, 506 F. Supp. 831, 883 (N.D. Ill. 1980) (holding that Chicago's standardized intelligence tests were not culturally biased against African Americans).

260. *See, e.g.*, *Johnson v. Missouri*, 102 S.W.3d 535, 539 n.10 (Mo. 2003) (en banc) (quoting the prosecution's expert as describing IQ tests as "culturally prejudiced against" the defendant).

261. *Id.*

262. *See* Neisser et al., *supra* note 200, at 93–94 (noting that studies have shown that the supposed cultural biases of the tests do not contribute substantially to the racial difference in scores).

have rigorously designed tests to avoid exactly these disparities.²⁶³ Furthermore, tests that are administered for forensic purposes are administered individually, take into account racial and cultural differences, and are generally not dependent on reading and writing.²⁶⁴ Tests like the WAIS are well normed and reliable.²⁶⁵ Although SEMs are present in all scientific testing, including psychometric testing, the weight of the evidence suggests that the test results represent fair assessments of general intelligence, or *g*.²⁶⁶

Even if there were an unexplained discrepancy in the test scores of cohorts based on race or ethnic origin when compared to the standardized norm,²⁶⁷ it is nevertheless unconstitutional to invoke an adjustment to make defendants, based solely on their race, eligible for execution.²⁶⁸ There is no nexus between the disparity in test scores of the group and the actual IQ of an individual before the court.²⁶⁹ There is no evidence of a genetic link to a deficit in test scores for any ethnicity. The paradigm is internally inconsistent.

Therefore, the experts making the benign argument—though not benign in its results—contend that, lacking a genetic link, African Americans and Latina/os must be unmotivated or bad test takers.²⁷⁰ However, to save this argument from appearing stereotypical, experts

263. See Watson, *supra* note 63, at 131 (explaining the extent to which current testing seeks to correct for unfairness attributed to cognitive assessments, including socioeconomic and racial bias).

264. AAIDD MANUAL, *supra* note 5, at 41 (“[O]ne should employ an individually administered, standardized instrument that yields a measure of general intellectual functioning. Further, the selection of a specific standardized measure with which to assess intelligence should be based on several factors, such as the individual’s social, linguistic and cultural background.”).

265. Watson, *supra* note 63, at 117, 119–20 (noting that when IQ scores are used as a basis for making classification decisions (such as “pass” and “fail”), the SEM “has important implications for the trustworthiness of these decisions”).

266. *Id.* at 119–20.

267. *Quod erat demonstrandum* (“which had to be proven”), it was not.

268. See *McClesky v. Kemp*, 481 U.S. 279, 345 (1987) (Blackmun, J., dissenting) (arguing that the Court’s refusal to find that evidence of an “intolerable level of racially based discrimination” in Georgia when imposing the death penalty was a violation of Eighth Amendment protection).

269. See Watson, *supra* note 63, at 117.

270. See, e.g., *Hernandez v. Stephens*, 537 F. App’x 531, 536–37 (5th Cir. 2013) (per curiam) (explaining the conclusion of psychiatrists that certain low IQ test scores earned by Hernandez, a Mexican national, may have been due to “motivational variables,” even when corrected for “American norms”), *cert. denied*, 134 S. Ct. 1760 (2014).

claim that race is a proxy for socioeconomic conditions.²⁷¹ If not, the argument would fall into the logical trap of once again claiming that there is some genetic or stereotypic racial basis for the lack of proficiency in taking tests.

IV. THERE IS AN EPIGENETIC EFFECT OF CHILDHOOD ABUSE, STRESS, POVERTY, AND TRAUMA THAT AFFECTS THE EXPRESSION OF GENES AND THE PHENOTYPE OF CELL AND INDIVIDUAL DEVELOPMENT

This Part examines the effects of childhood abuse, stress, poverty, and trauma on an individual through the process of epigenetics. It explores whether such race neutral environmental factors actually decrease test performance and whether the effects are phenotypic/biological as opposed to merely behavioral/sociological. This Part considers whether any adjustment to scores could be justified, even assuming the individual’s cohort could be ascertained with certainty (as opposed to generally correlated to race).

Some prosecution experts have, perhaps carelessly, merged behavioral and environmental arguments to support the use of ethnic adjustments.²⁷² For instance, the expert in *Ex parte Smith* opined that the records “indicate school scores measured by IQ that would be indicative of mild mental retardation, if they were not spuriously lowered by things such as exposure to domestic violence, poverty, cultural deprivation, ethnicity, [and] perhaps intoxication.”²⁷³ The contention that the effect of “ethnicity” in conjunction with these environmental factors “spuriously” lowers the IQ scores is not based on evidence.²⁷⁴ However, to look at the evidence would challenge the old paradigm of ethnic cognitive disparity. Therefore, exploration of a new paradigm is required.

The new paradigm considers that there may be an actual etiology of impairment in intellectual ability that is not based on one’s race or ethnicity. Rather, given current social realities in the United States,²⁷⁵ people of color are more likely to have been exposed to the factors

271. Jeffery L. Johnson & Colleen F. Johnson, *Poverty and the Death Penalty*, 35 J. ECON. ISSUES 517, 519 (2001).

272. See, e.g., *Ex parte Smith*, No. 1080973, 2010 WL 4148528, at *3 (Ala. Oct. 22, 2010).

273. *Id.*

274. Compare *id.* (noting the history of substance abuse and family history that would contribute to lower test scores), with Marijcke W. M. Veltman & Kevin D. Browne, *Three Decades of Child Maltreatment Research: Implication for the School Years*, 2 TRAUMA, VIOLENCE & ABUSE, 215, 231 (2001) (noting the correlation between child maltreatment and poor performance in school).

275. See *infra* notes 276–84 and accompanying text.

that cause such an impairment.²⁷⁶ If those factors are environmental and also have a phenotypic manifestation, the effects are not behavioral, but physical. If the manifestations are physical and not behavioral, then there is no basis to adjust the scores of the individuals and, by extension, no basis to adjust the scores of the group in which they may be counted.

A. *Race is a Proxy for Likelihood of Exposure to Abuse, Neglect, Stress, Poverty, and Trauma*

Race in the United States is a proxy for a cohort more likely to be exposed to childhood abuse, neglect, and poverty.²⁷⁷ While it is important to avoid stereotyping, it is equally important to understand how non-racial variables may disproportionately correlate with, and affect, a cohort within the general population. The fact is, minorities, including African Americans and Latina/os, on average, are more likely to live in an impoverished environment.²⁷⁸ That environment, for a variety of reasons, is associated with increased exposure to a dysfunctional and deleterious environment for children.²⁷⁹

Gary Evans of Cornell University concluded in a comprehensive study²⁸⁰ that “[p]overty is harmful to the physical, socioemotional, and cognitive well-being of children, youths, and their families. A potent explanation for this relation is cumulative, environmental risk exposure.”²⁸¹ Dr. Evans chronicles a host of environmental conditions to which low-income children are exposed at home that middle- and high-income children are not, including: greater family turmoil, fewer cognitive enrichment opportunities, harsher

276. See, e.g., *Violence & Socioeconomic Status*, AM. PSYCHOL. ASS’N, [hereinafter APA, *Violence & Socioeconomic Status*] <http://www.apa.org/pi/ses/resources/publications/factsheet-violence.aspx> (last visited Oct. 26, 2015); see also Camille Zubrinsky Charles, *The Dynamics of Racial Residential Segregation*, 29 ANN. REV. SOC. 167, 197 (2003) (explaining the connection between residential segregation and poverty).

277. See, e.g., APA, *Violence & Socioeconomic Status*, *supra* note 276.

278. See Charles, *supra* note 276, at 175–76 (noting that minority suburban communities, despite being more affluent than minority urban communities, are nevertheless poorer than majority communities).

