

For Whom Did the Bell Curve Toll?

The most controversial social science book in decades shook up readers. Researchers are less easily impressed

by Tim Beardsley, staff writer

That Richard J. Herrnstein and Charles Murray's 1994 book *The Bell Curve* should become a commercial blockbuster was perhaps unsurprising, given its user-friendly presentation and its incendiary subject matter. The 800-page volume argued that American society is increasingly dividing into a wealthy "cognitive elite" and a dull, growing underclass. Because the authors believe that cognitive ability is largely inherited and that it strongly predicts important social outcomes such as avoidance of poverty and criminality, they foresaw the emergence of a "custodial state" in which the elite keep the underclass underfoot. African-Americans, in Herrnstein and Murray's vision, seemed doomed to remain disproportionately in the underclass, because that group is cognitively disadvantaged for reasons that are "very likely" to be in part genetic.

Among the authors' recommendations for adapting to these inevitable trends were dismantling affirmative action and the welfare safety net and shifting funds from educational programs for disadvantaged children to programs for the gifted—changes that some might argue would speed stratification. The book has so far sold more than 500,000 copies.

Whether *The Bell Curve* will have an influence on social science or real-world policy comparable to its popularity seems doubtful. Murray wrote in an afterword to the paperback edition (Herrnstein died before the book was published) that the relationships between IQ and social behaviors presented in *The Bell Curve* are "so powerful they will revolutionize sociology." But thoughtful critics who have now had a chance to reanalyze crucial data say new findings weaken or contradict most of *The Bell Curve's* more abrasive conclusions.

Observers of the education scene see little evidence, moreover, that the book has had any effect on policy decisions, although it may in some minds have legitimized the status quo between the haves and have-nots. The U.S. Congress, which might have been expected to give the book a hearing, has paid little attention to education policy in recent years. *The Bell Curve's* discussion of racial genetics probably ensured that politicians would avoid allying themselves with its message, says educational evaluation expert Ernest R. House of the University of Colorado. What is left, as the dust settles, are some innocuous facts about intelligence that, while perhaps news to some, are hardly revolutionary, in the judgment of Christopher Jencks of Harvard University, an editor (with Meredith Phillips) of a new book, *The Black-White Test Score Gap*.

Starting with what is relatively uncontroversial, most scholars accept that the quantity measured by IQ tests, known as general intelligence, is a meaningful construct that can predict mental performance—even though there are substantial differences of opinion over its precise theoretical status, and nobody knows its material basis. Most agree, too, that in today's society some nontrivial proportion of the variation in IQ scores between individuals can be ascribed to different inherited genes. That proportion is called heritability.

Researchers differ, however, in their estimates of IQ's heritability and the implications of that effect. Herrnstein and Murray adopted a "middling value" of 60 percent, while maintaining that it might be as high as 80 percent. Others disagree. In a recent book that reanalyzes *The Bell Curve's* major arguments, *Intelligence, Genes and Success*, statisticians and geneticists Michael Daniels, Bernie Devlin and Kathryn Roeder argue that the figure is actually about 48 percent.

The difference arises because estimates of the heritability of IQ turn largely on the similarity in IQ of twins who are reared apart. Most twin studies ignore the possibility that sharing a uterus for nine months may account for some later similarities in IQ. In reality, that effect appears to be substantial, and a statistical analysis that compensates for it (by comparing monozygotic and fraternal twins as well as other siblings) produces the lower estimate of the heritability of IQ.

But that is not all that Daniels and his co-authors find fault with in *The Bell Curve's* use of heritability. The book erred in using a "broad" definition of heritability as a basis for speculation about genetically based cognitive stratification, they say. They argue that for this purpose a "narrow" definition of heritability is the mathematically correct one and estimate its value at only 34 percent, a figure that makes the emergence of cognitive castes "almost impossible." (The narrow definition, unlike the broad one, excludes interactions among genes.)

Raising IQ with the Environment

More fundamentally, and contrary to *The Bell Curve*, scholars point out that even if individual heritability of IQ were very large, it might nonetheless be susceptible to environmental improvements. "A heritability estimate does not in any way 'constrain' the effects of a changed environment," notes psychologist Douglas Wahlsten of the University of Alberta.

Wahlsten gives the example of the inherited disease phenylketonuria, which can cause brain damage. It is successfully treated by avoiding the amino acid phenylalanine in the diet. Likewise, Wahlsten cites studies in France showing that infants adopted from a family having low socioeconomic status into one of high socioeconomic status had childhood IQ scores that were 12 to 16 points higher than others who remained in poverty with their biological mothers. In contrast to *The Bell*

Curve's judgment that "changing cognitive ability through environmental intervention has proved to be extraordinarily difficult," Wahlsten concludes that even modest environmental improvements can have substantial effects on ability test scores and that lasting gains in a child's environment can exert "quite a large" effect.

Some such effects have been documented by Craig T. Ramey of the University of Alabama at Birmingham. Ramey has demonstrated how a preschool educational intervention for the first five years of life significantly boosted IQ scores of at-risk children throughout school years and into adolescence, with an average increase of five points still apparent at age 15. The most disadvantaged children showed gains twice as large. Academic achievement (as distinct from IQ) scores of at-risk kids show even clearer benefits of preschool that persist well into the teenage years. But *The Bell Curve* shrugs off these benefits.

