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## ABSTRACT

This report summarizes a series of studies on school size, poverty, and student achievement. These studies analyzed 29 sets of test scores from various grades in Georgia, Ohio, Montana, and Texas to examine the relationship between school-level performance on tests, school size, and community poverty level. The studies found that as schools become larger, the negative effects of poverty on student achievement increase. The less affluent the community served, the smaller a school should be to maximize the school's performance. The well-documented correlation between poverty and low achievement is as much as 10 times stronger in larger schools than in smaller ones in all 4 states. These benefits of smaller schools seem to be particularly important at the middle grade level where children are approaching the age when they are most at risk of dropping out of school. While children of all races are as likely to be affected by the relationship between school size, poverty, and achievement, minority children are often enrolled in schools that are too big to achieve top performance given the poverty levels in their communities. Nine tables and graphs present findings from the studies. Three Web sites on small schools are listed. (TD)



When it Comes to Schooling...

# SMALL WORKS

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## School Size, Poverty, and Student Achievement

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# RESULTS OF FOUR-STATE STUDY: SMALLER SCHOOLS REDUCE HARMFUL IMPACT OF POVERTY ON STUDENT ACHIEVEMENT

## New Research Findings

New research shows that smaller schools in four widely divergent states reduce the harmful effects of poverty on student achievement. Smaller schools help students from less affluent communities narrow the academic achievement gap (as measured by state sanctioned standardized tests) between them and students from wealthier communities.

## Background

Research has clearly established that poverty negatively affects student achievement. Can smaller schools weaken this relationship by reducing the damaging effects of poverty on achievement?

The Rural School and Community Trust, a national nonprofit organization dedicated to improving rural schools and strengthening the relationship between schools and the communities they serve, has undertaken a series of four state-level studies to address this issue. The four states are Georgia, Montana, Ohio, and Texas. These studies were conducted by **Craig Howley** of Ohio University and Appalachia Educational Laboratory, and **Robert Bickel** of Marshall University.

## Research Hypothesis

*The effect that a school's size has on its performance (as measured by average student scores on standardized tests) depends on the level of poverty in the community the school serves.*

## Methodology

In each state, the same methods were used to measure how school performance (as measured by average student achievement on standardized tests in various grades) is related to:

- the level of *poverty* in the school and district
- the school and district *enrollment size*
- the *interaction between these two factors*.

The research included all regular schools and districts in each state, with only a few exceptions for those with missing data. In all, about 13,600 urban, suburban, and rural schools in 2,290 districts were studied in these four states collectively.

## Analysis

The researchers looked for two kinds of effects:

The “*excellence effect*” of school size – Does a school or school district’s size influence its students’ performance differently depending on the level of poverty in the communities from which the students come? Regression analysis is used to indicate how achievement scores change as school size changes in communities of differing poverty levels.

The “*equity effect*” – How much of the variance in average test scores among schools can be attributed to differing levels of poverty in the communities the schools serve? Is poverty’s power over student achievement

greater in smaller or larger schools? Correlation analysis is used to show whether the link between poverty and low levels of achievement is stronger in schools above or below median size.

For this research, the unit of analysis is the school, not the individual student. This is appropriate in today's policy environment because school teachers, administrators, and leaders are increasingly held accountable for the aggregate performance of their students.

**The Data**

The *poverty* level in the schools in Georgia, Montana, and Texas was measured by the percentage of students in the school who qualify for free and reduced-price lunches. In Ohio, the poverty level in the schools was measured by the percentage of students in the school district who live in families receiving aid under the Temporary Assistance to Needy Families (TANF) program.

The *school size* in all four states was measured as the average number of students per school grade to control for differences in the number of grades in a school. The four states differ widely in the average size of school and the range of school sizes within the state. Ohio schools closely parallel national averages, while schools in Texas are somewhat larger. Georgia is a state with even larger schools, among the largest in the nation. Montana, by contrast, is a state composed mostly of small schools.

It is important to note that this study sets no absolute size standard for "large" or "small" schools. Instead, within each state, the researchers considered school size in relative terms, comparing the performance of larger and smaller schools in communities with greater or lesser levels of poverty.

**Size Distribution of Schools Varies Among the Four States**

	<b>Georgia</b>	<b>Ohio</b>	<b>Montana</b>	<b>Texas</b>
<b>Percent Elementary Students Attending Schools with Under 350 Students</b>	8	24	56	10
<b>Percent Secondary Students Attending Schools with Under 900 Students</b>	17	49	57	24

*Note: The source for the data in this table is the Common Core of Data, National Center for Education Statistics (NCES). These data and the size definitions are used here merely to describe differences in school size among the four states. This study does not use any absolute definition of "small" or "large" schools.*

For each school in the state, researchers used average student performance on standardized, state-mandated achievement tests. The tests used in these states vary. Texas and Ohio use their own tests; Georgia uses the Iowa Test of Basic Skills; and Montana requires each school to use a standardized test of its own choosing. In each state, schools were only excluded if data was not available, as in the case of schools not offering a grade in which tests are administered. Here is a summary of the achievement data used in each state:

- **Georgia:** the mean school level percentile-rank scores on seven separate tests and one composite for the Iowa Test of Basic Skills in grades 3, 5, and 8, and the percentage of students who pass the four separate components and the composite on the Georgia High School Graduation Test on first administration in grade 11. Test scores were analyzed from 1,626 of the approximately 1,800 schools in Georgia.
- **Montana:** the average test scores in five subject areas (reading, mathematics, language arts, science, and social studies) in grades 4, 8, and 11. The Montana Office of Public Instruction reports scores from the various tests used by local districts in a uniform format, allowing use of the data in a comprehensive analysis of school performance. The analysis included 889 schools in 457 districts, nearly all of the schools in the state.
- **Ohio:** the Ohio Proficiency Tests administered in grades 4, 6, 9, and 12 in each school. For each of those grades in each school, the percentage of the students passing each of the tests was averaged. For each test at each grade, two separate pass rates were calculated: the percentage of students who passed at the basic or regular standard, and those who passed at the higher, or “advanced” standard. There were, therefore, a total of eight testing results analyzed for each school: two overall passing rates (regular or “advanced”) in each of the four grades. These test scores were analyzed from 3,841 schools in 611 districts.
- **Texas:** the average scores for each school on three sections (reading, mathematics, and writing) of the 1996-97 Texas Assessment of Academic Success for grades 8 and 10; and two sections (reading and math) for grades 3 and 5. Test scores were analyzed from 6,288 schools in 960 districts

The number of students enrolled in the schools studied in these states varies from 152,000 (Montana) to 3,237,000 (Texas). The number of districts ranges from 180 (Georgia) to 1,042 (Texas). The number of schools ranges from 889 (Montana) to 7,053 (Texas). The percentage of minority students ranges from 13 (Montana) to 55 (Texas).