279. DOUGLAS S. MASSEY & NANCY A. DENTON, AMERICAN APARTHEID: SEGREGATION AND THE MAKING OF THE UNDERCLASS 109 (1993); Gary Evans, *The Environment of Childhood Poverty*, 59 AM. PSYCHOLOGIST 77, 77 (2004).

280. Evans, *supra* note 279, at 88.

281. *Id.*

parenting, and greater pollution.²⁸² These environmental factors are also present in their surrounding neighborhoods and schools.²⁸³

The etiology of the resulting condition is not race-based.²⁸⁴ The research merely shows the *correlation* between poverty and these effects on children.²⁸⁵ Obviously, given the economic advantages—or even in the face of economic disadvantages—there is no racial factor involved in any individual’s ability to thrive.

*B. Abuse, Neglect, Stress, Poverty, and Trauma Are Correlated to
Limitations in Intelligence*

Science has demonstrated for several decades that people subjected to childhood abuse, neglect, stress, poverty, and trauma do, in fact, develop limitations on intelligence.²⁸⁶ The studies show the effect on the cognitive development of children, including the ability to score well on intelligence tests.

The 1996 APA report²⁸⁷ that surveyed the literature in response to Herrnstein’s and Murray’s *The Bell Curve*²⁸⁸ concluded that some differences in test scores may have been influenced by socioeconomic factors—exposure to toxins, like lead based paint, and “caste-like” circumstances—that American minorities disproportionately experience.²⁸⁹

However, many of the “unknowns”²⁹⁰ in 1996 have now become known. One unknown was the actual effect of an abusive environment during childhood. As Louis Cozolino, Professor of Psychology at Pepperdine University who has written extensively on neuroscience and psychotherapy, put it:

We are just as capable of adapting to *unhealthy* environments and *pathological* caretakers. The resulting adaptations may help us to survive a traumatic childhood but impede healthy development later in life. . . . Because the first few years of life are a period of

282. *Id.* at 77.

283. *Id.*

284. *Id.*

285. Craig Haney, *The Social Context of Capital Murder: Social Histories and the Logic of Mitigation*, 35 SANTA CLARA L. REV. 547, 564 (1995).

286. Veltman & Browne, *supra* note 274, at 219, 224–30 (citing scientific data, spanning from 1967 to 1999).

287. Neisser et al., *supra* note 200, at 77.

288. HERRNSTEIN & MURRAY, *supra* note 201.

289. Neisser et al., *supra* note 200, at 89, 94.

290. *Id.* at 97.

exuberant brain development, early experience has a disproportionate impact on the development of neural systems.²⁹¹

In a recent longitudinal study of a birth cohort with 3796 subjects at Mater University, researchers followed subjects from birth to age fourteen.²⁹² After correlating reports of abuse and neglect to subsequent intellectual development and test scores, the researchers concluded that “[b]oth child abuse and child neglect are independently and strongly associated with lower cognitive functioning.”²⁹³

Research has documented a direct correlation between these effects and Post-Traumatic Stress Disorder (PTSD). Learning deficits are found to have a statistically significant relationship to PTSD.²⁹⁴ Not surprisingly, abuse leads to PTSD and depression, which has a demonstrable effect on intelligence test scores.²⁹⁵ In addition, the environment’s stress levels can have a significant effect.²⁹⁶ For instance, exposure to homicides in the neighborhood, whether witnessed or just heard about, can have a significant effect on IQ test scores.²⁹⁷ High levels of chronic stress have a detrimental physical effect on the individual, including the brain.²⁹⁸ The neuronal interrelation between the prefrontal cortex and the hippocampus can be damaged, impairing the regulation of attention and memory.²⁹⁹

291. LOUIS COZOLINO, *THE NEUROSCIENCE OF HUMAN RELATIONSHIPS: ATTACHMENT AND THE DEVELOPING SOCIAL BRAIN* xvi–xvii (2d ed. 2014).

292. Ryan Mills et al., *Child Abuse and Neglect and Cognitive Function at 14 Years of Age: Findings From a Birth Cohort*, 127 *PEDIATRICS* 4, 5, 7 (2011).

293. *Id.* at 10.

294. Diane Scheiner et al., *Verbal Learning Deficits in Posttraumatic Stress Disorder and Depression*, 27 *J. TRAUMATIC STRESS* 291, 295–96 (2014).

295. Divya Mehta et al., *Childhood Maltreatment is Associated with Distinct Genomic and Epigenetic Profiles in Posttraumatic Stress Disorder*, 110 *PROC. NAT’L ACAD. SCI.* 8302, 8304 (2013) (identifying a correlation between childhood abuse and PTSD); Patrick Sharkey, *The Acute Effect of Local Homicides on Children’s Cognitive Performance*, 107 *PROC. NAT’L ACAD. SCI.* 11733, 11736 (2010) (finding a correlation between exposure to homicides and a measured reduction in cognitive assessment).

296. Sharkey, *supra* note 295, at 11,733.

297. *Id.* at 11,736.

298. Christopher Bergland, *Chronic Stress Can Damage Brain Structure and Connectivity*, *PSYCHOL. TODAY* (Feb. 12, 2014), <https://www.psychologytoday.com/blog/the-athletes-way/201402/chronic-stress-can-damage-brain-structure-and-connectivity>.

299. Bruce S. McEwen, *The Neurobiology of Stress: From Serendipity to Clinical Relevance*, 886 *BRAIN RES.* 172, 185 (2000).

C. *Studies Show that These Effects Can Be Multigenerational*

Studies show that adverse environmental influences can have effects that may be multigenerational.³⁰⁰ The effects of the Dutch Hunger Winter were studied extensively, providing insight into the effects of one's environment on inheriting adverse characteristics.³⁰¹ Toward the end of World War II, the Nazis cordoned off Amsterdam and blockaded the delivery of food to the city residents.³⁰² As a result of this, and the corresponding inability to ship food due to an early winter, there was severe deprivation in the city and overabundance in the country. Due to the meticulous obstetric medical record keeping of the Dutch, researchers were able to track the health of both groups' survivors.³⁰³ Perhaps more importantly, they were able to track the health of those groups' children and grandchildren.³⁰⁴

The results remarkably demonstrated the inheritable consequences of exposure to environmental stress factors.³⁰⁵ Children and grandchildren had phenotypic differences based on the cohort to which their mothers or grandmothers belonged.³⁰⁶ This was not due to genetic mutation and not all the effects were negative.³⁰⁷ Nevertheless, somehow, information was passed on through multiple generations as a result of maternal or grand-maternal environmental influences.³⁰⁸

300. See, e.g., Charles W. Schmidt, *Uncertain Inheritance: Transgenerational Effects of Environmental Exposures*, 121 ENVTL. HEALTH PERSP. A298, A299 (2013) (arguing that published transgenerational findings have increased substantially since 2005).

301. See Tessa Roseboom et al., *The Dutch Famine and Its Long-Term Consequences for Adult Health*, 82 EARLY HUM. DEV. 485, 486–87 (2006) (detailing the unique nature of the Dutch famine as affording an unprecedented opportunity to study the effects of starvation due, in part, to meticulous records).

302. *Id.* at 486 (explaining that the blockade's effect was exacerbated and extended by an early winter that rendered shipping impossible on the Dutch canals and waterways).

303. *Id.*

304. See NESSA CAREY, *THE EPIGENETICS REVOLUTION* 4 (2011) (remarking that the effects of the famine are evident in the children of children born during and immediately following the famine).

305. *Id.*

306. *Id.* Cohorts were established based on geographic location (which was a proxy for abundance of or lack of food) and on, for instance, trimester of pregnancy during the time period. See L.H. Lumey et al., *Cohort Profile: The Dutch Hunger Winter Families Study*, 36 INT'L J. OF EPIDEMIOLOGY 1196, 1197 (2007).

