The US death penalty and the implication of measurement of low IQ

Background
In the USA it has been deemed unconstitutional to execute people with mental retardation. However, individual states produce their own definition of mental retardation. Eleven states have definitions that have a strict cut off point for IQ, usually 70, below which the convicted person must score to be regarded as having mental retardation. An understanding of the accuracy with which low IQ can be measured is therefore a critical question in deciding if an individual under sentence of death has as a mental retardation.

Method
The following studies were completed to investigate this issue: A meta analysis of the stability of low IQ (<80), an analysis of the a floor effect in the commonly used IQ tests, the WISC-III and WAIS-III, and a comparison between the WISC-IV and WAIS-III on 16-year-olds.

Results
The mean stability of low IQ was found to be .82, which equates to a 95% confidence interval of 12.5 points either side of the obtained score, a floor effect was found and the WISC-IV always produced a lower score than the WAIS-III, the average difference being just less than 12 points.

Conclusion
The degree of error in measuring low IQ will result in a confidence interval much greater than the 5 points suggested in the test manuals. This will mean that many individuals will have been assessed as having an IQ of greater than 70 when in fact their true IQ is below 70. This may well have resulted in some individuals with mental retardation in the US being executed.