SMALLER SCHOOLS

How Much More Than a Fad?

BY EDWARD MUIR

FORTY YEARS ago, James Bryant Conant, Harvard president and student of education policy, presented what he saw as the educational and economic advantages of larger high schools. In an influential book entitled *The American High School Today,* he argued that, with more students using the facilities and with administrative functions centralized, larger schools would be more cost effective.[1] As for the educational advantages, Conant believed that larger high schools allowed students to take a wider variety of courses, thus giving them a greater opportunity to learn. Although Conant was talking about schools of at least 400 students, his logic—and the desire of school districts to consolidate schools for financial reasons—has created a world where much larger high schools than he contemplated are now commonplace. The trend to larger schools is not just a high school phenomenon: South Gate Middle School in South Gate, Calif., for example, had an enrollment of more than 3,800 students in 1998, making it perhaps the largest middle school in the nation. However, the concentration of students in larger and larger schools is most often seen at the high school level.

The largest high school in America in 1998, was Belmont Senior High School in Los Angeles, with 5,160 students.[2] In that year, there were 274 high schools in America that had more than 2,750 students. The combined enrollment of these schools was more than 900,000 students. (see Table 1, page 42, for a list of the 25 largest high schools, and Table 2, page 42, for a look at which states have the greatest numbers of large high schools).

When it comes to educational policy and practice, today's silver bullet is often tomorrow's discredited fad, and slowly, during the last decade, reformers at the local level have been working to swing the pendulum back toward smaller schools. These efforts have proven popular with teachers, parents, and students in districts such as Boston, Chicago, New York City, and Philadelphia. A lead teacher in a small Chicago school, for example, told evaluators from Bank Street College that "The smallness has created a sense of commitment and camaraderie that you would not find in a large school."[3] Among the positive features cited by teachers in Chicago's small schools were greater opportunities to plan collaboratively, better communication, and a higher level of trust between teachers and administrators. Teachers in Chicago's small schools also took pleasure in their students' greater engagement in the school community. Ellalinda Rustique-Forrester, a teacher with varied experience in New York City's small schools, while cautioning that these schools require different practices in order to be successful, titled her essay on being a teacher in a small school "Why Wasn't I Taught This Way?"[4] Philadelphia teachers ranked the creation of smaller learning communities within schools as the most positive feature of the district's recent reform efforts.

So "small" is in—as anyone can see from looking at the support the idea is currently getting from foundations and government. Microsoft chief Bill Gates and his wife, Melinda, are investing $56 million from their foundation to create smaller high schools in Boston; St. Paul, Minn.; Cincinnati and West Clermont, Ohio; and Providence and Coventry, R.I., among others. Across the country, legislators and governors are considering programs to limit the size of schools. The legislature in California passed a pilot program for small schools, although Gov. Gray Davis did not sign it. In Florida, Gov. Jeb Bush did sign a bill mandating that new school buildings be designed to serve smaller numbers of students, with the largest high schools having a maximum of 900 students. The U.S. Department of Education

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now administers a grant program to help create smaller high-school units across the country. Sometimes, as in Florida, these efforts involve opening new, smaller school buildings. Other times, reformers focus on redesigning larger schools into a series of mini schools or schools-within-schools. In this arrangement, a number of separate learning programs, each with its own staff and students, share space within the same larger building. Such efforts are designed to gain the advantages of small schools, while making use of existing physical plants.

But as policymakers consider adopting these reforms on a broader scale, we should be asking about the hard evidence that small schools lead to more successful students. In fact, the research shows that smaller is better but that it is not a panacea. Experience in implementing small-schools programs also raises questions about how and where to implement these programs that teachers and policymakers need to consider.

First of all, it has to be acknowledged that we can't speak about small schools as though researchers and reformers have agreed on a certain definition. "Small" depends on who is doing the talking. Moreover, smallness may be defined by more than enrollment, as some believe that small schools necessarily involve different practices and cultures (see sidebar, page 44). Much of the quantitative research defines "large" and "small" in terms of a range, drawing conclusions about larger and smaller schools, rather than focusing on a particular class of "small schools." Although researchers may define small schools differently, it is still possible to draw some conclusions from what is a growing body of research.