The book's pessimistic assessment of the prospects for educational interventions is its fatal flaw, according to psychologist Richard E. Nisbett of the University of Michigan. The authors "are probably right that there are limits to how much you can change IQ, but they may be far wider than implied in the book," Nisbett says. Christopher Winship of Harvard and Sanders Korenman of the City University of New York find that conventional education itself boosts IQ by perhaps two to four points a year, an estimate they say argues in favor of the public investment. *The Bell Curve* argued that education had little or no effect on IQ. Perhaps the best conclusion is that the factors that feed into a measured IQ score are not fully understood.

A major problem that psychologists note for *The Bell Curve's* argument is that unstandardized intelligence scores have been increasing rapidly for several decades in industrial countries, a phenomenon known as the Flynn effect. Because some environmental influence must have caused the effect—it is too rapid for genetic changes to account for—environmental improvements that boost mental abilities must be possible.

Not So Black-and-White

One of the most painful issues that Herrnstein and Murray explored was the lower measured average scores of African-Americans on IQ tests, as compared with Caucasians. *The Bell Curve's* half-acceptance of a genetic influence was surely one reason for its notoriety (the question is entirely different from that of heritability of IQ between individuals). Yet according to Nisbett, the evidence—which includes adoption studies and other types—"offers almost no support for genetic explanations of the IQ differences between blacks and whites."

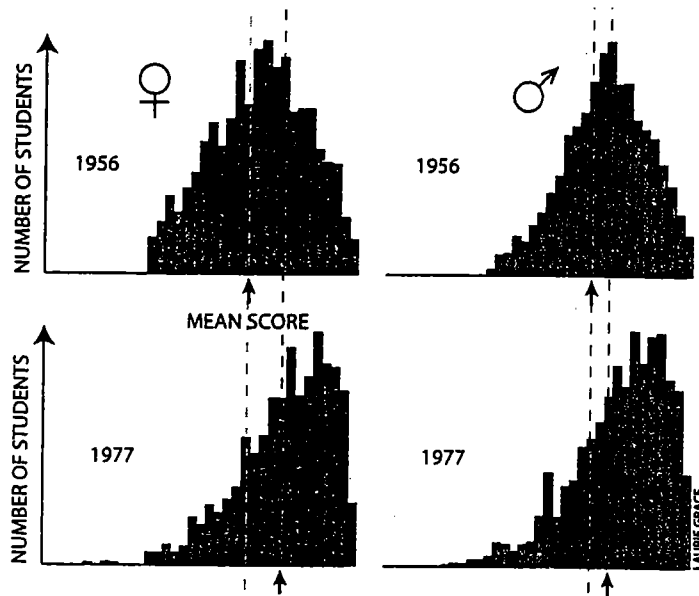
The test-score gap could be eliminated through practicable improvements in the educational systems, contend Jencks and Phillips in *The Black-White Test Score Gap*. They cite three principal arguments.

First, when black or mixed-race children are raised in white rather than black homes, their preadolescent test scores rise dramatically. That shows that improvements are feasible. The scores tend to fall again during adolescence, but the reasons may not be irremediable. Second, the Flynn effect argues against genetically based IQ differences between races. Third, black-white differences in academic achievement have already narrowed by almost half during this century, now being closer to 10 than to the usually cited 15 points.

The Bell Curve elaborates on its racial claims by suggesting that black-white differences in earnings are no greater than expected because of IQ differences, a key plank in the book's

attack on affirmative action. But an analysis by Alexander L. Cavallo of the University of Chicago and others, which looks at the sexes separately, contests this conclusion. After allowing for ability, it seems, black males earn substantially less than white males (in females the gap is in the opposite direction). Much of the differential, Cavallo asserts, is "contributed by factors that may be influenced by racial discrimination," a conclusion that undercuts *The Bell Curve's* argument.

Researchers of a different political stripe from Herrnstein and Murray have also found important qualifications to several more of *The Bell Curve's* slew of conclusions about the predictive effect of IQ on life chances. Economist John Cawley of the University of Chicago and his co-authors of a chapter in *Intelligence*,



FLYNN EFFECT: means of raw IQ scores have increased worldwide, including those of third-graders in Edmonton, Alberta.

Genes and Success analyze the same data studied by Herrnstein and Murray but conclude that they "dramatically overstate" how much of the variation in wages between individuals can be explained by intelligence. Sociologist Lucinda A. Manolakes of the State University of New York at Stony Brook likewise judges IQ to "be only one of many variables" that affect criminality.

The list goes on. Winship and Korenman confirm an influence of IQ on adult social outcomes such as earnings and avoidance of poverty. But they also find that family background turns out to have effects comparable with those of IQ, when proper allowance is made for the confounding effect of education. IQ is "not the dominant determinant."

Stephen Fienberg of Carnegie Mellon University, one of the editors of *Intelligence*, *Genes and Success*, notes that "everyone knows that smart people do better in life." But academics say that "IQ matters in a much more nuanced way" than Herrnstein and Murray maintain, according to Fienberg. The nuances make it harder to issue policy recommendations.

The publicity firestorm over Herrnstein and Murray's claims seems to have died down in the past year. Jencks and Nisbett both allow that *The Bell Curve* focused attention on the importance of thinking about intelligence in debates about public policy. Many readers, though, are likely to have come to cruder conclusions, such as that science has shown attempts to help at-risk youth to be a waste of time. Nothing could be further from the truth.