The Rural Dropout Problem: An Invisible Achievement Gap

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This report was supported by a grant from the AT&T Foundation, which may or may not support the findings and conclusions. The Rural School and Community Trust is responsible for the content of this report. We are grateful to the AT&T Foundation for its support of the work.

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The Rural School and Community Trust (Rural Trust) is the leading national nonprofit organization addressing the crucial relationship between good schools and thriving communities. Working in some of the poorest, most challenging rural places, the Rural Trust involves young people in learning linked to their communities, improves the quality of teaching and school leadership, advocates for appropriate state educational policies, and addresses the critical issue of funding for rural schools.

The Rural Dropout Problem: An Invisible Achievement Gap

Summary

This report reviews high school dropout rates and related factors in rural high schools throughout 15 Southern and Southwestern states. These schools are in districts that are among the 800 rural districts with the highest student poverty rate nationally. Seventy-seven percent of the "Rural 800" districts and 87 percent of the students in them are in these fifteen targeted states.

Characteristics of Rural 800 School Districts and Students

These high-poverty rural school districts are more racially and ethnically diverse than all other rural school districts and all other districts of any kind. Nearly three in five of the students in these districts are people of color.

Among Rural 800 districts in the 15 target states, the Title I eligibility rate is more than double that of other rural districts and that of all other districts. Rural 800 districts in these 15 states are twice as likely to be English Language Learners as rural students elsewhere, and 24 percent more likely than students in all other districts of any kind. They are only slightly more likely to qualify for special education services.

School Finance

Rural 800 school districts in the 15 target states operate with less state and local funding per pupil ($7,731) than for all other rural districts ($8,134) or all non-rural districts ($9,611). The gap is caused by differences in local revenue that are partially, but not adequately, mitigated by somewhat higher state revenue.

Graduation Rate

Among Rural 800 districts in the 15 target states, just over 6 in 10 students can be expected to graduate, compared with 70% among other rural districts and 67% among non-rural districts.

Rural 800 school districts (in the target states) with lower graduation rates serve considerably higher rates of minority students than do Rural 800 school districts with average or better graduation rates.

Top Performing Rural 800 Districts

We identified 20 Rural 800 school districts within the 15 target states with (1) graduation rates in the top 20%, (2) 2007-08 reading proficiency rates in the top 20%, and (3) 2007-08 math proficiency rates in the top 20%. The only statistically significant difference between the 20 highest performing Rural 800 districts and all other Rural 800 districts in the same states was that higher performance is associated with smaller district size. More significant, the racial/ethnic characteristics of these districts is very different from that of the Rural 800 overall. Eighty three percent of the students in these high-performing, high-poverty district are white and fewer than one percent are English language learners. This reinforces the widely recognized reality that an achievement gap separates the performance of students of color and white students.

Introduction

The high school dropout issue is one that has been well-documented in both scholarship and the popular media, particularly over the last two decades[1]. Despite attention, the problem persists, and may even be growing worse[2]. Moreover, scholars and journalists have focused attention primarily on schools located in urban settings, with little if any attention to the ways in which the dropout problem plays out in rural areas. Research focusing on rural education generally would suggest that rural schools are characterized by many of the same socio-demographic and institutional features as urban schools (e.g., high poverty rates, low levels of resources), but that the challenges facing schools in the different locales can be appreciably different owing to differences in context[3]. The differences in challenges have implications for the kinds of strategies that are most likely to be effective in schools. In light of these differences and in response to the lack of attention to rural schools in the extant literature, this report investigates the high school dropout issue as manifest among the nation's most socioeconomically-challenged rural schools.