Table 1: The 25 Largest High Schools In America, 1998

School Name	Location	1998 Enrollment
Belmont Senior High	Los Angeles, Calif.	5,160
G. Holmes Braddock Sr. High	Miami, Fla.	5,015
Theodore Roosevelt Senior High	Los Angeles, Calif.	5,013
John F. Kennedy High School	Bronx, N.Y.	4,982
James A. Garfield Senior High	Los Angeles, Calif.	4,691
Hastings High School	Houston, Texas	4,545
Bell Senior High	Bell, Calif.	4,540
Newtown High School	Elmhurst, N.Y.	4,536
Elsik High School	Alief, Texas	4,535
Brooklyn Tech	Brooklyn, N.Y.	4,519
Elizabeth High School	Elizabeth, N.J.	4,510
San Fernando Senior High	San Fernando, Calif.	4,434
John Marshall Senior High	Los Angeles, Calif.	4,419
John C. Fremont Senior High	Los Angeles, Calif.	4,409
Polytechnic High	Long Beach, Calif.	4,391
South Gate Senior High	South Gate, Calif.	4,337
De Witt Clinton High School	Bronx, N.Y.	4,337
Fontana High	Fontana, Calif.	4,287
James Logan High	Union City, Calif.	4,267
William C. Bryant High School	Long Island City, N.Y.	4,238
Independence High	San Jose, Calif.	4,226
Lane Technical High School	Chicago, Ill.	4,217
Huntington Park Senior High	Huntington Park, Calif.	4,204
Sachem High School	Lake Ronkonkoma, N.Y.	4,160
Miami Sunset Senior High School	Miami, Fla.	4,146

NB: Some schools may have school-within-school arrangements

Table 2: States With More Than One of the 275 Largest High Schools in America in 1998

State	Number of schools with more than 2,750 students
California	100
New York	41
Texas	40
Florida	37
Illinois	12
Pennsylvania	9
Arizona	7
Nevada	5
Indiana	4
Massachusetts	4
Virginia	4
Colorado	2
Minnesota	2

Student Achievement: The Glass Is Half Full

Florida's law cites a number of reasons for creating smaller schools. It notes that smaller schools *may* raise achievement and certainly do not harm it. This is faint praise at best, but it is consistent with what research tells us. In an examination of the research on small schools for the Northwest Regional Education Lab, Kathleen Cotton cites 23 studies examining student achievement in small schools. While nine found an improvement in smaller schools, 14 found no effect.[5]

Subsequent studies have yielded similarly mixed results. The Manpower Demonstration Research Corporation (MDRC), a prestigious research firm, recently completed a 10-year analysis of the experiences of 1,700 students in career academies—smaller school-within-school high school programs that focus on a particular career theme—in California, Florida, Maryland, Pennsylvania, Texas, and the District of Columbia.[6] The small size of the school and the focus of the program are supposed to increase students' involvement in learning. MDRC, while finding much to praise in the schools, did not find evidence of better student achievement.

The Bank Street study's findings about Chicago's smaller schools showed an improvement in student achievement, but only in certain cases. Students in schools-within-schools performed better on tests than the students in the larger schools that housed them. However, the test scores for all of these students lagged behind students in Chicago's public schools in general. Although the results for outcomes other than testing were quite encouraging, the evaluators concluded that small schools were not "a silver bullet." The authors suggest that the small schools, many of which were created after 1995, need time to turn the other benefits they create into improved test scores. They also suggest that since one of the benefits of small schools is a lower dropout rate, students who might be poor performers wouldn't show up in the testing pool at all unless they were in a small school.

Larger schools are disproportionately harmful to students from poor and minority backgrounds.

But before we accept the inconclusive findings about the effect of smaller schools on student achievement, a better understanding of the mechanisms that might cause small schools to be successful is in order.

Many researchers note that the more intimate settings of smaller schools foster greater engagement—teachers and staff know all students, and all students know each other. And in the long run, this engagement may lead to improved student achievement. This possibility has yet to be investigated systematically. Other researchers suspect that the administrative processes in smaller schools may be more efficient, allowing good leaders to have a greater effect. For example, instructional leaders working with fewer teachers, according to this theory, should have better results in much the same way that teachers working with smaller classes can be more effective. In other words, we might find that better administration is also a factor in improving student achievement.