307. CAREY, *supra* note 304, at 92.

308. *Id.* at 4.

Many studies have confirmed this phenomenon.³⁰⁹ There is an intergenerational transmission of post-traumatic stress disorder.³¹⁰ If the effects of PTSD, clearly shown to impair cognitive functioning, are passed on biologically from generation to generation, then it implies a *phenotypic* alteration in cell development and development of the organism—the individual human being—as a result.³¹¹

The anecdotal and medical documentation of the multi-generational effects of psychophysiological stress and trauma have now been reconfirmed in a study published as this Article goes to print.³¹² This remarkable study measured the methylation of a particular gene encoding protein at specific gene locations in thirty-two Holocaust survivors and twenty-two of their adult offspring as compared to a control group. The study establishes the “first demonstration of an association of pre-conception stress effects with epigenetic changes in both exposed parents and their offspring in adult humans,” providing potential insight into how severe psychophysiological trauma can have intergenerational effects.”³¹³

This supports the hypothesis that stress and trauma result in actual phenotypic/biological effects and that those effects can be passed down from one generation to another. This new research, therefore, further supports the conclusion that people who live in poverty and are

309. MELISSA ECCLESTON, IN UTERO EXPOSURE TO MATERNAL STRESS: EFFECTS OF THE SEPTEMBER 11TH TERRORIST ATTACKS IN NEW YORK CITY ON BIRTH AND EARLY SCHOOLING OUTCOMES 30 (2011), http://sites.harvard.edu/fs/docs/icb.topic964076.files/911_Draft5_MelissaEccleston.pdf (studying children who were in utero during the September 11, 2001 terrorist attacks in New York City, and finding that stress on the pregnant mother had phenotypic effects on the children and an impact on their intellectual development).

310. Michelle Bosquet Enlow et al., *Mother-Infant Attachment and Intergenerational Transmission of Posttraumatic Stress Disorder*, 26 DEV. & PSYCHOPATHOLOGY 41, 41 (2013).

311. Studies for some time have shown actual physical effects of stress on various aspects of the brain. See Bruce S. McEwen, *The Neurobiology of Stress: From Serendipity to Clinical Relevance*, 886 BRAIN RES. 172, 172–79 (2000); Rachel Yehuda et al., Holocaust Exposure Induced Intergenerational Effects on FKBP5 Methylation 1, 8 (Aug. 12, 2015) (unpublished manuscript) (on file with Biological Psychiatry) [hereinafter Yehuda et al., Holocaust Exposure]. According to McEwen, “Recent evidence indicates that the human hippocampus is particularly sensitive in this respect and tends to show greater changes than other brain areas, in particular in Cushing’s syndrome, recurrent depressive illness, post-traumatic stress disorder (PTSD), schizophrenia and aging prior to overt dementia.” McEwen, *supra* note 311, at 182 (citation omitted). More recent studies have shown the epigenetic mechanism by which these physical changes are conveyed. See sources cited *infra* note 314.

312. Yehuda et al., Holocaust Exposure, *supra* note 311, at 1, 8.

313. *Id.* at 6.

more likely to be subjected to these adverse environmental influences are more likely as a group to suffer actual intellectual disabilities.³¹⁴

D. Etiology: Environmental Factors Lead to Epigenetic Effects

It has been known since the fruit fly experiments at the turn of the twentieth century that there is a mechanism within cells that somehow causes them to differentiate. The term “epigenetics” was coined to describe the phenomenon.³¹⁵ Only in the last twenty years or so have scientists actually determined the mechanism by which this process takes place.³¹⁶

Basically, cells divide in the human organism. Each cell has exactly the same DNA, gene structure, and sequence. This genetic material, the gene sequence, determines many of the phenotype’s gross characteristics, such as eye color. However, the actual mechanism that causes cells to divide and for one, say, to become an eyeball cell and another a cell in the big toe, was not known. Recently, scientists discovered that cells with identical DNA gene sequences are subject to influences of methylation of the DNA and acetylation of proteins in a way that “expresses” the existing genes. This is referred to as an epigenetic process. The process does not mutate the genes, but rather it activates or deactivates them to one degree or another.

314. Although the Holocaust involved much higher levels of stress than what most low-income people are exposed to in the United States, the research nevertheless indicates that when individuals are exposed to severe stress, epigenetic changes that impact their future offspring manifest. Similar studies have borne similar results. See Brian G. Dias & Kerry J. Ressler, *Parental Olfactory Experience Influences Behavior and Neural Structure in Subsequent Generations*, 17 *NATURE NEUROSCIENCE* 89, 89 (2014) (studying the inheritance of “parental traumatic exposure” in mice using olfactory fear conditioning); Natan P.F. Kellermann, *Epigenetic Transmission of Holocaust Trauma: Can Nightmares Be Inherited?*, 50 *ISRAEL J. PSYCHIATRY & RELATED SCI.* 33, 33 (2013) (“Apparently, not only children of Holocaust survivors, but offspring of other PTSD parents are also vulnerable to such a burdensome legacy”); Rachel Yehuda, *Disease Markers: Molecular Biology of PTSD*, 30 *DISEASE MARKERS* 61, 62–64 (2011) (describing studies that have contributed to the body of research on the molecular biology of PTSD) [hereinafter Yehuda, *Molecular Biology of PTSD*]; Helen Thomson, *Study of Holocaust Survivors Finds Trauma Passed on to Children’s Genes*, *GUARDIAN* (Aug. 21, 2015, 1:40 PM), <http://www.theguardian.com/science/2015/aug/21/study-of-holocaust-survivors-finds-trauma-passed-on-to-childrens-genes> (reporting a study by Rachel Yehuda that found gene changes in children of Holocaust survivors that “could only be attributed” to their parents’ Holocaust exposure).

315. RICHARD C. FRANCIS, *EPIGENETICS: THE ULTIMATE MYSTERY OF INHERITANCE*, x (2011) (“[E]pigenetic refers to long-term alterations of DNA that don’t involve changes in the DNA sequence itself.”).

316. See *id.*; CAREY, *supra* note 304, at 4 (providing a comprehensive but understandable explanations of epigenetics).

In a way, it is like a 24,000 key piano being played by a pianist with hundreds of fingers on each hand.³¹⁷ When she plays a chord, it causes certain patterns of genes to be expressed. Each key or set of keys can be played *fortissimo*, *pianissimo*, or anywhere in between. It is this epigenetic pattern of gene expression that leads to the differentiation of cells in their development.³¹⁸

Furthermore, the environment may influence the epigenetic expression of gene patterns. Take a simple example. Cells in a tree will divide and some will become the composite cells of bark, others part of the limbs, branches, and twigs, and some will become buds, leaves, and flowers. Research shows that the environmental effect of the length of exposure to sunlight in combination with temperature can influence the epigenetic development of such plant cells.³¹⁹ That is how the cells “know” that it is spring and, for instance, that the cells in the flowers should “blossom.”³²⁰ Through epigenetics, environmental influences have an effect on the phenotype of the cells and the organism.

Therefore, it should not be surprising that the environment can influence epigenetic gene expression and cell development in humans.³²¹ If adverse environmental influences cause the behavioral symptoms of PTSD, for instance, it should not be a surprise that the stress and trauma causing what we see as PTSD is actually causing

317. The human genome is around 24,000 genes all in a sequence. Ninety-nine and a half to 99.9 percent of them are identical from one human to another. Ossorio, *supra* note 255, at 177. Differences in the individual phenotype from one person to another are more the work of gene expression, which is achieved by the methylation of DNA and the acetylation of proteins that interact with the genes. As Dr. Nessa Carey said, “[a] phenomenon is likely to be influenced by epigenetic alterations in DNA and its accompanying proteins is one or both of the following conditions are met: (1) Two things are genetically identical, but phenotypically variable; (2) An organism continues to be influenced by an event long after the initiating event has occurred.” CAREY, *supra* note 304, at 304.