Data for the analyses performed here was obtained from publicly available sources. Specifically, we downloaded student enrollment and demographic data from the NCES Common Core of Data, school district fiscal data from the U.S. Census F-33 data file, and school district performance data from the New America Foundation (data that NAF collects from individual state departments of education and combining into a single file for use by researchers). In all cases, we used the most current data available. After merging these multiple data sets into one single data set comprising all U.S. school districts, we created a subset using the Rural 800 designation developed by the Rural School and Community Trust. Rural 800 districts represent the 800 rural school districts (i.e., designated by NCES as locale 41, 42, or 43) with the highest rates of Title I eligibility. See http://www.ruraledu.org/articles.php?id=2280 for a detailed description of the methodology and a map showing the location of these school districts. We then focused our attention on the Rural 800 school districts in 15 states in the southeast and southwest. These states have among the nation's highest absolute and proportional enrollments of economically disadvantaged students (in order of total number of Title I eligible children, highest to lowest: Texas, Kentucky, North Carolina, Mississippi, Louisiana, Arizona, Georgia, New Mexico, Missouri, Alabama, Arkansas, California, South Carolina, West Virginia, and Oklahoma).

In interpreting the data that follow, it is important to note that 77 percent of the Rural 800 districts and 87 percent of the students in Rural 800 districts are in these fifteen targeted states. Comparisons with the Rural 800 districts in other states should be tempered by this disproportionality.

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[1]Mid-Continent Research for Education and Learning. (2009). *High School Dropout and Graduation Rates in the Central Region. Denver, CO: Author.*

[2]National Center for Education Statistics. (2009). *High School Dropout and Graduation Rates in the United States: 2007. Washington, DC: Author.*

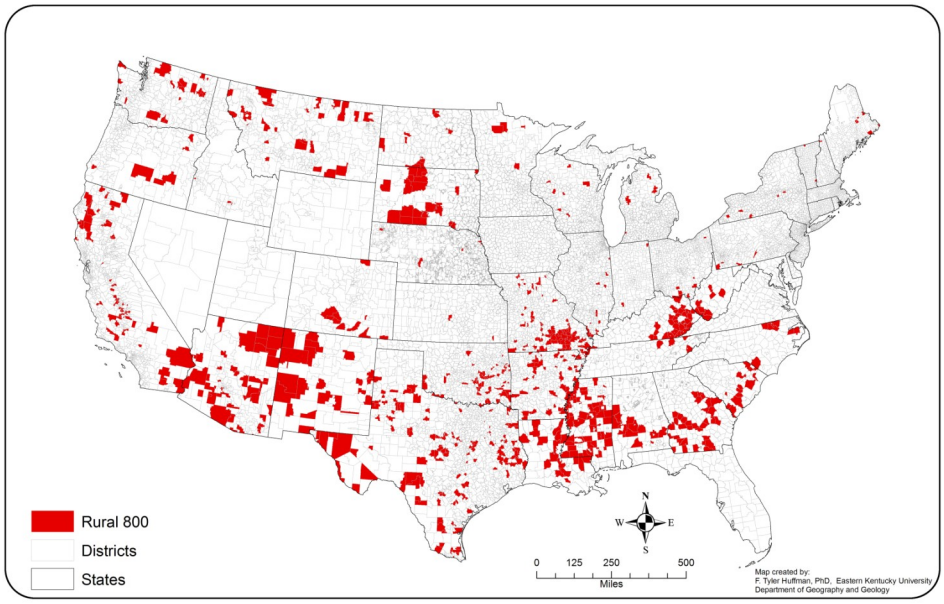
[3]Johnson and Strange 2009. *Why Rural Matters 2009. Rural School and Community Trust. Arlington, VA. 22209.* www.ruraledu.org/articles.php?id=2312

Figure 1

The Rural 800.

The 800 rural school districts (NCES locale codes 41, 42 and 43) with the highest Title I student eligibility rate.

Alaska not included because this report covers the Rural 800 districts in 15 states all in the Lower 48. Hawaii is a single statewide non-rural district.



Characteristics of Rural 800 School Districts

We began by investigating the overall characteristics of the Rural 800 districts in these 15 states.