Researchers Kenneth Meier and John Bohte, who have studied the pass rates for Texas schools on the state's TAAS test, have come up with what seems to be the optimal school size for promoting student achievement.[7] The magic number, according to their data, is 650 students, with achievement lagging as schools got bigger or smaller. The statistical model they used focused on the relationship between achievement and factors such as student characteristics, school size, class size, and teacher experience. Meier and Bohte were also able to refine their model to focus on schools that did particularly well on TAAS. Their findings suggest that high-performing schools are more likely to benefit from smaller size than the others. The researchers suspect that leadership and better management explain why these schools are able to get more benefit from being small and why low performers were not able to use smaller size to get similar results.

Another important factor in looking at the relationship between school size and student achievement is the nature of the student population. Kathleen Cotton's review found consistently positive outcomes in research examining the effect of small schools on achievement of students from disadvantaged backgrounds. She cites 11 studies that find small schools have better compensatory outcomes than larger schools. Two of the studies Cotton cites are by Craig Howley. He calls his research in this area the "Matthew Project," after the words of Jesus reported in the Book of Matthew: "For whosoever hath, to him shall be given, but whoever hath not, from him shall be taken away even that he hath."[8] Howley's conclusion is that schooling done on a large scale causes disproportionate harm to disadvantaged students. Conversely, in their most recent work, Howley and Robert Bickel find that schooling on a larger scale may be moderately beneficial to students of more privileged backgrounds.[9]

The most comprehensive research linking school size, achievement, and student characteristics, *High School Size: Which Works Best and for Whom?* was conducted by Valerie Lee and Julia Smith in 1997. Using a large data set of individual student scores from the National Educational Longitudinal Survey (NELS), Lee and Smith evaluated reading and math scores for high school students across the nation.[10] Their results indicate that the optimal high school size is between 600 and 900 students. Particularly large high schools, those having more than 2,100 students, are substantially less effective for all students. But Lee and Smith's most important finding is that larger schools are disproportionately harmful to students from poor and minority backgrounds. It is in this area that the research is the strongest.

There's More to Small Schools than Test Scores

Although the conclusions on student achievement are still tentative, there are strong indications that smaller schools can result in other positive outcomes. Reformers who support the creation of small schools argue that their intimacy will help foster community networks among students, parents, and teachers. The sum of these networks and the trust they create among participants are sometimes called "social capital." It was sociologist James Coleman who took the lead in identifying social capital as one of the principal factors in learning.[11] More recently, in *Bowling Alone*, a powerful and much discussed book, Robert Putnam presents evidence that social capital is on the decline in America and that this decline has grave implications for society.[12] These vary from lower electoral participation to fewer persons donating blood to potentially higher crime rates. Comprehensive longitudinal research is needed to see whether small schools boost social capital in the long run, and such research is scarce. One study, by David Bensman, has examined the later life outcomes for 117 graduates of East Harlem's Central Park East Elementary School. Finding not only higher

graduation and college attendance rates, but evidence that students are living rich lives, the research is a hopeful start.[13] However, it should be remembered that Central Park East is not a typical small school.

We already know from research that students in smaller schools have some short-term outcomes that are consistent with the building of social capital. In fact, the research on non-test-score outcomes indicates that students in smaller schools have consistently better experiences than their counterparts in larger schools. For example, Cotton cites seven studies showing that students in smaller schools have higher attendance rates than students in larger schools. And five additional studies suggest that moving from a large school to a smaller school will increase a student's attendance rate. In more recent studies, both the MDRC report and the Bank Street evaluation found similar results.

Similarly, smaller high schools have lower dropout rates than larger high schools. Nine of the 10 studies reviewed by Cotton that focused on the issue found this result. One of the best of these studies, which examines outcomes in 744 high schools, links the lower dropout rate with the development of social capital in the intimate settings of these smaller schools.[14] The research also firmly indicates that while larger high schools can offer a greater variety of extracurricular activities, the participation rate in extracurricular activities is higher in smaller schools. This is another way in which more intimate settings can promote the formation of social capital.