Taken together, these states capture much of the complex demographic and administrative structure of U.S. public schooling.

### **“Excellence” Effects: Small Schools Are Better for Most Communities**

In Georgia, Ohio, and Texas, there is strong evidence that students in the less affluent communities in each state perform better when they attend smaller schools. The lower the income in the community, the more student achievement is benefited by smaller schools. The lower the income of the community served by the schools, the more achievement sags in larger schools and surges in smaller schools. In Montana, a state that maintains many small schools and few large ones, this “excellence” effect of small schools was also evident, but not as strong.

#### ***State-by-state results include these findings:***

- **Georgia:** As school size increases, the average achievement score in schools serving children from poorer communities falls on 27 of 29 test scores.
- **Ohio:** At all grade levels and for both regular and “advanced” pass rates, both smaller schools and smaller districts are associated with higher achievement in poorer communities.
  - Ohio was the only state where the excellence effect was apparent at the district level as well as at the school level.

- In Ohio, the excellence effect was also strongest *in rural and small-town schools* – school size alone does not have much direct effect on achievement, but it does when community income is taken into consideration. *But in Ohio’s urban areas, larger schools are strongly associated with weaker achievement at all levels of poverty.*
- **Texas:** As school size increases, the average achievement score in schools serving children from poorer communities falls on eight of ten test scores.
- **Montana:** There is very little evidence that the effect of school size on achievement depends on the income level of the community. This pattern was present in Montana only at the grade 4 level. In Montana, however, there is strong evidence that smaller schools outperform larger schools at all levels of community poverty, despite serving poorer communities in general (see equity effects below).

### ***Schools “At-Risk” of Lower Student Performance***

These results indicate that many schools are too large to produce top performance given the level of income in the community they serve. How many schools and students are “at risk” of worse performance if the school were consolidated into a larger school – or on the other hand, would likely perform better if the school were smaller?

- **Georgia:** Between 36 and 68 percent of the schools (depending on grade level tested) would likely produce lower average student scores if the schools were larger, or higher scores if the schools were smaller. These schools serve between 29 and 64 percent of the Georgia students tested in those grades.
- **Ohio:** Between 41 and 90 percent of Ohio schools (depending on grade level tested) would likely produce lower average student scores if the schools were larger, or higher scores if the school were smaller. These schools serve between 43 and 89 percent of the Ohio students tested in those grades.
- **Texas:** Between 26 and 57 percent of Texas schools (depending on grade level tested) would likely produce lower average student scores if the schools were larger, or higher scores if the schools were smaller. These schools serve between 27 and 46 percent of the Texas students tested in those grades.

These relationships are consistently strong for the critical grades when children are at or approaching the age when they are most at-risk of dropping out of school.

- In Ohio, at the 9th grade level, **90 percent** of the schools are too big to maximize achievement, given the income level of the communities they serve, and would likely produce higher scores if they were smaller. These schools serve **89 percent of 9th graders.**
- In Texas, at the 10th grade level, **57 percent** of the schools are too big to maximize achievement, given the income level of the communities they serve, and would likely produce higher scores if they were smaller. These schools serve **almost half (46%) of 10th graders.**
- In Georgia, a similar pattern is evident for 8th graders (52% of the schools serving 48% of the students); the percentage of schools at risk of poor performance is even greater at the elementary level in Georgia.

**Schools “At-Risk” of Lower Performance Due to  
Their Size and the Income Level of the Community They Serve**

	Grade Spans in Which Testing Occurs			
	Grades K-4	Grades 5-6	Grades 7-9	Grades 10-12
<b>The Particular Grades Tested in this Grade Span in the State of:</b>				
Georgia	3	5	8	11
Ohio	4	6	9	12
Texas	3		8	10
<b>Percent of Schools Offering This Grade That are “At-Risk of Lower Performance in:</b>				
Georgia	64	68	52	36
Ohio	82	53	90	41
Texas	26		29	57
<b>Percent of Students in This Grade Who Attend Schools “At-Risk” of Lower Performance in:</b>				
Georgia	60	64	48	29
Ohio	78	49	89	43
Texas	27		32	46
<b>Average Enrollment in Schools “At-Risk” of Lower Performance in:</b>				
Georgia	554	557	796	1,020
Ohio	387	446	451	803
Texas	586		590	651

Note: Montana is not included because “excellence” effect was not statistically significant in most tested grades.

**Equity Effect: Poverty’s “Power Rating” Is Weakened By Small Schools**

Does poverty have more power over student performance in larger or in smaller schools? Researchers calculated the percentage of the variance in test scores that can be explained by the level of the poverty in the communities served by schools. We call this statistic “*poverty’s power rating*” because it suggests how much negative impact poverty has over student achievement. This statistic was calculated for larger and for smaller schools (those above and below the median size) in each state.

***In all four states, smaller schools cut poverty's power rating by between 20 and 70 percent, and usually by 30-50 percent, depending on grade level.*** In Georgia, Ohio, and Texas, smaller schools reduce the negative effect of poverty on average student achievement in every grade tested. In Montana, smaller schools significantly cut poverty's power rating in two of the three grades tested.

***The results for each state:***

***Georgia:*** In all grades and on all 29 standardized test scores, poverty's power rating is substantially lower in smaller schools than in larger schools.