Race/Ethnicity

In terms of race/ethnicity of the student population, these high-poverty rural school districts exhibit greater diversity than

- high-poverty rural districts in other states (i.e., Rural 800 districts in other states);
- all other rural districts (i.e., all non-Rural 800 rural school districts in all states);
- all other districts in the U.S. (i.e., all non-Rural 800 school districts in all states, including urban, suburban, town, and rural districts that do not qualify as Rural 800). See figures 2-6.

Figure 2

American Indian/Alaskan Native Student Enrollment

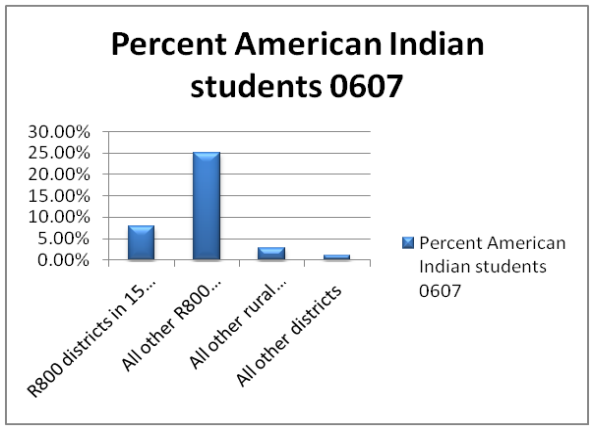


Figure 3

Asian/Pacific Islander Student Enrollment

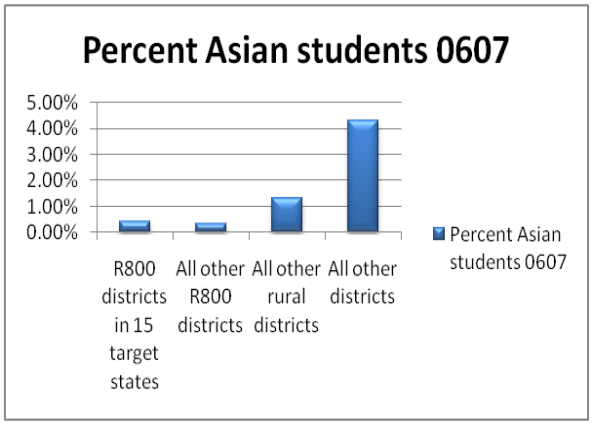


Figure 4

African-American Student Enrollment

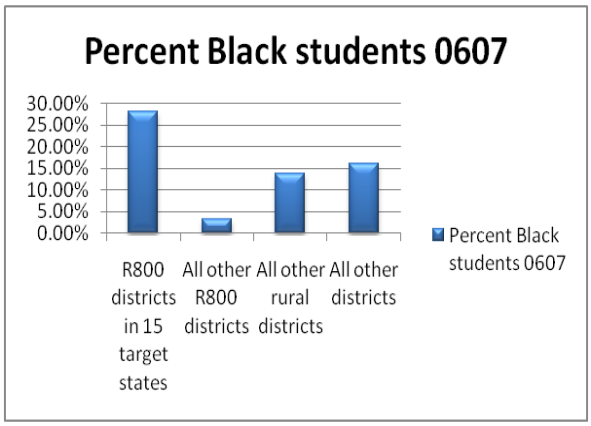


Figure 5

Hispanic/Latina Student Enrollment

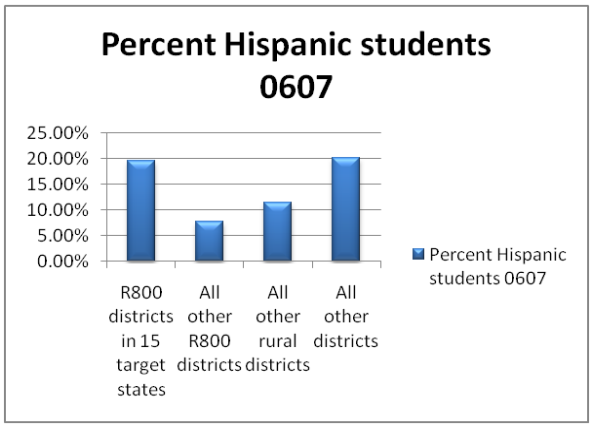
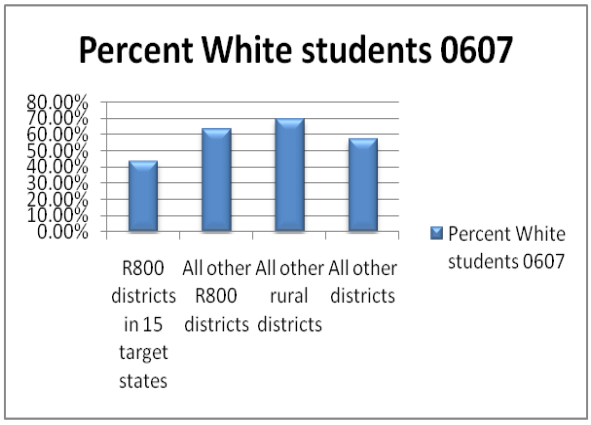


Figure 6

White Student Enrollment



As illustrated by figures 2-6, there is no racial or ethnic majority group in the Rural 800 school districts in the 15 target states—i.e., white students make up well under 50% of the rural student population and minority students collectively make up well over 50%. Other specific findings include:

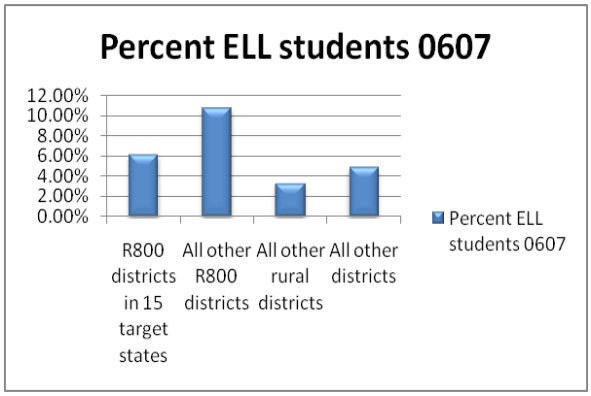
- At just over 28%, the concentration of African-American students is higher in these Rural 800 school districts than it is for any of the other three categories ("all other Rural 800," "all other rural," and "all other");
- At nearly 20%, the concentration of Hispanic/Latina students is higher in these school districts than it is for two of the other three categories ("all other Rural 800" and "all other rural,");
- At 8%, the proportional size of the American Indian/Alaskan Native population is considerably higher than the same measure among "all other rural districts" and "all other districts."

Language Status

Next, we considered the English Language Learner (ELL) student population among Rural 800 districts (see figure 7).

Figure 7

ELL Student Enrollment



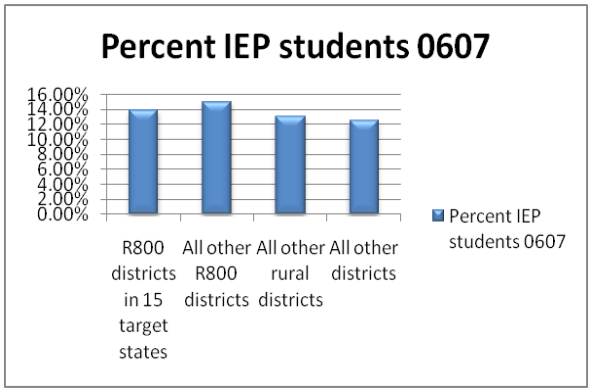
Results here indicate that Rural 800 districts overall serve considerably higher concentrations of ELL students than either their less impoverished rural counterparts (nearly double at 6.1% versus 3.3%) or their non-rural counterparts (6.1% versus 4.9%).

