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IQ Scores Should Not Be Adjusted for the Flynn Effect in Capital Punishment Cases

**Leigh D. Hagan¹, Eric Y. Drogin²,
and Thomas J. Guilmette³**

Abstract

Atkins v. Virginia (2002) dramatically raised the stakes for mental retardation in capital punishment cases, but neither defined this condition nor imposed uniform standards for its assessment. The basic premise that mean IQ scores shift over time enjoys wide recognition, but its application—including the appropriateness of characterizing it in terms of an allegedly predictable “Flynn effect”—is frequently debated in the course of death penalty litigation. The scientifically and ethically sound approach to this issue is to report IQ scores as obtained and be prepared to address those factors that might affect their reliability. Altering the IQ scores themselves is insufficiently supported by professional literature, legal authority, or prevailing standards of practice.

Keywords

practice standards, Flynn effect, IQ, intelligence testing, death penalty

In *Atkins v. Virginia* (2002), the Supreme Court of the United States banned the execution of persons with mental retardation (MR), but it neither defined MR nor specified how to evaluate it. Some experts maintain that the basic premise of the Flynn Effect (FE)—that mean IQ scores increase over time (Flynn, 1987)—is critical to the accurate identification and depiction of MR in capital murder cases. We do not seek to impugn or debunk the FE or its relevance to these cases; rather, our goal is to insist that those inclined to invoke this theory do so in a valid, responsible, and ethical manner. We conclude that the practice of altering an obtained IQ score based on the FE is insufficiently supported by scholarly literature or legal authority.

The FE is typically conveyed as an annual increase of 0.3 points per year, resulting in an inflation of scores between the time of test development and the test’s eventual clinical use with a particular examinee (Flynn, 1987). Decades of FE research and testimony, however, depict the *amount* of this shift as a moving target. For example, Flynn (1998) once identified the annual

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shift as 0.25 rather than 0.30, but later testified in *Ex Parte Eric Dewayne Cathey* (2010) that 0.29 would be appropriate. Schallock et al. (2010) have called for an annual adjustment of 0.33.

Spitz (1989) found the FE to vary depending on the examinee's obtained range of intellectual functioning. Kanaya, Scullin and Ceci (2003) and the project team at PsychCorp/Pearson (Wechsler, 2008) also identified noteworthy variability across the normal distribution. Zhou, Zhu, and Weiss (2010) analyzed Performance IQs and confirmed that the FE varies by ability level, age group, and specific intelligence test. In fact, whereas most FE studies report gradual IQ score increases over time, some have found stagnation and some noted a reverse (Flynn, 2000; Shayer, Ginsburg, & Coe, 2007; Teasdale & Owen, 2000).

Flynn (2006) characterized the notion that the FE cannot be particularized to an individual as a prosecutor's "senseless mantra," asserting that FE gains "render test norms obsolete and inflate the IQ of every individual being scored against obsolete norms" (p. 186). An all-inclusive declaration about "every individual" does not, however, adequately acknowledge the probabilistic nature of group data and potential inconsistency when applied to individuals.

When it comes to analyzing and commenting on the accuracy and applicability of a particular IQ test result, due consideration should be given to other well-documented influences on score variability. The project team at PsychCorp/Pearson (Wechsler, 2008) substantially revised each iteration of its intelligence scales by altering or eliminating subtests, increasing the number of permissible cues, changing the scoring for some subtests, reordering subtest presentation, and other changes. These modifications substantially complicate comparisons across different measures, as do such additional notions as the standard error of measurement (SEM), test–retest phenomena, and variations in examinee effort.

A national survey of American Board of Professional Psychology school psychologists and training directors of American Psychological Association–accredited clinical, counseling, and school psychology doctoral programs showed that most report or teach the practice of reporting obtained scores and—consistent with the dictates of test manuals—do not train future psychologists to alter IQ scores due to the FE (Hagan, Drogin, & Guilmette, 2008). Although several appellate courts have remanded capital murder cases to the trial court for an evidentiary hearing to consider the FE, at this time no appellate court has published a ruling that subtracting IQ points or adjusting the mean based on the FE is a generally accepted practice. None of the 38 states allowing for capital punishment has a statute mandating reduction of a capital defendant's IQ scores based on the FE (Duvall & Morris, 2006).

Altering obtained IQ scores based on the FE does not comport with the standard of forensic psychological practice, and there exists no legal mandate to make such adjustments. Psychologists serve an important function in capital punishment cases when they identify data limitations that may be attributable to the FE or any other error source. If an obtained score is considered to be invalid and if the "true" score is believed to be higher or lower within an estimated range, psychologists are justified in sharing this perspective in narrative form, but the current state of psychological science—particularly in light of the established variability of individual cases—does not support devising some other score based on the FE and then substituting that score for the one obtained.

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References

- Atkins v. Virginia, 536 U.S. 304 (2002).
- Duvall, J. C., & Morris, R. J. (2006). Assessing mental retardation in death penalty cases: Critical issues for psychology and psychological practice. *Professional Psychology: Research and Practice, 37*, 658-665.
- Ex Parte Eric Dewayne Cathey. Cause No. 713189, 176th District Court, Harris County, TX. January 25, 2010.
- Flynn, J. R. (1987). Massive IQ gains in 14 nations: What IQ tests really measure. *Psychological Bulletin, 101*, 171-191.
- Flynn, J. R. (1998). WAIS-III & WISC-III IQ gains in the United States from 1972 to 1995: How to compensate for obsolete norms. *Perceptual & Motor Skills, 86*, 1231-1239.
- Flynn, J. R. (2000). The hidden history of IQ and special education: Can the problems be solved? *Psychology, Public Policy, and Law, 6*, 191-198.
- Flynn, J. R. (2006). Tethering the elephant: Capital cases, IQ, and the Flynn effect. *Psychology, Public Policy, and Law, 12*, 170-189.
- Hagan, L. D., Drogin, E. Y., & Guilmette, T. J. (2008). Adjusting IQ scores for the "Flynn Effect": Consistent with the standard of practice? *Professional Psychology: Research and Practice, 39*, 619-625.
- Kanaya, T., Scullin, M. H., & Ceci, S. J. (2003). The Flynn effect and U.S. policies: The impact of rising IQ scores on American society via mental retardation diagnoses. *American Psychologist, 58*, 778-790.
- Schalock, R., Borthwick-Duffy, S., Bradley, V., Buntinx, W., Coulter, D., Craig, E., . . . Yeager, M. (2010). *Intellectual disability: Definition, classification, and systems of support* (11th ed.). Washington, DC: American Association on Intellectual and Developmental Disabilities.
- Shayer, M., Ginsburg, D., & Coe, R. (2007). Thirty years on—A large anti-Flynn Effect? The Piagetian test volume and heaviness norms 1975-2003. *British Journal of Educational Psychology, 77*, 25-41.
- Spitz, H. (1989). Variations in Wechsler interscale IQ disparities at different levels of IQ. *Intelligence, 13*, 157-167.
- Teasdale, T., & Owen, D. (2000). Forty-year secular trends in cognitive abilities. *Intelligence, 28*, 115-120.
- Wechsler, D. (2008). *Wechsler Adult Intelligence Scale, fourth edition: Technical and interpretive manual*. San Antonio, TX: Pearson.
- Zhou, X., Zhu, J., & Weiss, L. A. (2010). Peeking inside the "black box" of the Flynn effect: Evidence from three Wechsler instruments. *Journal of Psychoeducational Assessment, 28*, 399-411.