- In ***larger schools***, poverty's power rating ranged from ***49 to 79 percent***, depending on grade and subject area tested.
- In ***smaller schools***, poverty's power rating ranged from ***18 to 53 percent***.
- In head-to-head comparisons, smaller schools produced lower poverty power ratings than larger schools ***on every test in every grade*** (29 comparisons).
- Smaller schools cut poverty's power over composite achievement by between one-third (8<sup>th</sup> grade) and one-half (11<sup>th</sup> grade).
- Smaller schools cut poverty's power over achievement on specific tests by at least one-fifth (8<sup>th</sup> grade reading vocabulary) in every case and by as much as two-thirds on a specific test (11<sup>th</sup> grade English).

***Ohio:*** In all grades and at both regular and "advanced" levels of passing the test, poverty's power rating is substantially lower in smaller schools than in larger schools.

- In ***larger schools***, poverty's power rating ranged from ***41 to 59 percent***, depending on grade and passing standard.
- In ***smaller schools***, poverty's power rating ranged from ***27 to 33 percent***.
- In head-to-head comparisons, smaller schools produced lower poverty power ratings than larger schools at both regular and "advanced" levels ***in every grade***.
- Smaller schools cut poverty's power over achievement by ***between one-fourth*** (12th grade, regular pass level) ***and one-half*** (6th grade, "advance" pass level).
- These equity effects were apparent for school ***district*** size, as well as for school size.

***Texas:*** In all grades and in all subject areas tested (reading, mathematics, and writing), poverty's power rating is substantially lower in smaller schools than in larger schools.

- In ***larger schools***, poverty's power rating ranged from ***at least 30 percent to as high as 62 percent***, depending on grade and subject area.
- In ***smaller schools***, poverty's power rating ranged from ***as low as 3 to no higher than 31 percent***.



- In the *critical grades 8 and 10*, where children are at or approaching the age when they are most at-risk of dropping out, small schools cut poverty's power over achievement by **80 to 90 percent** in reading, writing, and mathematics.

**Montana Schools:** In the early and middle school grades 4 and 8, poverty's power rating in larger schools was **four times greater** than it was in smaller schools. For grade 11, poverty's power rating was higher in the smaller schools, but only slightly (26%). This may be partly because students from less affluent families who are most at-risk have already dropped out of school.

Overall, academic achievement scores in the smaller schools was **as high or higher than in larger schools for all grades**, despite the fact that the poverty level in the smaller schools averaged between 15 and 52 percent higher, depending on grade.

**Montana Districts:** A similar analysis for Montana school *districts* produced even more powerful results. These analyses were done for the relevant grades in four groups of districts: elementary only, secondary only, K-12 only, and all districts regardless of grades offered. In all, 11 analyses were done comparing poverty's power rating in the larger half of the districts versus its power rating in the smaller half.

**In 9 of the 11 comparisons, poverty's power rating was lower in the smaller districts.**

- The results were especially strong for the 8<sup>th</sup> grade, when children are at or approaching the age when they are most at-risk of dropping out. In all districts, as well as in elementary-only districts, smaller districts (averaging under 100 students) had higher 8<sup>th</sup>-grade achievement scores than larger districts (averaging 925 students) despite having a poverty rate about 16 percent higher. In other words, **groups of less affluent students out-performed groups of more affluent students on standardized, norm-referenced tests**. Poverty's power over achievement among 8<sup>th</sup> graders in the larger districts was 2.5 times greater than in the smaller districts overall, and three times greater in elementary-only districts.
- Among the K-12 districts, poverty's power rating ranged from **31 to 45 percent in larger districts** (depending on test grade), while it was **no higher than 12 percent in the smaller districts**. At grade 4, poverty's power over achievement approached zero in the smaller districts. The poverty level among the two groups of districts was essentially the same, while the average achievement was higher in the smaller districts, in every test grade.

### **Results Are Not Related to Race**

These results were not significantly altered (but slightly strengthened in most cases) when researchers controlled for race. Small schools are a major positive factor in student achievement among the poor, race notwithstanding. In two instances, separate analysis was also conducted of districts with large minority enrollment.

- In 514 Ohio schools with more than one-third African-American enrollment (median African-American enrollment rate of 65%, and TANF rate of 41.5%), all observed differences favored small schools and the most significant difference appeared in grade 9.
- In Montana, a separate analysis of the 47 districts with more than 25 percent Native-American enrollment produced no evidence that race is a factor in the study findings.

But although the relationship between school size, poverty, and student achievement may not depend on race, it is often true that minority groups live in communities where poverty rates are quite high, and they are therefore very likely to attend schools that are too large to produce highest levels of achievement.

- In Texas, these relationships are particularly strong for Hispanic students. Hispanic enrollment in schools too large to expect top performance is between 2.5 and 3 times the rate of Hispanic enrollment in schools that are not too large.
- In Georgia, African-American enrollment in schools too large to expect optimum achievement in their community is between 2.4 and 3.8 times the rate of African-American enrollment in schools that are not too large.

### **Results Are Not Related to Class Size**

In Ohio and Montana, researchers also controlled for class size. It did not affect results in either state, although in Ohio at the 4<sup>th</sup> and 6<sup>th</sup> grade levels smaller class size does exert a small additional influence in favor of achievement.

### **Conclusions**

As schools become larger, the negative effect of poverty on student achievement increases. The less affluent the community served, the smaller a school should be to maximize the school's performance as measured by standardized tests.

- The effects take place at very moderate levels of income and affect many schools. At least one-fourth of the schools serving moderate to low-income communities in Texas, one-third in Georgia, and two-fifths in Ohio, are too large to achieve top performance from their student body and many of them would likely produce higher scores if they were smaller.
- In Montana, a state that has consistently sustained a small school structure, there is startling evidence that smaller schools and districts outperform larger ones even though they serve poorer communities.