Special Education

We next investigated the proportional enrollment of students identified for special education services, and found that Rural 800 districts in the 15 target states have higher rates than all but the category of "all other Rural 800 districts."

Figure 8

Special Education Student Enrollment



As was the case with ELL, results here indicate that Rural 800 districts overall serve considerably higher concentrations of special education students than either their less impoverished rural counterparts (15.1% versus 13.1%) or their non-rural counterparts (15.1% versus 12.5%).

Poverty

We used two different measures of poverty to investigate variations in the level of socioeconomic stress. While Title I eligibility most closely reflects the percentage of children ages 5-17 living below the federal poverty line, free and reduced meal rate is based on an eligibility standard pegged at 185% of the federal poverty line. Common interpretations of the two variables treat meal rate as a measure of the breadth of poverty and Title I eligibility as a measure of its depth (see figures 9-10).

Figure 9

Percent Students Eligible for Free or Reduced Meals

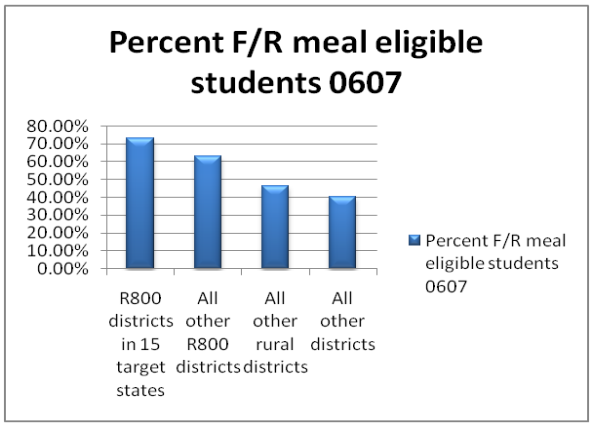
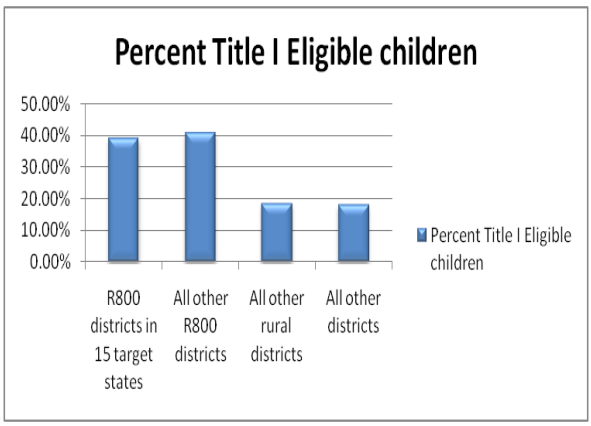


Figure 10

Percent Title I Eligible Students



Results here indicate that these school districts serve student populations with considerably higher poverty rates than either "all other rural districts" or "all other districts." Specific findings include:

- Among both Rural 800 districts in the 15 target states and Rural 800 districts in other rural states, the Title I eligibility rate is more than double what it is for the other two categories.
- Rural 800 districts in the 15 targeted states have higher rates of free or reduced meal-eligible students (suggesting breadth of poverty) than other Rural 800 districts in other states, but very slightly lower rates of Title I eligibility (suggesting depth of poverty).

School Finance

Revenues. Research indicates that economically disadvantaged children tend to enter school with knowledge and skills that position them behind their more affluent counterparts[4]. Adequate resources are crucial to provide services to these students, including additional resources over and beyond what a typical (i.e., middle class or better) entering student might require[5]. Figures 11-15 illustrate variations in educational funding for the categories of districts under investigation.

Figures 11, 12, and 13 present per pupil funding amounts by funding source.

