

RESEARCH REPORTS

Reviews of new research at public agencies and private institutions

“Pursuing Excellence: A Study of U.S. Eighth-Grade Mathematics and Science Teaching, Learning, Curriculum, and Achievement in International Context.”

National Center for Education Statistics, U.S. Department of Education, 555 New Jersey Ave. N.W., Washington, D.C. 20208-5574. \$9.50 (Available for downloading at <http://www.ed.gov/NCES/timss>)

Author: *Lois Peak*

That American students do not sit at the head of the international class when it comes to mathematics and science is by now well known. But this new, 41-nation assessment suggests that some suspects often blamed for the poor showing may be innocent.

The American eighth-graders in this study scored somewhat below the international average in mathematics. In science, U.S. students did better than the international average but were still vastly outperformed by their counterparts in Singapore, the Czech Republic, Japan, and South Korea. If an international talent search were held to select the top 10 percent of all mathematics students, only five percent of American eighth-graders would make the grade—compared with 45 percent of the Singaporean pupils, 34 percent of the Korean youngsters, and 32 percent of the Japanese ones.

Why are American youths lagging behind? Too much TV? Not enough homework? Too short a school year? These oft-fingered culprits may not be guilty, this study suggests. While 38 percent of U.S. eighth-graders spent three or more hours after school watching TV or videos, 39 percent of Japanese eighth-graders did the same. And

whereas 86 percent of U.S. math teachers assigned homework at least three times a week, only 21 percent of Japanese teachers did. As for time in school, U.S. eighth-graders spent 143 hours a year in math classes and 140 hours a year in science classes, compared with only 117 hours and 90 hours, respectively, for Japanese students.

Though the study found no simple explanation for the relatively poor showing of U.S. students, it did turn up a few clues. The U.S. eighth-grade math curriculum is less advanced than others, focusing more on arithmetic than on algebra and geometry. In addition, U.S. math teachers seem to stress getting students to acquire particular skills (such as being able to solve a certain type of problem), instead of encouraging students—as Japanese instructors do—to think in terms of mathematical concepts.

One more clue: In Japan, students at the end of ninth grade must take a high school entrance exam. The scores determine whether they will attend the best schools, and thus powerfully influence their future careers and lives. American junior high students simply are not subjected to that kind of pressure to study hard.

“Women’s Figures: The Economic Progress of Women in America.”

Independent Women’s Forum, 2111 Wilson Blvd., Ste. 550, Arlington, Va. 22201-3057. 58 pp. \$7.95

Authors: *Diana Furchtgott-Roth and Christine Stolba*

More than 70 percent of all women between the ages of 20 and 54 are in the labor force these days. Do they face widespread sex discrimination? Yes, say many feminists, citing the “wage gap” between men and women, the “glass ceiling” blocking women’s rise to the executive suite, and the concentration of women in lower-paying “pink-collar” jobs, such as teaching and nursing. But Furchtgott-Roth, an economist at the American Enterprise Institute, and Stolba, a historian at Emory University, in Atlanta, say these notions mis-

represent the real situation of women.

While the National Organization for Women (NOW) claims that women are paid only 60 to 89 cents for every dollar men earn, the authors say this ignores critical variables. Because of childbearing and family responsibilities, women choose to spend more years away from work than men do. They have less seniority. They are absent more often. This is reflected in their pay. When the incomes of *childless* women and men ages 27 to 33 are compared, as in one recent study, women’s

earnings turn out to be about 98 percent of the male average.

The glass ceiling is also a myth, the authors maintain. True, a 1995 report by the federal Glass Ceiling Commission created by the Civil Rights Act of 1991 found that only five percent of senior managers at *Fortune* 2000 industrial and service firms are female. But, Furchtgott-Roth and Stolba point out, the commission failed to consider that the pool of women qualified by experience and education to hold senior corporate executive positions was tiny. This situation is changing, they add, as more and more women enter “male-dominated” professions and progress through the ranks. During the last decade, the number of female executive vice presidents more than doubled.

Even so, many women do not have the same career goals as their male peers, Furchtgott-Roth and Stolba observe. A recent study by an executive search firm found that only 14 percent of the women

surveyed—compared with 46 percent of the men—were eyeing the top job in their firm.

Many working women, the authors say, prefer traditional pink-collar jobs, despite their typically lower pay, because they offer flexibility that lets the women better combine work with family responsibilities. Also, the job skills required are such that women can leave the work force for a time and then return as viable job candidates. That is not possible in engineering, for example, where job skills must be continually upgraded.

Finally, Furchtgott-Roth and Stolba say, more and more women in recent years have been starting their own businesses (at twice the rate of men)—and succeeding. Between 1987 and 1992, the number of female-owned firms increased 43 percent. Today, they number 7.7 million, including 3.5 million home-based firms in fields such as consulting and finance. These statistics, the authors write, belie the notion that women face an economy stacked against them.

“Farewell to the Factory: Auto Workers in the Late Twentieth Century.”

Univ. of California Press, 2120 Berkeley Way, Berkeley, Calif. 94720. 248 pp. \$45.00; paper, \$14.95

Author: *Ruth Milkman*

Americans seem to regard every lost factory job as a tragedy. Forgotten, by all except the workers themselves, notes Milkman, a sociologist at the University of California, Los Angeles, are the frustrations and degradations of daily life in the factory. The experiences of workers from one factory—the General Motors (GM) automobile assembly plant in Linden, New Jersey—she says, suggest that “nostalgia for the industrial past is deeply misguided.”

In the mid-1980s, as GM struggled to meet intensified international competition, it gave the Linden plant a \$300 million overhaul. With 219 robots and other automated devices on hand, many fewer workers were needed on the assembly line. Of the more than 4,000 production workers, nearly 1,000—most relatively young—accepted a GM buyout of \$25,000 to \$35,000, knowing that their jobs were not necessarily secure.

Five years later, Milkman says, “almost all reported without hesitation that they would make the same decision . . . over again—in large part because of their bitter memories of working at GM.” The vast majority of these men and women easily found new jobs.

Nearly one-third initially became self-employed (the proportion declined over time), and most of these claimed to be earning more than they had at GM. The workers who turned to wage and salary jobs generally took pay cuts, Milkman says, but few expressed nostalgia for their old jobs.

What about those who stayed with GM to work in the modernized Linden plant? The production workers did not make out as well as the workers in skilled trades, who increased their expertise and gained greater responsibilities. The unskilled workers found that the new technology had further simplified their work, often making it even more mindless than before. But even so, they “have no kind words for the traditional system of mass production, GM style,” Milkman writes. “Contrary to the popular assumption that blue-collar workers are committed to the work rules and other features of the status quo ante, few current GM-Linden employees complain about the new forms of work organization they now confront.” What many do complain about, she says, is management’s failure to go far enough in fulfilling its promise of increased worker participation and responsibility.