The well-documented correlation between poverty and low achievement is much stronger – *as much as ten times stronger* – in the larger schools than in smaller ones in all four states.<sup>1</sup>

- This impressive result was found consistently in 48 of 49 comparisons between smaller and larger schools. Small schools cut poverty's power over achievement by 10 to 56 percentage points (or by between 24 and 90 percent), depending on state, grade level, and subject area tested. In some instances, poverty's power over achievement in smaller schools approached zero.

There is a pattern of finding these benefits of smaller schools to be particularly important at the middle grade level where children are at or approaching the age when they are most at risk of dropping out of school.

While children of all races are as likely to be affected by the relationship between school size, poverty, and achievement, minority children are often enrolled in schools that are too big to achieve top performance in the community.

- Minority enrollment in schools too large for the community they serve is 2.5 to 3 times the rate of minority enrollment in schools that are not too large.

Except in Montana, many schools in moderate to low-income communities of the study states are too large to reach the performance level they might reach if they were smaller. This ranges from a low of one-fourth of the schools offering 4<sup>th</sup> grade in Texas to 90 percent of the schools offering 9<sup>th</sup> grade in Ohio. Many of these

schools are not “large” in the absolute sense that many observers might define “large.” In fact, the *average* enrollment of schools “at-risk” of lower performance because they are too large is generally below the upper limits of size suggested by such groups as the Education Commission of the States and the National Association of Secondary School Principals.

Many of the smaller schools in these states serve lower income rural communities. While not all of these are “good” schools, and while all schools can surely be improved, the smallness of these schools is an asset to student achievement. Consolidating them into larger schools would likely produce lower achievement scores in the less affluent communities.

### **Implications**

If improving student achievement as measured by standardized tests and narrowing the achievement gap between children from the most affluent and the least affluent communities is a policy goal, states should consider adopting policies favoring smaller schools, especially in the least affluent communities.

States concerned about reinvesting in deteriorating school facilities should not be eager to increase school size in most instances, if higher student achievement, especially in poorer communities, is a goal.

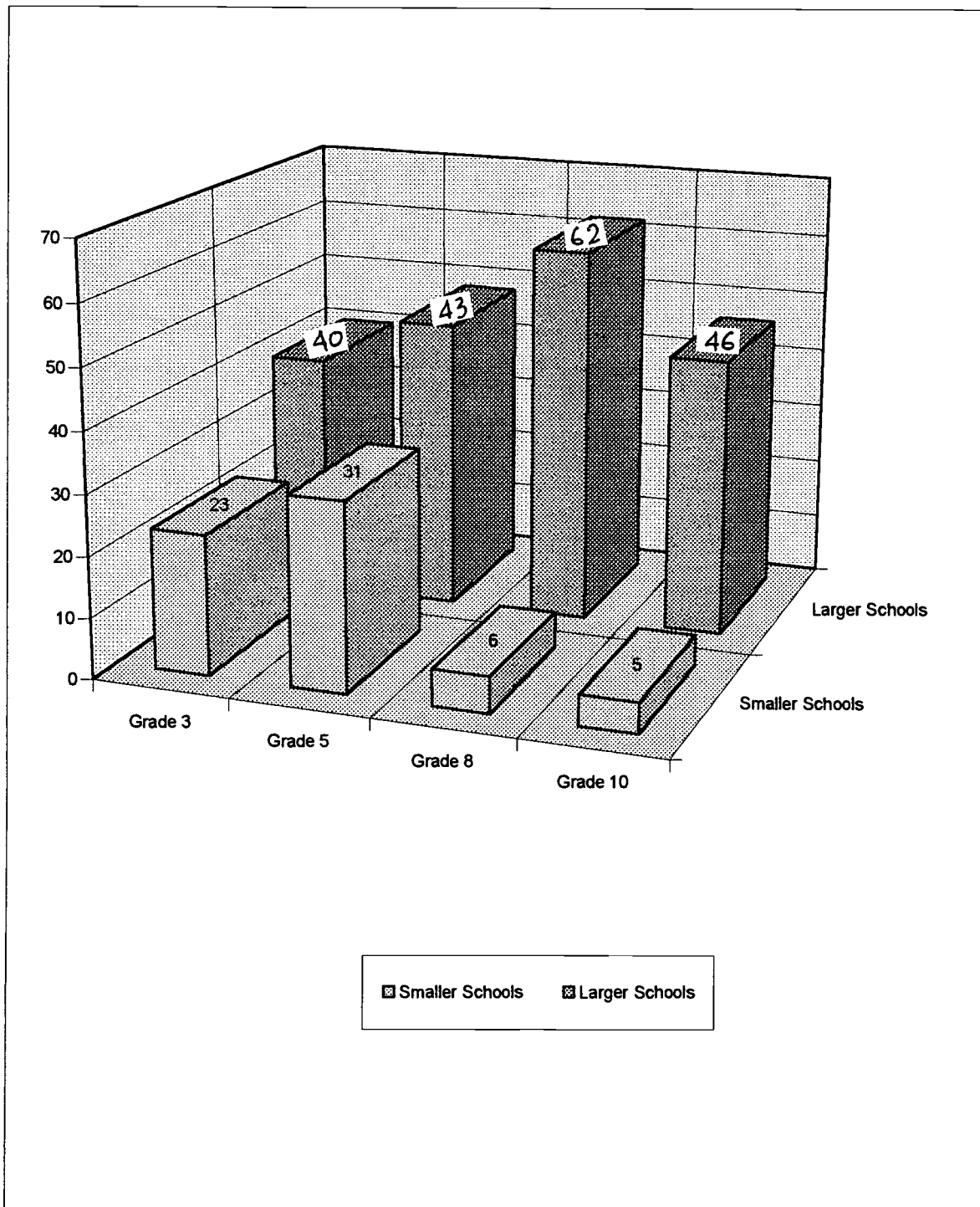
## **Texas' Small Schools Cut Poverty's Power Over Student Achievement**

	<b><u>Poverty's Power Rating Is...</u></b>		<b><u>Small Schools Cut Poverty's Power By...</u></b>	
	<b><u>Larger Schools</u></b>	<b><u>Smaller Schools</u></b>	<b><u>Points</u></b>	<b><u>Percent</u></b>
<b>Grade 3</b>				
Reading	40	23	17	43
Mathematics	31	16	15	48
<b>Grade 5</b>				
Reading	47	31	16	34
Mathematics	30	20	10	33
<b>Grade 8</b>				
Reading	62	6	56	90
Mathematics	53	6	47	89
Writing	49	8	41	84
<b>Grade 10</b>				
Reading	46	5	41	89
Mathematics	31	3	28	90
Writing	35	4	31	89

The "Power Rating" is the portion of the variance in test scores that can be explained by the level of poverty in the school. It is calculated by squaring the correlation coefficient.