[4]Gershoff, El, Aber, J., Raver, C., & Lennon, M. (2007) Income is not Enough: Incorporating Material Hardship into Models of Income Association with Parenting and Child Development. *Child Development, 78(1), 70-95.*

[5]Slavin, R. (1998). Can Education Reduce Social Inequity?. *Educational Leadership, 55, 6-10.*

Figure 11

Local Revenue per Pupil

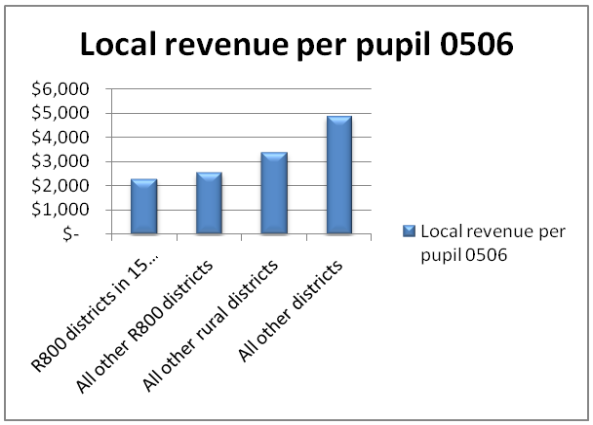


Figure 12

State Revenue per Pupil

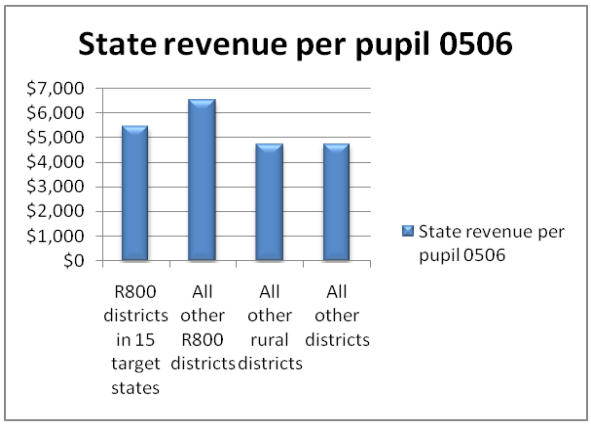
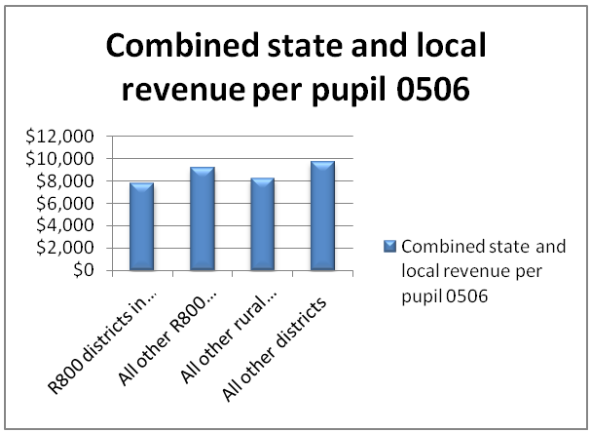


Figure 13

Combined State and Local Revenue per Pupil



As depicted in the above figures, Rural 800 school districts in the 15 target states operate with less state and local funding per pupil than any of the other categories of districts ($7,731 per pupil versus $9,093 for other Rural 800 districts, $8,134 for all other rural districts, and $9,611 for all non-rural districts). We exclude federal education dollars from this analysis because those funds are not meant to support basic programs, but are intended to be compensatory—to "supplement, not supplant" state and local funding.