The late AFT president Albert Shanker first testified on safe schools before a congressional committee chaired by Indiana's Sen. Birch Bayh almost 25 years ago. Since then, as public opinion research has repeatedly shown, school safety has become a top concern for parents and other members of the community.[15] In a 1993 *American Educator* article, Jackson Toby linked making schools smaller with making them safer. We need, Toby said, to "break through the anonymous, impersonal atmosphere of jumbo high schools and junior highs by creating smaller communities of learning within larger structures, where teachers and students can come to know each other well."[16] Indeed, there are some who believe that tragedies like Columbine would not have happened if all high schools were smaller, and there is research indicating that small schools can be a major part of the solution to school violence.[17]

Overcrowded schools consistently have greater levels of violence, and the research indicates that larger schools generally do as well.[18] Cotton's review found seven studies indicating that smaller schools had better patterns of student behavior. Although principals often hesitate to report discipline problems in their schools, the latest U.S. Department of Education survey research reveals that 38 percent of principals in large schools reported some serious discipline problems in 1996, compared with 15 percent of principals in medium-sized schools and 10 percent of principals in small schools.[19] In the Bank Street evaluation, students in Chicago school-within-school programs reported that they fought less than students in the larger program because they knew one another. Surveys indicate that these students feel better able to resolve conflicts and work cooperatively than students in Chicago public schools generally.

On the other hand, there are concerns that small schools have social costs as well as benefits. Some civil rights activists in Florida objected to the state's new smaller schools law on the grounds that these schools would draw from smaller geographic areas, leading to a more homogeneous student population. The fear was that this would result in the resegregation of schools. The Florida legislation seeks to head off this problem with language that limits the application of the law in districts that are under desegregation court orders. However, to the extent that there is a tradeoff between specific social benefits for students and greater homogeneity, it certainly undermines one of the chief benefits of small size.

Costs of Small Schools

One reason for the popularity of larger schools is the belief that they are less expensive to operate. Theoreti-

What Size Is a "Small" School Anyhow?

One of the disputes within small-schools research is definitional. How small is small? When does a school become too big to be considered small? And what is the ideal size? According to a *Phi Delta Kappan* poll, 58 percent of parents want their children to be in schools with fewer than 1,000 students, 28 percent said they favored schools between 1,000 and 1,500 students, and only 2 percent of parents said they favored a school with more than 2,000 students for their child. The National Association of Secondary School Principals recommends a maximum of 600 students in secondary schools.* Activists like Theodore Sizer of the Coalition of Essential Schools often favor much smaller schools—with fewer than 400 students being seen as ideal.

As for the research, Kathleen Cotton's review of the literature shows that some studies do not even address this issue. In the 27 studies that do, a large school can be defined as having as few as 300 students or as many as 5,000, depending on the study. Cotton finds a cluster of researchers who believe that 400 is the appropriate upper limit for a secondary school, but she herself opts for 800. The research reviewed here seems to go along with Cotton's view. Kenneth Meier and John Bohte's research indicates that 650 is the optimal size. Valerie Lee and Julia Smith find that the ideal high school size is between 600 and 900 students. The question of how small is a "small" school is one of the nagging research issues that remains to be addressed. □

* Maine State Planning Council on Developmental Disabilities and National Association of Secondary School Principals, *Breaking Ranks: Changing an American Institution,* Reston, Va.: Author, 1996.

cally, as Conant indicated, this efficiency is a natural result of larger scale. In particular, spending on facilities, especially common spaces such as cafeterias, auditoriums, and gymnasiums, as well as certain administrative operations, can be spread over larger numbers of students, thus lowering the per-pupil cost.

And, recent research on charter schools tends to confirm the principle that smaller is more expensive. Studies from Michigan show that charter schools spend more per pupil on administration than do traditional schools.[20] This is because small charter schools, on their own, are often trying to replicate many of the administrative functions of a larger school or even an entire school district. Therefore, more of the per-pupil dollars must go to administration.

