

Book Reviews

financial capital; low-cost health coverage; school reform that maximizes teacher-student continuity throughout elementary, middle, and high school; culturally sensitive teachers; lower student-teacher ratios; extending the school year; and school choice. Miller also argues for implementing the Human Well-Being Information System (HWBIS), a permanent longitudinal study of infants over their entire life course. However, his discussions rarely go beyond summaries of current suggestions among education researchers and provide little guidance in realistically approaching these issues within the constraints of fiscally conservative government budgets.

Indeed, the book provides an invaluable service by carefully summarizing current minority education research. The book would make an excellent text for class use and is perhaps the best overview of current debates I have read. But the book lacks new ideas for educational research or policy initiatives, and when Miller tries to go beyond previous research, he is less convincing than when he integrates others' findings. To be fair, the primary goal of *An American Imperative* "is to help leaders and professionals in government, education, business, foundations, and the media think" (p. xiii), and Miller has made an important contribution to this goal.

*Identification Problems in the Social Sciences.* By Charles F. Manski. Cambridge, Mass.: Harvard University Press, 1995. Pp. x + 172. \$29.95.

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*Identification Problems in the Social Sciences* is a landmark book in social science methodology. No sociologist who takes statistical methods seriously can afford to ignore it. While many other statistical books teach readers how to apply advanced techniques, this book was written with a different objective: it pushes the reader to think hard about what can be learned from observed data alone and in doing so sets the upper limits of statistical reasoning when no or very weak assumptions are invoked.

To empirical researchers like myself who have heavily relied on statistical models for inference, reading this book can be both educational and humbling. It is educational in that the book teaches new ways of setting nonparametric bounds for quantities of interest. Yet it is humbling because Manski shows that the more powerful and sharper statistical results that we have become accustomed to seeing and producing essentially depend on stronger assumptions. Thus, Manski forcefully shows the classical tradeoff between robustness and statistical power, although the focus here is not on efficiency but on identifying power. When observed data are thin, it takes strong assumptions to yield sharp results. There is no free information in statistics. Either you collect it, or you assume it.

Many sociologists are already familiar with Manski's earlier method-

ological contributions, a few of which appeared in sociological journals. An accomplished econometrician who often proves theorems, Manski has stayed a close friend of sociology and sets out to orient this book to a sociological audience. The book is written in plain and lucid English, augmented with relatively simple formulas based on properties of conditional probabilities and inequalities. No high-level mathematics is required to read the book. A few simple but real examples in the areas of sociology, demography, criminology, education, and economics greatly facilitate the reading.

By "identification problems" Manski means something broader than the difficulty of identifying simultaneous structural equations. Identification problems are those problems that would not disappear even if the researcher could eliminate sampling error by increasing the sample size to infinity. Thus, Manski isolates a class of problems that are difficult to deal with not because of inadequate data points but because observed data reveal weak information. Besides the classical case of simultaneity, Manski discusses the problems of extrapolation, selection, mixing, response-based sampling, prediction-from-intention, and reflection. Each of these topics is covered in a separate chapter. Although the chapters are closely related and should be read as a whole, some readers will be tempted to read only the chapters most relevant to their interest. If you do so, keep in mind that chapter 2 on the selection problem and chapter 7 on the reflection problem are worth the attention of all sociology readers.

Manski has worked on the identification problems for some time, and the book draws results from his earlier publications; sophisticated readers will want to read his journal publications. However, it would be a mistake to assume that this book is merely a collection of Manski's articles published elsewhere. The book is tightly integrated with a common concern and a common approach. Throughout the book, Manski takes a distinct philosophical stand: he begins with a discussion of what can be learned from the worst-case scenario and then gradually introduces weak assumptions to improve identification. This overtly conservative approach is highly commendable and should be adopted by others in both the teaching and the application of statistical methods.

Manski's solutions to the identification problems are innovative. He breaks away from the conventional wisdom that only point estimates are of interest. Instead, he utilizes available information to furnish nonparametric bounds. Although the bounds may appear too wide to some readers at first sight, I have found them to be quite informative. One needs to keep in mind that Manski is able to bound estimates with no or very weak assumptions. Moreover, he demonstrates that he can substantially tighten bounds at the expense of additional assumptions.

One message that the book clearly conveys is the importance of nonparametric statistics. I concur that sociologists should welcome the new development in nonparametric statistics and make more use of nonparametric methods in their empirical work. However, I am afraid that sociology's road to nonparametric statistics will be bumpy for the time

being, as at least two obstacles need to be removed. First, empirical researchers need to make a cultural shift toward presenting results in unconventional forms such as graphics, bounds, and conditional estimates. Second, methodologists (econometricians and statisticians included) need to make nonparametric methods more practical and more routinized. I have in mind the difficulties of running out of cases or making presentations unduly complicated as one adds more dimensions of control.

Fortunately, Manski's book gives us good directions to follow to solve various practical problems in the future. The book is not a technical manual but a new philosophy of doing statistics in the social sciences. Regardless of your predispositions, *Identification Problems in the Social Sciences* is a great book to read. Even if you disagree with Manski's solutions, you will still admire the book's elegance and logical clarity. I highly recommend the book.

*Gender Differences in Science Careers: The Project Access Study.* By Gerhard Sonnert and Gerald Holton. New Brunswick, N.J.: Rutgers University Press, 1995. Pp. xvii + 187. \$50.00.

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Gerhard Sonnert and Gerald Holton identify four major goals for their book on the role of gender in science careers. They set out to compare the career paths of men and women scientists; to identify factors behind comparative successes and failures that shape men's and women's science careers; to put forth a theoretical framework that explains gender differences in science; and, finally, to offer policy suggestions that might remedy prevailing inequalities. Their study relies on a sample of 800 men and women scientists who completed written questionnaires, and on a subset of face-to-face interviews conducted with 200 of these respondents. The sample consisted of scientists who were labeled early on as "promising" by having been awarded a prestigious postdoctoral fellowship by the National Science Foundation, National Research Council, or the Bunting Institute at Radcliffe College. The careers of men and women are thus made profitable targets for comparison because all began on an equal, although notably advantaged, footing. The sample includes scientists working in a range of fields that cover the biological, physical and social sciences, mathematics, and engineering. Although Sonnert and Holton claim that their study is useful in mapping the career paths of male scientists, they have chosen to focus on those factors that have positive or negative effects on women's careers.

An introductory chapter outlines theoretical frameworks found within the sociology of science and the sociology of gender that the authors borrow to help orient their study. Periodically throughout the book, the