The Bell Curve

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See <u>normal distribution</u> for the "bell curve" in <u>statistics</u>

The Bell Curve is a controversial book published in 1994 by Richard J. Herrnstein and Charles Murray exploring the role of intelligence in understanding social problems in America. The title is a reference to the bell-shaped graph of IQ scores (see normal distribution).

The Bell Curve	
Author:	Richard Herrnstein, Charles Murray
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The book is organized around the relationship of <u>race and intelligence</u>, suggesting that a "cognitive elite", a social stratum of persons with both high wealth and high intelligence, could emerge among whites, sealing themselves off from the rest of society. As part of this, they argued that blacks had lower IQ scores than whites and this disparity was caused by such genetic factors.

Though the book primarily became famous for its discussion of race and intelligence, most of the book is actually not about that topic, and indeed, only one chapter focuses on that topic.

Within both the mainstream media and the scientific community, large numbers of people rallied to both support and criticize the book. Some critics denounced the book and its authors as supporting scientific racism.

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Summary of contents

The Bell Curve is fairly large for a book of its popularity, weighing in at 845 pages in the first printing and 879 in the revised paperback form. Also uncharacteristic of a bestseller is that it contains hundreds of graphs of regression analyses, lengthy descriptions of the mathematical regression techniques employed, and multiple appendices of raw statistical data. In the foreword of the book, the authors write that they fear readers will likely just skip to those portions of the book that contain the most reactionary content, rather than reading all of the text, which they feel is necessary to truly understand its message. The book does, however, contain an appendix titled Statistics for People Who Are Sure They Can't Learn Statistics, indicating a more general target audience than other aspects of the book would suggest. Yet despite this technical-seeming analysis, the book went through no peer review and was clearly aimed at the layperson.

The Bell Curve is divided into four sections. Part I argues that social stratification on the basis of intelligence has been increasing since the beginning of the twentieth century. Part II presents original research showing strong correlations between intelligence and various types of social performance. Part III, by far the most controversial, examines what role IQ plays in contributing to social and economic differences between ethnic groups in America. In Part IV, the authors discuss the implications of their findings for social policy in the United States.

Herrnstein and Murray in many ways follow in the footsteps of <u>Harvard</u> researcher <u>Arthur Jensen</u>. The authors report that estimates from <u>psychometricians</u> of the <u>heritability</u> of intelligence range

from 40% to 80%. They report that there exist significant correlations between intelligence and various ethnic categories. They argue that a better public understanding of the nature of intelligence and its social correlates is necessary to guide future policy decisions in America.

Responses

Upon publication, *The Bell Curve* received a great deal of positive publicity, including cover stories in *Newsweek* ("the science behind [it] is overwhelmingly mainstream"), *The New Republic*, and *The New York Times Book Review* (which suggested critics disliked its "appeal to sweet reason" and are "inclined to hang the defendants without a trial"). Early articles and editorials appeared in *Time*, *The New York Times* ("makes a strong case"), *The New York Times Magazine*, *Forbes*, the *Wall Street Journal*, and *The National Review*. It received a respectful airing on such shows as *Nightline*, the *MacNeil/Lehrer NewsHour*, the *McLaughlin Group*, *Think Tank*, *PrimeTime Live*, and *All Things Considered*. [1] (http://www.fair.org/extra/9501/bell.html) The book sold over 300,000 copies in hardcover.

While the book's popularity was mostly propelled by its controversial claims regarding <u>race and intelligence</u>, it quickly became apparent that such statements did not have the scientific rigor they appeared to. Neither Charles Murray nor Richard Herrnstein had published any research on the topics discussed in the book in peer-reviewed journals before the publication, delaying academic analysis of their claims. Dr. Herrnstein died before the book was released, leaving Charles Murray to do most of its public defense. Although Herrnstein was a prominent psychologist, Murray has a Ph.D. in political science but no formal credentials in statistics or psychometrics.

Scientific response to *The Bell Curve* was highly negative. Professor Craig T. Ramey said "Within the sophisticated research community, the opinion has been virtually unanimous that *The Bell Curve* was a primitive, oversimplistic and flawed analysis." Professor Michael Nunley wrote:

I believe this book is a fraud, that its authors must have known it was a fraud when they were writing it, and that Charles Murray must still know it's a fraud as he goes around defending it. [...] After careful reading, I cannot believe its authors were not acutely aware of [...] how they were distorting the material they did include."