"Larger" means above the median sized enrollment; "Smaller" means below median sized enrollment.

# Texas' Smaller Schools Slash Poverty's Power Over Student Achievement In Reading



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## **Montana's Small Schools Slash Poverty's Power Over Student Achievement In the Critical Early and Middle Grades**

	<b><u>Achievement is as Good or Better</u></b>		<b><u>Despite Higher Poverty</u></b>		<b><u>And Poverty's Power Rating Is...</u></b>	
	<b><u>Larger Schools</u></b>	<b><u>Smaller Schools</u></b>	<b><u>Larger Schools</u></b>	<b><u>Smaller Schools</u></b>	<b><u>Larger Schools</u></b>	<b><u>Smaller Schools</u></b>
<b>Grade 4</b>	<b>57</b>	<b>57</b>	<b>39</b>	<b>45</b>	<b>45</b>	<b>11</b>
<b>Grade 8</b>	<b>57</b>	<b>58</b>	<b>34</b>	<b>45</b>	<b>45</b>	<b>10</b>

**Notes:**

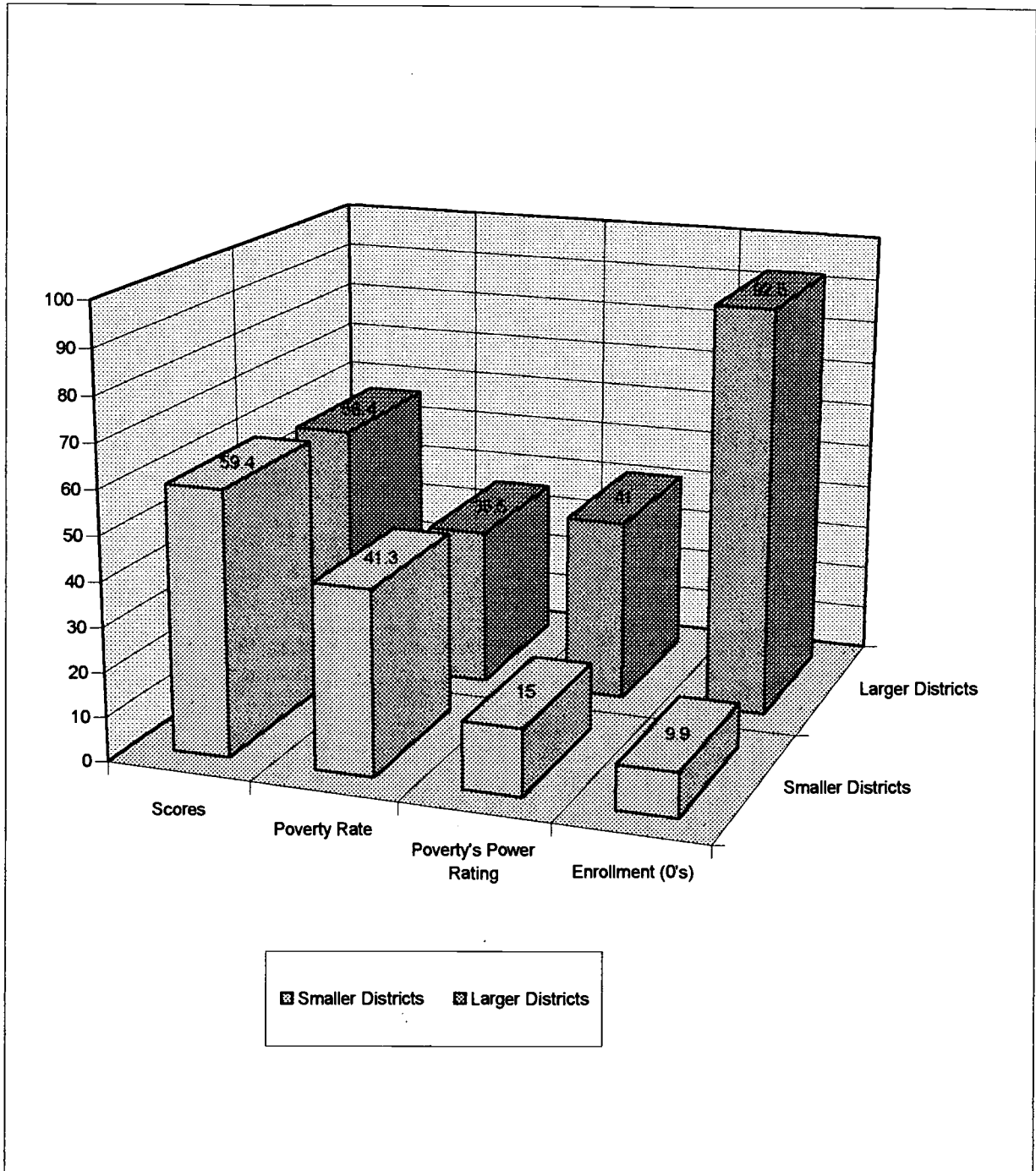
"Larger means above median sized enrollment; "Smaller" means below median sized enrollment.

"Achievement is a "normal curve equivalent," or NCE, computed for each school by the Montana Office of Public Instruction.

"Poverty" is the rate of participation in free and reduced price meals.