Newer research into New York City schools complicates this picture. It has found that although smaller academic high schools cost more per pupil than larger high schools, they are more efficient on a per-graduate basis—up to a point. It cost the city $51,000 per graduating student in high schools of under 600 students. The city spent $65,000 per graduate in academic high schools serving between 600 and 2,000 students and $50,000 per graduate in high schools serving more than 2,000 students. The efficiency in the large high schools was due to size; in the smaller schools, it was a result of higher graduation rates.[21]

Overcrowded schools consistently have greater levels of violence, and larger schools generally do as well.

Is It More Than Just Size?

As I've already indicated, many of the reformers working to create smaller schools believe these schools cannot be defined by size alone (making the name "small school" somewhat misleading). One of the nation's leading advocates for small schools is Deborah Meier, who was principal of Central Park East in New York City and is now principal of Mission Hill, a pilot school in Boston. Pilot schools are small public schools with a great deal of independence that have been created by an agreement between the district and the Boston Teachers Union. Meier, who defines small schools by their focus as well as by their size, argues that parental choice is an important component in creating proper school communities.[22] The New Visions program in New York and the pilot schools in Boston are experiments not just in smallness but in decentralization and school-based decision-making, and research indicates that the different processes in these schools lead to different outcomes.

Similarly, charter schools are sometimes defined as small schools, and that is often the case. As a major experiment in school-based financing, deregulation, and governance, they are also many things besides small. Recent research comparing the experiences of charter schools to pilot schools and district schools with site-based management in Boston underlines how these other factors can affect outcomes and potentially amplify or mask the effects of size. The study, "Sometimes Bureaucracy Has Its Charms," found that pilot schools had institutional advantages over charter schools, including stable expectations regarding salaries, but they did have more freedom than schools using site-based management.[23] This research highlights the need to control for factors that may mask the effect of size when studying outcomes in smaller schools. For example, if a small school is a school of choice, then researchers have to control for the possibility that better informed and more involved parents are creating better outcomes, as opposed to mere size. Similarly, if a smaller school is serving a particularly at-risk population, as is the case in some alternative schools, then that needs to be accounted for in assessing school results.

Taken together, the findings of researchers and experience of practitioners indicate that size may be a catalyst that helps staff to work effectively at increasing achievement, but that size alone is not enough. If so, then perhaps smaller schools are a lens that better focuses curriculum implementation, professional development, collaborative planning, or other factors in student achievement. Without carefully considering variables that are affected by "smallness"—and examining the relationships between smallness, these variables, and student learning—we may not be able to develop a complete picture of small schools. Governance and design issues play a part in this question as well. For example, do small school-within-school programs have different outcomes from stand-alone schools? What role does theme-based education, of the sort found in career academies, play? The next question for small-school research to answer will be why some small schools do better than others.

Conclusion: Some Mysteries Remain

"Smaller" is in for a reason. While we don't have a complete answer on the relationship between smaller schools and student achievement, there is good evidence that smaller schools have some positive com-

pensatory effects for at-risk students. However, we still do not know why this is so.

As for the social benefits of small schools, more research should be done on the long-term effects of these benefits. For example, if students who attend smaller schools are more likely to vote or be employed and less likely to be in jail 20 years later, then small schools will be seen as an engine that improves social capital across the board. Having schools that are safer and graduate more students may be good enough. □

ENDNOTES

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[2] All specific school size information cited here is from the National Center for Education Statistics' "Common Core of Data, Public School Universe 1997-98."

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[8] Matthew 13:12 as quoted in Craig Howley's "The Matthew Principle: A West Virginia Replication?" in *Education Policy Analysis Archives,* 3:18.

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[14] Pittman, Robert and Perri Houghwout, "Influence of High School Size on Dropout Rate," *Educational Evaluation and Policy Analysis,* 9: 337-343, 1987.

[15] For example, a 1999 *Washington Post* poll found that 76 percent of Americans were at least somewhat concerned that children were not safe in schools. Another 1999 survey, by National Public Radio, found that a similar percentage favored increased spending to make schools safer. These and other polling results can be found on the Public Agenda Web site at www.publicagenda.org.

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[23] Johnson, Susan Moore and Jonathan Landman, "Sometimes Bureaucracy Has Its Charms: The Working Conditions of Teachers in Deregulated Schools," *Teachers College Record,* 2000, www.tcrecord.org/default.asp.