Professor Leon J. Kamin said the book did "a disservice to and abuse of science." Professor Howard Gardner called the style of thought "scholarly brinkmanship":

Whether concerning an issue of science, policy, or rhetoric, the authors come dangerously close to embracing the most extreme positions, yet in the end shy away from doing so. Discussing scientific work on intelligence, they never quite say that intelligence is all important and tied to one's genes; yet they signal that this is their belief and that readers ought to embrace the same conclusions.

Even conservative <u>Thomas Sowell</u> attacked the book, noting that the authors ignored data and failed to draw obvious conclusions from it that would have hurt their argument. He also complains that the authors completely ignore <u>multicollinearity</u> which could well explain away much of the correlations in the book. [2] (http://www.mugu.com/cgi-bin/Upstream/Issues/bell-curve/sowell. html)

In its defense, fifty-two professors, including researchers in the study of intelligence and related fields, signed a notice published in *The Wall Street Journal*, December 13, 1994, supporting many of the views expressed in *The Bell Curve*. Many of the signers had previously made similar claims about race and intelligence and were cited as sources in the book. [3] (http://www.lrainc.com/swtaboo/taboos/wsj_main.html)

As author Charles Murray himself noted, "Some of the things we read to do this work, we literally hide when we're on planes and trains". Much of that work was funded by the <u>Pioneer Fund</u>, whose mission is to promote <u>eugenics</u> and once suggested sterilizing the "genetically unfit". Critics argue the book was written to encourage politically-beneficial racism, citing Murray's book proposal which described the target audience as the "huge number of well-meaning whites who fear that they are closet racists, and this book tells them they are not. It's going to make them feel better about things they already think but do not know how to say." (*New York Times Magazine*, 10/9/94)

The book was seized upon for right-wing political purposes, including support of anti-immigration policies, ending welfare (because it encourages the "wrong women" to procreate), and so on.

American Psychological Association task force report

In response to the growing controversy surrounding *The Bell Curve*, the <u>American Psychological Association</u>'s Board of Scientific Affairs established a special task force to publish an investigative report on the research presented in the book. The full text of the report is available at a third-party website. [4] (http://www.lrainc.com/swtaboo/taboos/apa_01.html)

Many of the task force's findings supported statements from *The Bell Curve*. They agreed that IQ scores have high predictive validity for individual (but not necessarily population) differences in school achievement. They also confirm the predictive validity of IQ for adult occupational status, even when variables such as education and family background have been statistically controlled. They agree that individual (again, not necessarily population) differences in intelligence are substantially influenced by genetics. Consistent with Herrnstein and Murray's findings, they state there is little evidence to show that childhood diet influences intelligence except in cases of severe malnutrition. They agree that there are no significant differences between the IQ scores of males and females. Perhaps most significantly, the APA task force agrees that there do exist large differences between the average IQ scores of blacks and whites, and that these differences cannot be attributed to biases in test construction, nor do they merely reflect differences in socioeconomic status between the ethnic groups.

In determining the cause of these differences, the APA task force is in disagreement with Herrnstein and Murray's conclusions. While they admit there is no empirical evidence supporting it, they suggest that explanations based on social status and cultural differences may be possible. They stress that there is no definite evidence for the hypothesis that the black-white test score gap is a result of genetic differences between the groups. Regarding genetic explanations for ethnic differences in intelligence, they conclude with the following statement: "At present, this question has no scientific answer."

Stephen Jay Gould's criticisms

Perhaps the most prominent critic of *The Bell Curve* was the late <u>Stephen Jay Gould</u>, who in 1996

released a revised and expanded edition of his 1981 work <u>The Mismeasure of Man</u> intended to refute many of *The Bell Curve's* claims regarding <u>race and intelligence</u>. Specifically, Gould argues that the current evidence showing heritability of IQ does not indicate a genetic origin to group differences in intelligence. Murray claims that Gould misstated his claims; for instance, Gould says Murray boils down intelligence to a single factor while Murray denies making such a claim.

Other criticisms

A minority of critics have objected not only to Herrnstein and Murray's conclusions, but to their statistical methodology as well. The Sociology Department of the University of California published a critical analysis of *The Bell Curve* under the title *Inequality by Design*. The book reviews the book's statistical analyses and claims the book contains technical errors and omissions. Another statistical critique of the book was published by <u>James Heckman</u> in 1995. Murray responded to a shorter version of Heckman's critique in an August 1995 letter exchange in the *Commentary* magazine.

In *Intelligence, Genes, and Success: Scientists Respond to The Bell Curve* a group of social scientists and statisticians analyzes the genetics-intelligence link, the concept of intelligence, the malleability of intelligence and the effects of education, the relationship between cognitive ability, wages and meritocracy, pathways to racial and ethnic inequalities in health, and the question of public policy.