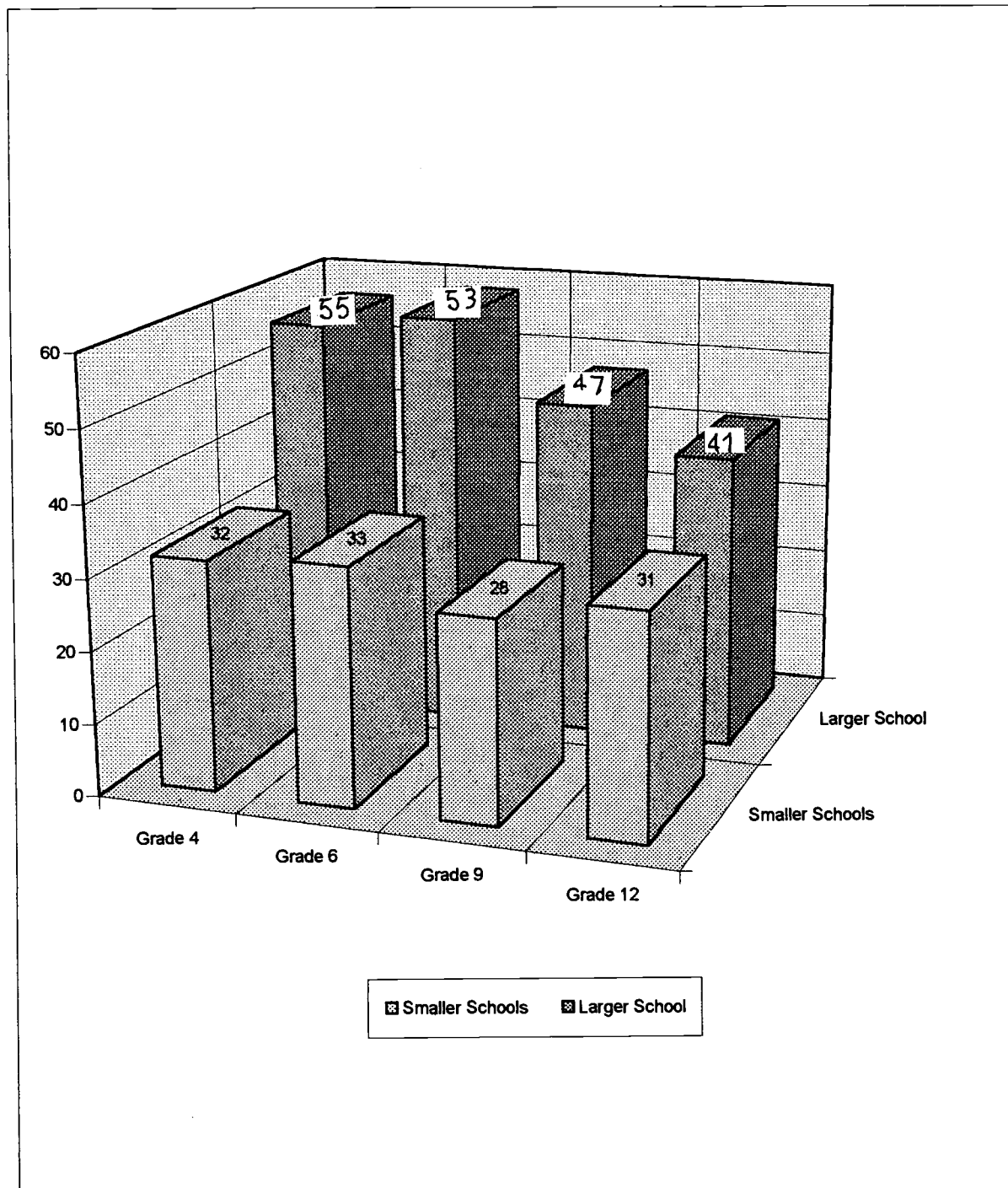
The "Power Rating" is the portion of the variance in test scores that can be explained by the level of poverty in the school. It is calculated by squaring the correlation coefficient.

## Cutting Poverty's Power: Eighth Graders in Montana's Smaller Districts Outperform Those in Larger Districts, Despite More Poverty



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## Ohio's Smaller Schools Slash Poverty's Power Over Student Achievement



The portion of the variance in test scores that can be explained by the level of community poverty in larger versus smaller schools.