318. This piano metaphor is the author’s, but the inspiration for it is found in Sam Kean’s poetic book on genetics. SAM KEAN, *THE VIOLINIST’S THUMB* 79–80 (2012). Kean mentions the similarities of music to the structure of DNA itself. He observes parenthetically that, “musicology recapitulates ontology,” as an allusion to Haeckel’s “law” that “ontogeny recapitulates phylogeny.” *Id.* at 80. *See generally* GERALD SCHNEIDER, *BRAIN STRUCTURE AND ITS ORIGINS* 89–91 (2014) (discussing the metaphorical use of Haeckel’s “law”). Neither can be taken literally but as Haeckel’s “law” helps to understand the more complex reality of brain structure, the piano metaphor is offered in the same metaphorical sense with regard to epigenetics.

319. CAREY, *supra* note 304, at 294.

320. *Id.* at 296–300.

321. *Id.*

epigenetic changes in cell development.³²² If PTSD results in the impairment of intellectual function, the mechanism is an epigenetic reaction to the environment and a phenotypic manifestation in gene expression. The result is that people subjected to abuse, stress, and other adverse environmental influences are phenotypically/biologically different, rather than just "unmotivated[,] poor test takers."³²³ In other words, it is not race that is a marker for lower intelligence; instead, environmental influences can cause phenotypic change in individuals and may have multigenerational impacts, thus resulting in a higher number of intellectually disabled persons, which is *superficially* linked to race, given the current racial disparities in the United States.³²⁴

Early life stress can actually change the cell development such that there are observable, morphological changes in the size of critical parts of the brain.³²⁵ These changes are based on epigenetics.³²⁶ Studies have now mapped the gene expression pattern resulting from PTSD.³²⁷ They have also mapped areas within genomic regions for intelligence quotient performance.³²⁸ Together, these studies suggest that it is possible for the test scores of an individual who has been exposed to these adverse environmental factors to be affected by a physical, phenotypic change at the cellular level. The nature of the change is demonstrable and lower test scores are clearly correlated to those influences.

Behavioral reactions or other unexplained factors cannot be entirely eliminated, but it is demonstrated that early life experiences not only have an actual phenotypic/biological effect on cell development, but that they also have a behavioral effect on intellectual development and IQ test scores. With this new paradigm in mind, research needs to continue to more clearly quantify the data and refine

322. Dias & Ressler, *supra* note 314, at 328; Kellermann, *supra* note 314, at 33; Yehuda, *Molecular Biology of PTSD*, *supra* note 314, at 61, 63; Thomson, *supra* note 314.

323. Yehuda, *Molecular Biology of PTSD*, *supra* note 314, at 63.

324. Laura Shin, *The Racial Wealth Gap: Why A Typical White Household Has 16 Times the Wealth of a Black One*, FORBES (Mar. 26, 2015, 8:00 AM), <http://www.forbes.com/sites/laurashin/2015/03/26/the-racial-wealth-gap-why-a-typical-white-household-has-16-times-the-wealth-of-a-black-one>.

325. Jamie Hanson et al., *Behavioral Problems After Early Life Stress: Contributions of the Hippocampus and Amygdala*, 77 *BIOLOGICAL PSYCHIATRY* 314, 319 (2015).

326. Anne Schafer et al., *Epigenetic Mechanisms of Mental Retardation*, 67 *PROGRESS IN DRUG RES.* 125, 126 (2011).

327. Dias & Ressler, *supra* note 314, at 328; Kellermann, *supra* note 314, at 33; Yehuda, *Molecular Biology of PTSD*, *supra* note 314, at 61, 63; Thomson, *supra* note 314.

328. Min Zhao et al., *A Systems Biology Approach to Identify Intelligence Quotient Score-Related Genomic Regions, and Pathways Relevant to Potential Therapeutic Treatments*, *SCI. REP.*, Feb. 25, 2014, at 1, 5.

conclusions. Nevertheless, based on constitutional, logical, and clinical analysis, there is no legal, logical or scientific basis to “ethnically adjust” IQ scores, based solely on one’s race or ethnicity.

V. USING A CLASSIFICATION OF RACE TO DETERMINE ELIGIBILITY FOR EXECUTION IS UNCONSTITUTIONAL

This Part examines the constitutionality of using racial classifications to determine death penalty eligibility. This Part considers whether adjustments based on race violate the Equal Protection Clause of the Fourteenth Amendment through the lens of other racial classification schemes previously analyzed by the Court, ultimately concluding that the practice of “ethnic adjustments” would not survive strict scrutiny.

A. *Classifications Based on Race Are Subject to Strict Scrutiny*

The Supreme Court has routinely held that racial classifications are unconstitutional. The Court in 1938 famously said in footnote four of *United States v. Carolene Products Co.*³²⁹ that any law that discriminates against a “discrete and insular minority” is subject to a “more searching judicial inquiry.”³³⁰ From there, the Court developed a standard of employing strict scrutiny in situations involving potential infringements upon fundamental rights based on race or national origin.³³¹

329. 304 U.S. 144 (1938).

330. *Id.* at 152 n.4.

331. See, e.g., *Fisher v. Univ. of Texas at Austin*, 133 S. Ct. 2411, 2418–19 (2013) (applying strict scrutiny to race conscious admissions policy); *Johnson v. California*, 543 U.S. 499, 505 (2005) (applying strict scrutiny to prison policy of segregating inmates by race); *Grutter v. Bollinger*, 539 U.S. 306, 316, 326 (2003) (applying strict scrutiny to the University of Michigan Law School’s policy of admitting a critical mass of racial minority applicants); *Gratz v. Bollinger*, 539 U.S. 244, 270 (2003) (applying strict scrutiny and striking down the University of Michigan’s policy of giving minority applicants automatic points to their application); *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200, 227 (1995) (applying strict scrutiny to the federal government’s use of race-based presumptions in contracting); *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 493 (1989) (applying strict scrutiny to a city ordinance requiring prime contractors to subcontract thirty percent of prime contract value to minority businesses); *Graham v. Richardson*, 403 U.S. 365, 472 (1971) (applying strict scrutiny to a state law conditioning the award of welfare benefits on national origin); *Loving v. Virginia*, 388 U.S. 1, 11 (1967) (striking down Virginia’s ban on interracial marriage); *Korematsu v. United States*, 323 U.S. 214, 216–18 (1944) (finding that forcing all persons of Japanese descent into detention camps was constitutional in order to prevent espionage during World War II); *Skinner v. Oklahoma ex rel. Williamson*, 316 U.S. 535, 541 (1942) (holding compulsory

Using this framework, the Court has held that racial classifications used explicitly or implicitly to interfere with the exercise of any significant constitutional right violates the Equal Protection Clause. In *Harper v. Virginia State Board of Elections*,³³² for instance, the Court struck down a poll tax that had the effect of discriminating disproportionately on the basis of race.³³³ The Court said, “We have long been mindful that where fundamental rights and liberties are asserted under the Equal Protection Clause, classifications which might invade or restrain them must be closely scrutinized and carefully confined.”³³⁴ This view has persisted. In 2000, the Court reaffirmed, in another voting rights case, that “[d]istinctions between citizens solely because of their ancestry are by their very nature odious to a free people”³³⁵ The Court has also applied strict scrutiny to disallow affirmative or remedial action based on race,³³⁶ saying in 1980 that “[a]ny official action that treats a person differently on account of his race or ethnic origin is inherently suspect.”³³⁷ This is true even if the racial group has been subjected to historical discrimination and disadvantage.³³⁸

The Court has similarly interpreted the Equal Protection Clause as prohibiting discriminatory practices in criminal law—where the defendant’s liberty is at stake³³⁹—stating that it has “engaged in

sterilization law unconstitutional because it treated similar crimes differently with respect to who is eligible for sterilization).