Another popular book written at least in part to refute some of *The Bell Curve's* claims is the <u>Pulitzer Prize</u>-winning <u>Guns, Germs, and Steel</u>: The Fates of Human Societies, by <u>Jared Diamond</u>. Diamond argues that the differences in technology produced by various races are the result of differences in factors like terrain or the availability of natural resources—not of differences in intelligence.

A recent paper in the *Psychological Review*, "Heritability Estimates Versus Large Environmental Effects: The IQ Paradox Resolved (http://www.apa.org/journals/rev/rev1082346.html)" presents a mechanism by which environmental effects on IQ may be magnified by feedback effects. This

approach may provide a resolution of the contradiction between the viewpoint of *The Bell Curve* and its supporters, and the 'nurture' factors of IQ believed to exist by its critics.

Miscellania

From 1986 to 1989, Murray was given an annual grant by the conservative <u>Bradley Foundation</u> of \$90,000, rising to \$113,000 by 1991, and then to \$163,000 following publication of The Bell Curve.

According to an <u>American Broadcasting Company</u> news report, the <u>Pioneer Fund</u> contributed \$3.5 million to researchers cited in *The Bell Curve*, and almost half of the research cited to support the most controversial racial conclusions of the book was paid for by the Pioneer Fund. [5] (http://www.hartford-hwp.com/archives/45/049.html)

See also: Flynn_effect

Citations

- Gottfredson, Linda S.; "Mainstream Science on Intelligence". Published in *The Wall Street Journal*, December 13, 1994, and also in Intelligence, January-February 1997.
- Claude S. Fischer et al.; *Inequality by Design: Cracking the Bell Curve Myth.* Princeton University Press, 1996, <u>ISBN 0691028982</u>.
- Bernie Devlin et al.; *Intelligence, Genes, and Success: Scientists Respond to The Bell Curve.* Copernicus Books, 1997, ISBN 0387949860.

External links

- <u>Interview with Charles Murray, co-author of the Bell Curve</u> (http://www.skeptic.com/archives24.html)
- James Heckman's critique of Murray and Herrnstein's statistical techniques (http://reason. com/9503/dept.bk.HECKMAN.text.shtml)
- American Psychological Association 1996 statement on issues raised by The Bell <u>Curve</u> (http://www.apa.org/releases/intell.html)
- "Intelligence: Knowns and Unknowns" Full text of APA report, from a non-APA web site (http://www.lrainc.com/swtaboo/taboos/apa_01.html)

- <u>"The Heritability of IQ"; Nature, 1997 Jul 31;388(6641):468-71</u> (http://www.ncbi.nlm.nih. gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=9242404)
- "Heritability Estimates Versus Large Environmental Effects: The IQ Paradox Resolved"; Psychological Review, 2001, Vol. 108, No. 2, 346?369 (http://www.apa.org/journals/rev/rev1082346.html)
- "Upstream : Issues : Bell Curve" Large collection of reviews and reactions to The Bell Curve (http://www.mugu.com/cgi-bin/Upstream/Issues/bell-curve/)
- "Mainstream Science on Intelligence" The Wall street Journal, December 13, 1994, p. A18 (http://www.udel.edu/educ/gottfredson/reprints/1994WSJmainstream.pdf) PDF scan from Linda Gottfredson's home page.
- "Revisiting the Bell Curve" (http://psycprints.ecs.soton.ac.uk/archive/00000099/) An article by Alan Reifman, which reviews pertinent research on the genetic contribution to intelligence, the relative contributions of intelligence and social factors to success in life, and the potential of educational experience to improve cognitive ability.

Arguments against The Bell Curve

- Fairness and Accuracy in Reporting, <u>Racism Resurgent: How Media Let The Bell Curve's</u>

 <u>Psuedo-Science Define the Agenda on Race</u> (http://www.fair.org/extra/9501/bell.html)
- Critical analysis of Bell Curve methodology (http://www.srv.net/~msdata/bell.html)
- The Return of Determinism? The Pseudoscience of the Bell Curve (http://www.rso.cornell. edu/scitech/archive/95sum/bell.htm)
- "The Bell Curve Flattened: Subsequent research has seriously undercut the claims of the controversial best seller." (http://www.slate.com/id/2416)
- conservative Nobel Prize-winner <u>James Heckman</u>, "<u>Lessons from the Bell Curve</u> (http://atrios.blogspot.com/2003/02/even-more-bell-curve.html)", Journal of Political Economy, October 1995.

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