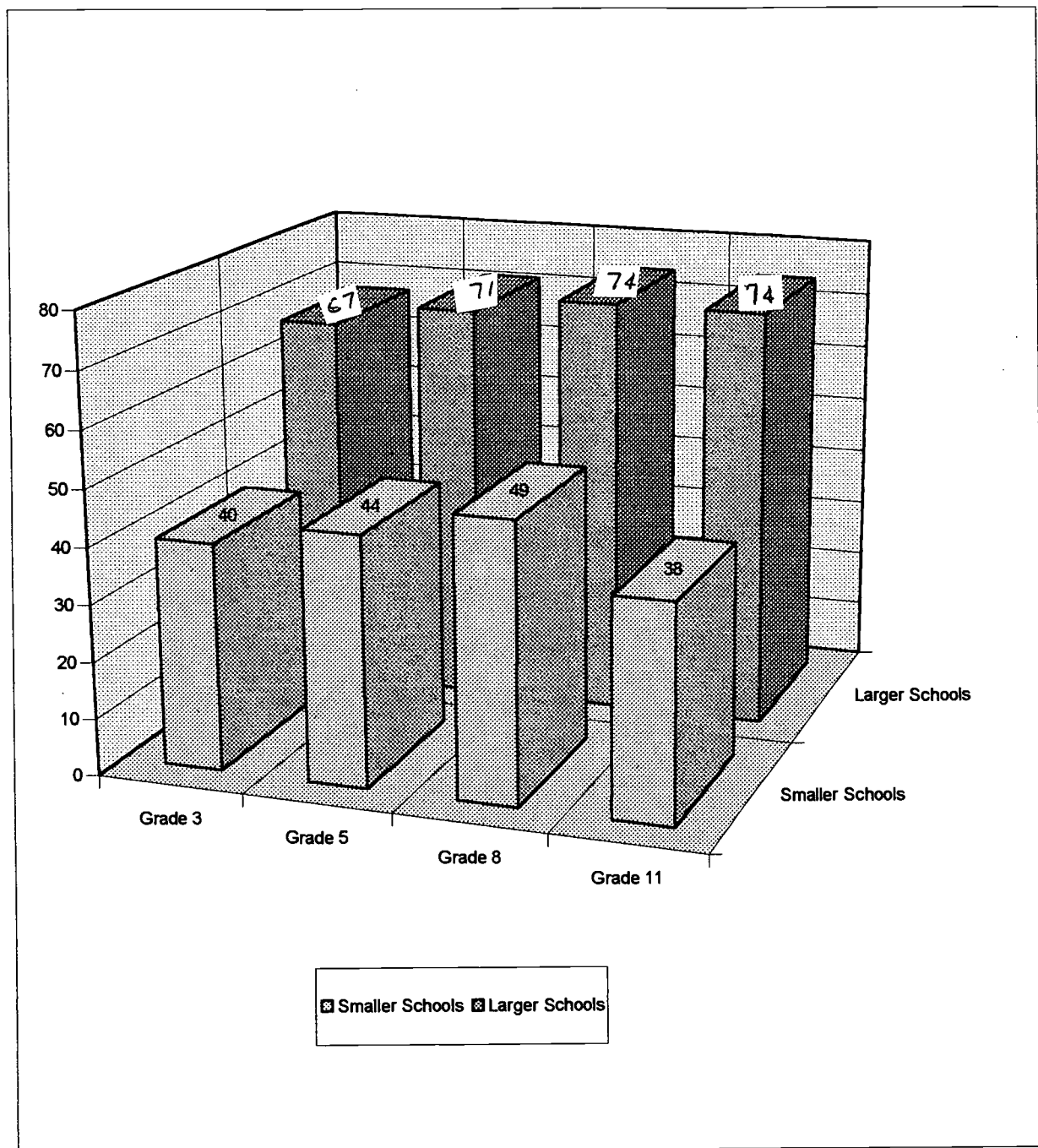
## **Ohio's Smaller Schools Slash Poverty's Power Over Student Achievement**

	<b><u>Poverty's Power Rating Is...</u></b>		<b><u>Small Schools Cut Poverty's Power By...</u></b>	
	<b><u>Larger Schools</u></b>	<b><u>Smaller Schools</u></b>	<b><u>Points</u></b>	<b><u>Percent</u></b>
<b>Grade 4</b>				
Regular Pass	56	32	24	43
Advance Pass	57	31	26	46
<b>Grade 6</b>				
Regular Pass	59	33	26	44
Advance Pass	56	27	29	52
<b>Grade 9</b>				
Regular Pass	47	28	19	40
Advance Pass	NA	NA	NA	NA
<b>Grade 12</b>				
Regular Pass	41	31	10	24
Advance Pass	55	31	24	44

"Larger" means above median sized enrollment; "Smaller" means below median sized enrollment

The "Power Rating" is the portion of the variance in test scores that can be explained by the level of poverty in the school. It is calculated by squaring the correlation coefficient.

## Georgia's Small Schools Cut Poverty's Power Over Achievement



**The "power rating" is the portion of the variance in achievement scores that can be explained by the level of poverty in the community served by the school.**

# Georgia's Smaller Schools Slash Poverty's Power Over Student Achievement

	<u>Poverty's Power Rating Is...</u>		<u>Small Schools Cut Poverty's Power By...</u>	
	<u>Larger Schools</u>	<u>Smaller Schools</u>	<u>Points</u>	<u>Percent</u>
<b><u>Grade 3</u></b>				
<b>Composite</b>	<b>67</b>	<b>40</b>	<b>27</b>	<b>40</b>
<b>Individual Tests...</b>				
Reading Comprehension	61	31	30	49
Mathematics	55	28	27	49
Reading Vocabulary	64	36	28	44
Language Arts	49	22	27	55
Social Studies	67	41	26	39
Science	69	42	27	39
Research Skills	69	40	29	42
<b><u>Grade 5</u></b>				
<b>Composite</b>	<b>71</b>	<b>44</b>	<b>27</b>	<b>38</b>
<b>Individual Tests...</b>				
Reading Comprehension	67	41	26	39
Mathematics	64	35	29	45
Reading Vocabulary	62	28	34	55
Language Arts	56	26	30	54
Social Studies	64	41	23	36
Science	66	48	18	27
Research Skills	67	42	25	37
<b><u>Grade 8</u></b>				
<b>Composite</b>	<b>74</b>	<b>49</b>	<b>25</b>	<b>34</b>
<b>Individual Tests...</b>				
Reading Comprehension	79	52	27	34
Mathematics	67	40	27	40
Reading Vocabulary	66	49	17	26
Language Arts	67	31	36	54
Social Studies	77	53	24	31
Science	77	52	25	32
Research Skills	76	41	35	46
<b><u>Grade 11</u></b>				
<b>Composite</b>	<b>74</b>	<b>38</b>	<b>36</b>	<b>49</b>
<b>Individual Tests...</b>				
English	59	18	41	69
Mathematics	66	34	32	48
Social Studies	67	31	36	54
Science	72	36	36	50

"Larger" means above median sized enrollment; "Smaller" means below median sized enrollment. The "Power Rating" is the portion of the variance in test scores that can be explained by the level of poverty in the school. It is calculated by squaring the correlation coefficient.



## RURAL SCHOOL AND COMMUNITY TRUST

The Rural School and Community Trust (Rural Trust) is a nonprofit educational organization dedicated to enlarging student learning and improving community life by strengthening relationships between rural schools and communities and engaging students in community-based public work. Through advocacy, research, and outreach, the Rural Trust strives to create a more favorable environment for rural community schooling, for student work with a public audience and use, and for more active community participation in schooling. Founded as the Annenberg Rural Challenge in 1995, the Rural Trust today works with more than 700 rural elementary and secondary schools in 33 states.