332. 383 U.S. 663 (1966).

333. *Id.* at 668–70.

334. *Id.* at 670.

335. *Rice v. Cayetano*, 528 U.S. 495, 517 (2000) (quoting *Hirabayashi v. United States*, 320 U.S. 81, 100 (1943)).

336. *E.g.*, *Fisher*, 133 S. Ct. at 2419 (“[S]trict scrutiny must be applied to any admissions program using racial categories or classifications.”); *Gratz*, 539 U.S. at 270, 275 (striking down the University of Michigan’s policy of giving automatic points to racial minority applicants); *see also Regents of the Univ. of Cal. v. Bakke*, 438 U.S. 265, 291 (1978) (stating that restrictions that curtail the rights of a single racial group are subject to strict scrutiny).

337. *Fisher*, 133 S. Ct. at 2419 (quoting *Fullilove v. Klutznick*, 448 U.S. 448, 523 (1980) (Stewart, J., dissenting)); *see Parents Involved in Cmty. Schs. v. Seattle Sch. Dist. No. 1*, 551 U.S. 701, 726–27, 732, 748 (2007) (striking down the use of race in school admissions when the only goal of using racial classification was to achieve racial balancing).

338. *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 498 (1989) (explaining that a history of discrimination does not justify the use of “rigid racial quotas”).

339. *E.g.*, *Batson v. Kentucky*, 476 U.S. 79, 84 (1986) (prohibiting the prosecution from using peremptory challenges solely on account of jurors’ race); *Skinner v. Oklahoma ex rel. Williamson*, 316 U.S. 535, 541 (1942) (striking down a sterilization law that treated similar crimes differently with respect to which crime qualified for

‘unceasing efforts’ to eradicate racial prejudice from our criminal justice system.”³⁴⁰ Ultimately, “discrimination on account of race in the administration of justice strikes at the core concerns of the Fourteenth Amendment and at fundamental values of our society and our legal system.”³⁴¹ Thus, the ethnic adjustment of IQ scores is subject to analysis under this framework.³⁴² To pass strict scrutiny, the government action must further a “compelling government purpose,” and must have been narrowly tailored to achieve that purpose.³⁴³ In the death penalty context, using ethnic adjustments to qualify people of color for execution would not pass the Court’s most searching judicial scrutiny.

1. Adjusting test scores based on race in the employment and education contexts is unconstitutional

The Supreme Court has not addressed the issue of ethnic adjustments in death penalty cases, despite having had the opportunity to do so in 2014.³⁴⁴ However, *Washington v. Davis*³⁴⁵ provides a telling analysis of adjusting test scores on the basis of race. *Washington* involved a challenge to written tests given to District of Columbia police officer candidates relating to verbal skills.³⁴⁶ Plaintiffs claimed that the test was racially discriminatory because African American candidates were four times less likely to pass than White candidates.³⁴⁷ The petitioner requested an injunction prohibiting the use of the test and for declaratory relief.³⁴⁸ The validity of the tests was the sole issue before the district court on a motion for summary judgment and remained the issue before the Supreme Court.³⁴⁹

sterilization); *Smith v. Texas*, 311 U.S. 128, 131 (1940) (finding that Texas’s grand jury selection procedure violated the Equal Protection Clause).

340. *McCleskey v. Kemp*, 481 U.S. 279, 309 (1987) (quoting *Batson*, 476 U.S. at 85).

341. *Rose v. Mitchell*, 443 U.S. 545, 564 (1979) (denying the petitioner’s claim for habeas corpus relief).

342. In fact, the need for the Court’s most exacting scrutiny is underscored in these cases, since the classification is related to the death penalty. *Monge v. California*, 524 U.S. 721, 732 (1998) (recognizing the “acute need for reliability” in capital cases); *see also* *Hall v. Florida*, 134 S. Ct. 1986, 2001 (2014) (concluding that individuals facing the death penalty are entitled to argue that the Constitution forbids their execution).

343. *Regents of Univ. of Cal. v. Bakke*, 438 U.S. 265, 357 (1978).

344. *See Hernandez v. Stephens*, 134 S. Ct. 1760 (2014) (denying a certiorari petition seeking review of Texas’ use of ethnic adjustment).

345. 426 U.S. 229 (1976).

346. *Id.* at 235.

347. *Id.* at 232–33.

348. *Id.* at 232.

349. *Id.* at 235.

In rejecting the plaintiff’s challenge, the Court stated that though the Fifth Amendment³⁵⁰ prohibits the United States from committing “invidious discrimination,” this implied protection does not embrace the idea that the United States violates this clause simply because a law or official act has a “racially disproportionate impact,” absent a racially discriminatory purpose.³⁵¹ Therefore, in *Washington*, the Court, apparently putting forth the concept that “our Constitution is color-blind,”³⁵² rejected the argument that the test deprived minority applicants of equal protection and should be adjusted to admit more minority applicants.³⁵³

The prohibition against this type of adjustment, namely adding points to a previously ineligible person’s test scores to qualify him for employment, would apply with equal or greater force to a proposed upward adjustment of a test score to make someone eligible for execution.³⁵⁴ In *Washington*, the government resisted any consideration for ethnic adjustment of test scores at the peril of African American applicants not gaining employment. In *Atkins* cases, the government is seeking an ethnic adjustment at the peril of African Americans and Latina/os losing their lives. Doctrinally, there is a difference, but the difference weighs heavily in favor of the *Atkins* defendants. Given that using race to determine eligibility for execution requires greater justification than using race to determine employment eligibility³⁵⁵ and that the petitioners in *Washington* sought a benefit, not a punishment, when compared to employment cases, ethnic adjustments would not pass the Court’s most exacting level of scrutiny.³⁵⁶

350. The District of Columbia, being under federal control, is subject to the Fifth Amendment constitutional restrictions, whereas the states are subject to the Fifth and the Fourteenth and, in these cases in particular, the Equal Protection Clause of the Fourteenth. In addition, in light of the fact that the *Atkins* cases involve the death penalty, the states are subject to even greater restriction under the Eighth Amendment. See *Monge v. California*, 524 U.S. 721, 734 (1998).

351. *Washington v. Davis*, 426 U.S. 229, 239 (1976).

352. *Plessy v. Ferguson*, 163 U.S. 537, 559 (1896) (Harlan, J., dissenting), *overruled* by *Brown v. Bd. of Educ.*, 347 U.S. 483 (1954).

353. *Washington*, 426 U.S. at 236.

354. See *Monge*, 524 U.S. at 732 (acknowledging the “acute need for reliability” in capital cases).

355. See *id.* (detailing the need for reliability in death penalty context given “its severity and its finality”).

356. See *supra* Part II.A–C (examining the facts of the *Atkins* cases); see also *Parents Involved in Cmty. Schools v. Seattle School Dist. No. 1*, 551 U.S. 701, 727 (2007) (finding that the school district’s racial classification did not pass the muster of strict scrutiny because it was not narrowly tailored to achieve a compelling government interest, and, in fact, was minimally effective in achieving the stated goal).

Looking to affirmative action in education, in *Gratz v. Bollinger*³⁵⁷ the Court rejected the University of Michigan's admissions process, which used a points system that awarded points to applicants for various accolades and generally admitted any applicant that received at least 100 points.³⁵⁸ The admission office, in calculating points, automatically awarded minority applicants twenty points.³⁵⁹ Because the point system made race a decisive factor for many minority applicants, the Court found that the practice was not narrowly tailored and thus did not pass strict scrutiny.³⁶⁰ Similarly, in *Parents Involved in Community Schools v. Seattle School District No. 1*, the Court struck down an integration scheme, remarking that "race, for some students, [wa]s determinative standing alone,"³⁶¹ a circumstance almost identical to the instant matter.