The theory that has guided the work of the Rural Trust is that when rural public schools base their teaching on the economy, ecology, history, and culture of the communities they serve, and fully engage members of the community in the work of the school, schools and communities improve together. Guided by this philosophy, the Rural Trust has made progress toward its goal of beginning a nationwide rural school reform movement.

Rural Trust partner programs benefit a wide range of rural students – and their communities. These programs range from coast to coast, and include students, parents, teachers, and community members from white, Hispanic, African-American, and Native-American heritage, and from economic backgrounds that range from the poorest citizens to the comfortably middle-class. The impacts of this work, initially funded by the Rural Challenge, can be felt from the rural fishing community of Lubec, Maine, to the Mexican-American border community of Edcouch, Texas, to the remote Native villages of the Alaskan wilderness.

About two-thirds of the Rural Trust's partners work in communities with populations below 2,500. In aggregate, Rural Trust partner sites have a larger percentage of students of color than is the case in the overall national population, and twice as many students of color as the rural small-town population nationwide. Using eligibility for a free or reduced-cost school lunch as the criterion, students in Rural Trust partner sites are more economically disadvantaged than the general populations in their respective states.

The Rural Trust's programs include a capacity-building program to encourage and help rural schools and communities, and the people in them, to design and implement place-based learning; and a policy program to investigate, illuminate, and improve the public policy environment of rural schools, so that it becomes more supportive of those schools and of efforts to introduce place-based learning into their curricula.

The capacity-building program has three principal components: technical assistance and support for schools and communities; the addition of new sites and the creation of regional and state associations; and research and development. The capacity-building program focuses in particular on the use of technology to enhance both learning and community connections in rural schools, and on teacher development that is responsive to and supportive of place-based education.

The policy program seeks to understand and illuminate the public policy issues that affect the ability of rural communities to develop and operate schools that meet the needs of rural students and contribute to the well-being of the communities themselves; to inform the general public, policymakers, and rural schools and

communities about those issues; and to engage rural communities and their members more effectively in public policy deliberation. The policy program's advocacy, research, and publications work centers on four major issue areas: standards and assessments, educational equity, school facilities, and school governance.

The Rural School and Community Trust publishes two newsletters, the quarterly *Rural Matters* covering news of the organization, its partners, and the work being done around the U.S. in place-based education; and the monthly *Rural Policy Matters*, which seeks to inform the public debate over rural education policy and to help rural communities act on education policy issues affecting them.

The Rural Trust maintains a small national office in Washington, DC; a policy office in Randolph, Vermont; and a capacity-building and field services office in Glenwood, Iowa. The Trust is governed by a national volunteer Board of Trustees and led by a chair elected from its members. The Board is responsible for setting policy for the organization and securing the resources necessary to advance the organization's mission. Rachel B. Tompkins, Ed.D., serves as President of the Trust and as a voting ex officio member of the Board.

## **ABOUT THE RESEARCHERS**

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Craig B. Howley, Ed.D. is currently Associate Adjunct Professor at Ohio University, Athens, Ohio. He was the director of the ERIC Clearinghouse on Rural Education and Small Schools, Charleston, West Virginia, from 1993 to 1998. From 1991 to present he has been a Senior Researcher and and Evaluation Specialist for Appalachia Educational Laboratory in Charleston.

Dr. Howley received his BA in English and Comparative Literature from Columbia College , New York City, New York in June, 1970. His Master's Degree in Gifted Education, August 1982, is from West Virginia Graduate College, South Charleston, West Virginia. The Ed.D. in Education Administration was conferred by West Virginia University, Morgantown, West Virginia in May, 1996.

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### **ROBERT BICKEL, Ph.D.**

Robert Bickel, Ph.D., has been a Professor of Educational Leadership, College of Education and Human Services, Marshall University, Huntington, West Virginia since 1994. He is a Full Member of the Graduate Faculty, Marshall University and of the Graduate Faculty, West Virginia University, Morgantown, West Virginia.

Dr. Bickel received his BA in Sociology from Pennsylvania State University in March, 1971, and his Master's Degree in Sociology from the same institution in December, 1972. His Ph.D. in Educational Foundations and Policy Studies was conferred by Florida State University in May, 1987.

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## Newsletters and Publications

To receive our newsletter, *Rural Policy Matters*, which is available both electronically and in print, please send us a note with your e-mail address included through our web site's comments form, at [www.ruraledu.org](http://www.ruraledu.org) or e-mail us at [policy.program@ruraledu.org](mailto:policy.program@ruraledu.org). You may also fax us at 802-728-2011 or call 802-728-5899.

### For more information on the four individual state studies:

Summaries of the Georgia, Montana, Ohio, and Texas studies are available on our web site ([www.ruraledu.org](http://www.ruraledu.org)). For a print version, call the Policy Program Office at 802-728-5899.

The full research reports will soon be available from the Educational Resources Information Center (ERIC). This is a central source for all these documents and should have all the state studies and the national study available soon. Contact the ERIC system through their Clearinghouse for Rural Education and Small Schools at the Appalachian Educational Laboratory, on the web at [www.ael.org/eric/index.htm](http://www.ael.org/eric/index.htm) or by phone at 800-624-9120. You can reference these tracking numbers to help locate the studies:

Georgia study – RC022087  
Montana study – RC022081  
Ohio study – RC022083  
Texas study – RC022088  
National Report – RC022082

### Some web sites on Small Schools:

<http://aelvis.ael.org/eric/digests/edorc988.htm>

ERIC Digest – Current Literature on Small Schools by Mary Anne Raywid EDO-RC-98-8 (January 1999)

<http://aelvis.ael.org/eric/digests/edorc965.htm>

ERIC Digest – Affective and Social Benefits of Small-Scale Schooling by Kathleen Cotton – EDO-RC-96-5 (December 1996)

<http://aelvis.ael.org/eric/small.htm>

More articles from ERIC Digests that can be downloaded from the web site or ordered as printed copies for free.

**For hard copy reprints of the above articles:** contact Cindy Dawson at AEL (800-624-9120).

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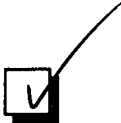


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