Whichever view one may have of affirmative action, no such view could condone creating a situation where more people of a certain race are put to death based on averages.³⁶² The positive view of affirmative action in the education context posits that there is justice in raising the opportunities of an oppressed group without bestowing similar benefits upon the dominant group.³⁶³ The negative view is that is not fair, assuming it is a zero sum game³⁶⁴: for every minority admitted to college or graduate school, a majority member will be excluded, or so the argument goes.³⁶⁵ However, the death penalty is not a zero-sum game. There is no quota or maximum or minimum total enrollment. Artificially adjusting IQ scores to qualify African Americans or Latina/os for death just puts more people of color to

357. 539 U.S. 244 (2003).

358. *Id.* at 255.

359. *Id.*

360. *Id.* at 271–72.

361. *Parents Involved*, 551 U.S. at 723.

362. *See, e.g., Billish v. City of Chi.*, 989 F.2d 890, 894 (7th Cir. 1993) (en banc) (stating that a public employer cannot make up for biased tests through rough justice and promoting two Black employees); *Md. Troopers Ass'n v. Evans*, 993 F.2d 1072, 1076 (4th Cir. 1993) ("[T]he use of race as a reparational device risks perpetuating the very race-consciousness such a remedy purports to overcome.").

363. *Billish*, 989 F.2d 894; *Maryland Troopers Ass'n*, 993 F.2d at 1076.

364. *Cf. Brad Linderman, Comment, Diversifying the Workplace: Affirmative Action in the Private Sector after 1991*, 42 S.D. L. REV. 434, 434 (1996) ("People holding this view of affirmative action see the labor pool as a zero-sum game, with affirmative action plans working to select less qualified minorities."). *But see* Ruth Walker, *Diversity: Not a Zero-Sum Game*, CHRISTIAN SCI. MONITOR (May 17, 1995), <http://www.csmonitor.com/1995/0517/17204.html> (arguing that equality of opportunity should be seen as a gain for everyone).

365. *See, e.g., Walker, supra* note 364.

death. Failing to “ethnically adjust” scores does not result in more White people being executed. Indeed, strict adherence of the policy would likely result in *fewer* Whites being executed, should White defendants’ scores be adjusted based on the average White American. Ultimately, ethnic adjustments’ “automatic distribution of [] points has the effect of making ‘the factor of race . . . decisive’” for minority defendants facing death.³⁶⁶

Thus, given that not all members of a certain race will be exposed to the factors that contribute to the testing disparities, “racial adjustments” to IQ scores inappropriately ascribes these socioeconomic stereotypes to every member of a race, regardless of whether the particular defendant has been affected by them or not. Consequently, minority defendants are deprived of the protections the Court announced in *Atkins* based solely on their race.

Allowing race to be the dispositive factor that determines whether the defendant lives or dies is unconstitutional, unless it can be justified under the Court’s most rigorous scrutiny,³⁶⁷ because “[r]ace discrimination within the courtroom raises serious questions as to the fairness of the proceedings conducted there.”³⁶⁸ Thus, the State must offer a compelling government interest for which the solution has been narrowly tailored for ethnic adjustments to pass constitutional muster.³⁶⁹

Strict scrutiny “ensures that the means chosen ‘fit’ th[e] compelling goal so closely that there is little or no possibility that the motive for the classification was illegitimate racial prejudice or stereotype.”³⁷⁰ When it comes to ethnic adjustments to IQ scores, there are no legitimate scientific findings upon which to base the practice.³⁷¹ Comparing a person to members of his or her self-identified race instead of the population as a whole makes the possibility for error greater.³⁷² When there is error, it should be read in favor of not executing a defendant.³⁷³ Thus, employing a practice

366. *Gratz v. Bollinger*, 539 U.S. 244, 272 (2003) (quoting *Regents of Univ. of Cal. v. Bakke*, 438 U.S. 265, 317 (1978)).

367. All racial classifications must satisfy strict scrutiny. *See, e.g.*, *Parents Involved in Cmty. Schs. v. Seattle Sch. Dist. No. 1*, 551 U.S. 701, 720, 742–43 (2007); *Gratz v. Bollinger*, 539 U.S. 244, 270 (2003); *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200, 223–24 (1995). Recall that death penalty cases are held to an even higher standard under the Eighth Amendment. *See Monge v. California*, 524 U.S. 721, 734 (1998).

368. *Edmonson v. Leesville Concrete Co.*, 500 U.S. 614, 628 (1991).

369. *See, e.g.*, *Regents of the Univ. of Cali. v. Bakke*, 438 U.S. 265, 357 (1978).

370. *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 493 (1989).

371. *See* discussion *supra* Part III.A.

372. *See* discussion *supra* Part III.A.

373. *See Hall v. Florida*, 134 S. Ct. 1986, 2001 (2014).

based on race that makes the possibility of executing a developmentally disabled person *more* likely is not tailored—let alone narrowly tailored—to any compelling government purpose.³⁷⁴

Although it appears from the transcripts that the government has not asserted any interest in adding points to minority defendants' IQ scores, an argument could be made that the government has an interest in fulfilling society's desire for retribution and that convicted criminals be punished for their crimes. However, given the Court's clear statements in *Halk* and its assertion that the rigid application of rules created "an unacceptable risk that persons with intellectual disability will be executed," it can also reasonably be inferred that the Court would not find the need for retribution more "compelling"³⁷⁵ than the interest the Court identified in *Halk*: protecting intellectually disabled people *from* execution.³⁷⁶ Notwithstanding the lack of a compelling government interest, adding points to a defendant's IQ score based on his or her race, like the Court found in *Gratz*, is not narrowly tailored. Therefore, looking to racial classifications in the context of employment and education and the reasons the Court gave in finding them to violate the Equal Protection Clause, this Article concludes that, without any purported compelling government interest, ethical adjustments in *Atkins* cases cannot survive strict scrutiny.

2. *"Ethnic adjustments" have the opposite effect of the "benign" purpose for which they were offered and therefore are not narrowly tailored*

While prosecution experts offer the opinion that "ethnic adjustments" are justified, there is little if any science-based evidence or evidence specifically assessing the circumstances of the individual defendants offered in the particular cases.³⁷⁷ Just as in *Washington* and *Gratz*, the *Atkins* cases draw conclusions from some comparison of the average test results of a race-based cohort to the average scores

374. *See id.*

375. *See id.* at 1990.

376. *Id.* at 2001.

377. *E.g.*, *Maldonado v. Thaler*, 625 F.3d 229, 238–39 (5th Cir. 2010) (relying on perceived cultural factors and clinical judgment); *Commonwealth v. DeJesus*, 58 A.3d 62, 72–73 (Pa. 2012) (attributing disparity in IQ test scores, in part, to the defendant's alleged "criminal socio-culture"); *Ex parte Smith*, No. 1080973, 2010 WL 4148528, at *1, *3 (Ala. Oct. 22, 2010) (quoting *Smith v. Alabama*, No. 971258, 2007 WL 2459291 (Ala. Aug. 31, 2007)) (adjusting IQ scores based on "exposure to domestic violence, poverty, cultural deprivation, ethnicity, [and] perhaps intoxication").

of the larger group.³⁷⁸ Unlike *Washington* and *Gratz*, however, in cases where the state upwardly adjusted a minority defendant’s IQ score, the court did not evaluate its merits using strict judicial scrutiny.³⁷⁹ In the cases this Article analyzes, the State did not demonstrate, other than by generalized race-based results, that there was any scientific basis for inflating the defendant’s IQ score based on race.

Ironically, the old paradigm actually compounds the unfairness of ethnic adjustments. Because death row is populated disproportionately by people of color³⁸⁰ and by people who have suffered childhood abuse, poverty, stress, and trauma,³⁸¹ the adjustment of those particular individuals’ scores adds insult to injury. It is a sad fact, but one that capital case practitioners and others involved in the capital punishment system see all the time: people who are charged with capital crimes,³⁸² and especially those sentenced to death,³⁸³ are more likely to have experienced adverse environmental influences. In addition, they are also quite likely to have parents or grandparents who have passed down some of the traits through multigenerational epigenetic effects.³⁸⁴

378. See, e.g., *Hernandez v. Stephens*, 537 F. App’x 531, 539 (5th Cir. 2013) (per curiam) (comparing the defendant’s IQ to a Mexican cohort), *cert. denied*, 134 S. Ct. 1760 (2014); *In re Champion*, 322 P.3d 50, 67 (Cal. 2014) (acquiescing in the view that it is preferable to use a race-based cohort instead of a community-based sample when scaling IQ scores).

379. See generally *Hernandez*, 537 F. App’x at 531; *In re Champion*, 322 P.3d at 50.

380. Christopher Hartney & Linh Vuong, *Created Equal: Racial and Ethnic Disparities in the US Criminal Justice System*, NAT’L COUNCIL ON CRIME & DELINQ. 1, 2 (2009) (“African Americans make up [thirteen percent] of the general US population, yet they constitute [twenty-eight percent] of all arrests, [forty percent] of all inmates held in prisons and jails, and [forty-two percent] of the population on death row.”).

381. Haney, *supra* note 285, at 562–63.

382. This may be due to being involved in risky behavior, various impairments, or to discriminatory investigations. See BRYAN STEVENSON, *JUST MERCY: A STORY OF JUSTICE AND REDEMPTION* 16 (2014).

383. Haney, *supra* note 285, at 548–49 (referring to the association between the “accident[] of birth” and crime).

384. The genetic and epigenetic etiology of limitations on intelligence are described here for the purpose of explaining both the mechanism and the phenotypic/biological results of adverse environmental influences. However, even in the limited scope of an *Atkins* hearing, trial and post-conviction practitioners have to be aware that science cannot be a substitute for telling the story. It is important to tell the story of the client in the course of *Atkins* hearings as well as in the presentation of mitigation evidence during the capital trial itself. In the *Atkins* context, the story of the client is important to describe the “deficits in adaptive behavior,” which is the second criterion in a determination of intellectual disability. Practitioners should be aware that the science, in and of itself, is not likely to have a significant effect on the perception of criminal responsibility or the determination of a more lenient punishment. See, e.g., Paul S. Applebaum et al., *Effects of Behavioral*

Thus defendants seeking *Atkins* relief are likely to be the very same individuals who suffered epigenetic harm.³⁸⁵ They are among the individuals whose lower IQ scores served to lower the group IQ scores. It compounds the problem that these individuals are also subject to ethnic adjustments for which there is no scientific justification.

It is cruel, both as a violation of the Constitution's Eighth Amendment and fundamental decency, that certain prosecution experts capitalize on an emotional argument that lacks a basis in constitutional law, logic, clinical analysis or evidence, to ethnically adjust IQ scores. This exploits adverse environmental factors and increases the likelihood of imposing the death penalty on the intellectually disabled. This remains a pressing problem that researchers, high courts in states that maintain the death penalty, and the U.S. Supreme Court itself need to address.

CONCLUSION

The idea of racially classifying a person and then using "ethnic adjustments" to increase his or her IQ score, thereby qualifying that person for execution, is logically, clinically, and constitutionally unsound.³⁸⁶ In fact, when looked at more closely, it is a wonder how the practice has gone largely unchallenged over the last few years. The courts throughout the death penalty states, including those in California and Texas, seem remarkably insensitive to the issue, while condoning or acquiescing in a practice that is unendorsed by logic, clinical practice, or the Constitution.

The death penalty is—ethnic adjustments notwithstanding—a polarizing issue that can lead to different beliefs in the underlying facts.³⁸⁷ It is intrinsically bound with emotional issues of retribution

Genetic Evidence on Perceptions of Criminal Responsibility and Appropriate Punishment, 21 PSYCHOL., PUB. POL'Y & L. 134, 141 (2015).

385. See, e.g., *Van Tran v. Colson*, 764 F.3d 594, 599, 601 (6th Cir. 2013) (detailing the arguments proffered by the defendant illustrating a life of neglect and abuse under an *Atkins* claim); see also Michael Perlin, *Power and Greed and the Corruptible Seed: Mental Disability, Prosecutorial Misconduct, and the Death Penalty*, 43 J. AM. ACAD. PSYCHIATRY & L. 266, 266–67 (2015) ("The death penalty is disproportionately imposed in cases involving defendants with mental disabilities (referring both to those with mental illness and those with intellectual disabilities).").

386. Brief of Public Law Scholars, *supra* note 121, at 4 (citing Justice Harlan's dissent in *Plessy v. Ferguson*: "[o]ur constitution is color blind." 163 U.S. 537, 559 (1896) (Harlan, J., dissenting)); see Charles, *supra* note 276, at 197 (noting that ethnicity correlates with greater poverty).

387. LESS SUPPORT FOR DEATH PENALTY, PEW RES. CTR. (2015), <http://www.people-press.org/files/2015/04/04-16-15-Death-penalty-release.pdf> (showing that, in a

and vengeance, which carry the potential of clouding arguments about the practice itself. In addition, the death penalty involves murder, often violent and always tragic. The sheer fact of human suffering and death evokes visceral responses.³⁸⁸ Just discussing the death penalty sometimes leads to *ad hominen* arguments, instead of the type of scholarly arguments for which one might hope, especially from the courts.³⁸⁹ These factors may avoid or distract from an analysis of the death penalty’s virtues and the merits of tactics employed in obtaining death judgments and executions. Perhaps the practice of “ethnic adjustments” was not given close scrutiny simply because of these distractions.

Compounding matters, race is also an extremely emotional issue in American culture.³⁹⁰ It has long been established that the perception of groups can lead to illusory correlations.³⁹¹ Perceptions of race may lead to explicit or implicit assumptions and a failure of the observer to objectively assess the facts.³⁹² As discussed in this Article, the conflicting concepts of race and the concern about trying to avoid

March 2015 survey of 1500 adults, “a majority ([sixty-three percent]) says that when someone commits a crime like murder, the death penalty is morally justified; just [thirty-one percent] say it is morally wrong, even in cases of murder.” However, whether someone is in favor of the death penalty or opposes it strongly colors his or her belief in the underlying facts. For example, sixty-three percent of proponents believe that there is a risk of putting an innocent person to death, while eighty-four percent of the opponents believe so; forty-nine percent of proponents think it is a crime deterrent while seventy-eight percent of opponents think it is not. *Id.*

388. See, e.g., *Glossip v. Gross*, 135 S. Ct. 2726, 2753–55 (2015) (Thomas, J., concurring). In *Glossip*, Justice Thomas’s primary contribution to the opinion was to chronicle the heinous details of the homicides in cases that had come before the Court. *Id.*

389. In *Glossip*, Justice Scalia attempted to trump Justice Breyer’s dissenting opinion by using rhetorical references to *Groundhog Day*, (Columbia Pictures 1993), and by saying that “[a] vocal minority of the Court, waving over their heads a ream of the most recent abolitionist studies (a superabundant genre) as though they have discovered lost folios of Shakespeare” insist that the death penalty be abolished. *Glossip*, 135 S. Ct. at 2746–50 (Scalia, J., concurring).

390. See, e.g., ALEXANDER, *supra* note 243; WILKERSON, *supra* note 243.

391. See, e.g., Kate Ratliff & Brian Nosek, *Creating Distinct Implicit and Explicit Attitudes with an Illusory Correlation Paradigm*, 46 J. EXPERIMENTAL SOC. PSYCHOL. 721–28 (2010) (even in controlled laboratory settings, subtle conditioning can lead to both implicit and explicit attitude formation toward a group).

392. See Anthony Page, *Batson’s Blind Spot: Unconscious Stereotyping and the Peremptory Challenge*, 88 B.U. L. REV. 155, 184–85 (2005) (arguing that research has shown the existence of unconscious stereotyping, where both implicit and explicit “negative attitudes” manifest as race-based discrimination).

the appearance of being racist probably had the effect of undermining an objective evaluation of “ethnic adjustments.”³⁹³

Viewed objectively, however, the practice of “ethnic adjustments” does not survive strict logical, clinical, or constitutional scrutiny. “Ethnic adjustments” are not based on the logic of IQ testing: the intelligence quotient of an individual is that of the individual compared to the overall societal norm; it is not a comparison to a particular cohort.³⁹⁴ In addition, “ethnic adjustments” are not clinically supported for diagnosing intellectual disability or for any forensic purpose.³⁹⁵ By any objective reading of the extensive case law from the U.S. Supreme Court, “ethnic adjustments,” which qualify people of color for the death penalty by adjusting scores based solely on their race, are unconstitutional under the Equal Protection Clause of the Fourteenth Amendment.³⁹⁶

Furthermore, any correlations between the average IQ test scores of racial cohorts (or average scores of cohorts to the overall community norm) are not attributable to race and are heavily influenced by race-neutral environmental factors.³⁹⁷ Those race-neutral environmental factors include the effects of the environment of childhood abuse, stress, poverty, and trauma.³⁹⁸ Such adverse environmental (but race-neutral) factors likely result in phenotypic manifestations, which include epigenetic changes affecting intellectual ability and result in greater numbers of persons with intellectual disabilities within that population.³⁹⁹ The individuals whose intellectual ability is adversely affected by those harmful environmental factors are disproportionately represented by minority groups and among those facing the death penalty in the United States.⁴⁰⁰

Therefore, the actual recipients of death sentences—the people on death row—are poor, of color, and have disproportionately been subjected to stress, poverty, abuse, and trauma.⁴⁰¹ These very people are likely to suffer from actual phenotypic/biological impairment in intellectual functioning that can be passed down by way of programmed epigenetic gene expression through generations. The

393. See *supra* notes 242–55 and accompanying text.

394. See *supra* notes 232–38 and accompanying text.

395. See *supra* Part III.A.

396. See *supra* Part V.

397. See *supra* Part V.

398. See *supra* Part V.

399. See *supra* Part V.

400. See Haney, *supra* note 285, at 562–63.

401. See *supra* Part V.

ironic result is that the actual victims of these environmental effects not only depress the average of whatever cohort to which they belong, but “ethnic adjustments” make them more likely to be executed, even though they are likely actually intellectually disabled.

Perhaps a more profound conclusion of this Article may be that the project of attempting to determine who should live and die is an endeavor lost from the beginning. Perhaps there is no way to devise a just means to implement an unjust result. If the state’s executing prisoners is wrong, there can be no right way to do it. Justices Breyer and Ginsberg⁴⁰² joined the group of three predecessor-dissenters on the Supreme Court over the last forty-three years⁴⁰³ who have concluded that the death penalty is unconstitutional in all circumstances.⁴⁰⁴ Justice Breyer, whose dissenting opinion in *Glossip v. Gross*⁴⁰⁵ was joined by Justice Ginsberg, cited several reasons for his position that the death penalty was “cruel and unusual” under the Eighth Amendment,⁴⁰⁶ including lack of reliability, arbitrariness, excessive delays, and the decline in use of the death penalty among the states.⁴⁰⁷

402. *Glossip v. Gross*, 135 S. Ct. 2726, 2755 (2015).

403. Justices William Brennan, Thurgood Marshall and Harry Blackmun. At the time of *Furman v. Georgia*, 408 U.S. 238 (1972), both Justice Brennan and Justice Marshall in concurring opinions took the position that the death penalty itself was unconstitutional for all purposes. *Id.* at 305–06 (Brennan, J., concurring); *id.* at 358–60 (Marshall, J., concurring). Until their respective retirements in 1990 and 1991, Justices Brennan and Marshall continued to maintain that the death penalty itself was unconstitutional and dissented in every subsequent case in which the Court upheld the death sentence. They routinely went so far as to dissent from the denial of *certiorari* in death penalty cases. See, e.g., *Smith v. Hopper*, 436 U.S. 950 (1978); Michael Mello, *Adhering to our Views: Justices Brennan and Marshall and the Relentless Dissent to Death as a Punishment*, 22 FLA. STATE U. L. REV. 591, 593–96 (1995). With respect specifically to Justice Blackmun, see *Callins v. Collins*, 510 U.S. 1141, 1145 (1994) (Blackmun, J., dissenting).

404. Note that Justices Powell and Stevens, after retirement, came to the same conclusion. Justice Powell was interviewed at length by his biographer who concluded that “[e]xperience taught him that the death penalty cannot be decently administered.” JOHN C. JEFFRIES, *JUSTICE LEWIS F. POWELL, JR.: A BIOGRAPHY* 451 (1994). Justice Stevens, after retirement, finally voiced his opposition to the death penalty. See Tasneem Nashrulla, *Former Supreme Court Justice Confirms Texas Once Executed An Innocent Man*, BUZZFEED (Jan. 26, 2015), <http://www.buzzfeed.com/tasneemnashrulla/former-supreme-court-justice-confirms-texas-once-executed-an#yo7Mr1Pym>; John Paul Stevens, *On the Death Sentence*, N.Y. REV. OF BOOKS (Dec. 23, 2010), <http://www.nybooks.com/articles/archives/2010/dec/23/death-sentence>.

405. *Glossip v. Gross*, 135 S. Ct. 2726, 2755 (2015).

406. *Id.* at 2755 (declaring that the Court “recognized that a ‘claim that punishment is excessive is judged not by the standards that prevailed in 1685 when Lord Jeffreys presided over the “Bloody Assizes” or when the Bill of Rights was

A substantial part of this analysis, particularly in the lack of reliability, arbitrariness, and even excessive delays, not only involves an overall moral condemnation of the death penalty, but also involves the recognition that humans are not able to administer this ultimate punishment equitably. The attempt to “ethnically adjust” IQ scores is just one example of these inequities. Even if the death penalty could be morally justified in today’s world, it is impossible to police all of these procedures. Justice Blackmun, at the end of his long career on the bench, concluded that “[f]rom this day forward, I no longer shall tinker with the machinery of death.”⁴⁰⁸ So, even if it would otherwise be a valid enterprise to create a “machinery of death” for the purpose of identifying the “worst of the worst,” that enterprise is lost when expert witnesses and prosecutors proffer testimony to circumvent it. In *Callins v. Collins*,⁴⁰⁹ Justice Blackmun predicted that one day the death penalty would be abolished. In his dissenting opinion, he concluded that “[t]he path the [C]ourt has chosen lessens us all.”⁴¹⁰ Twenty-one years later, Justice Breyer, in *Glossip*, chronicled in more detail how the machinery is still dysfunctional. This Article has explored one more instance of that dysfunction, ultimately concluding that the practice of ethnically adjusting the IQ scores of those convicted of a capital crime violates Equal Protection and should, therefore, be abandoned.

adopted, but rather by those that currently prevail” (citing *Atkins v. Virginia*, 536 U.S. 304, 311 (2002))).

407. *Id.* at 2756–78.

408. *Callins v. Collins*, 510 U.S. 1141, 1145 (1994) (Blackmun, J., dissenting).

409. 510 U.S. 1141 (1994).

410. *Id.* at 1156 (Blackmun, J., dissenting).