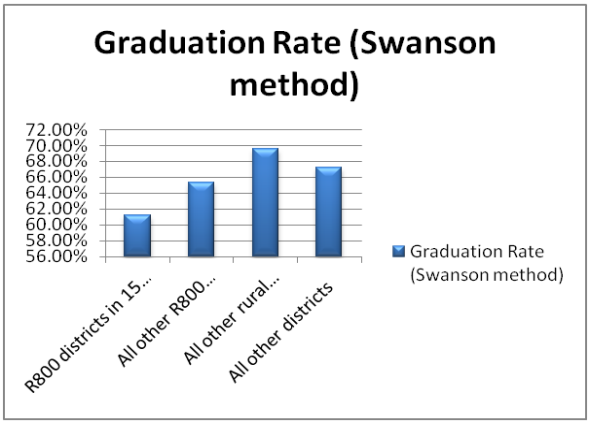
Figures 11, 12 and 13, illustrate the cause of the discrepancy in funding. Dramatic differences in local revenue per pupil (largely, a measure of the fiscal capacity of communities to generate education dollars) are moderated but—particularly for the Rural 800 districts in the 15 target states—not entirely alleviated by need-based state funds (which are intended to do just that—balance out variations in local capacity). Districts with higher poverty rates should arguably receive more funding per pupil, not less. Not so for the Rural 800 districts in the 15 target states.

Graduation Rate

Finally, we conducted a comparative analysis of the graduation rates for school districts in the different categories, using the *Promoting Power Index* methodology, a widely-accepted approach that was developed by Christopher Swanson of the Urban Institute (see http://www.urban.org/publications/411116.html for a detailed description of the methodology). Results are presented in figure 14.

Figure 14

High School Graduation Rate



Results here indicate that the graduation rate of students in Rural 800 districts is considerably lower than in other districts. Among Rural 800 districts in the 15 target states, just over 6 in 10 students can be expected to graduate (a 61% graduation rate, compared with 65% among other Rural 800 districts, 70% among other rural districts, and 67% among non-rural districts.

Relationships between Graduation Rate and District Characteristics

To investigate the possibility of relationships between high school graduation rates and school district characteristics among Rural 800 districts in the 15 target states, we divided districts into five categories based on graduation rates, such that about 20% of the Rural 800 districts in target states were in each of the groups, ranging from the 20% with highest graduation rates to the 20% with the lowest. We then computed descriptive statistics for relevant variables describing the student population and school district resources (see tables 1-4 on the next page)

Table 1. Student Race/Ethnicity[6]

Graduation Rate Category	Total Students Enrolled	Percent American Indian Students	Percent African-American Students	Percent Hispanic Students	Percent White Students
Highest (95.4% or higher)	62,552	14.0%	9.4%	13.6%	62.5%
Next Highest (75.4%-95.2%)	162,001	4.0%	19.1%	20.9%	55.5%
Mid (62.4%-75.3%)	177,665	4.0%	25.1%	6.4%	64.0%
Next Lowest (49.4%-62.3%)	273,693	11.3%	21.3%	30.6%	36.2%
Lowest (49.3% or lower)	171,804	14.0%	47.0%	5.2%	32.9%

Results presented in table 1 suggest relationships between students' race/ethnicity and school district graduation. While none of the 4 race/ethnicity categories exhibits a perfect linear relationship, it is clear that the school districts with lower graduation rates (i.e., the bottom two rows) serve considerably higher rates of minority students than do school districts with average or better graduation rates.

Table 2. Student Demographics

Graduation Rate Category	Percent Subsidized Meal Rate	Percent Title I Eligible	Percent IEP Students	Percent ELL Students
Highest (95.4% or higher)	66.7%	35.7%	14.5%	4.7%
Next Highest (75.4%-95.2%)	70.0%	35.8%	14.0%	5.6%
Mid (62.4%-75.3%)	69.3%	35.9%	15.4%	1.6%
Next Lowest (49.4%-62.3%)	74.5%	36.2%	13.5%	11.9%
Lowest (49.3% or lower)	75.4%	36.7%	14.0%	4.8%

[6]Note: Asian/Pacific Islander students comprised less than .5% in each of the five graduation rate categories.

Results presented in table 2 suggest little or no relationship between special education student enrollments and graduation rates or Title I eligibility rates and graduation rates. While there does appear to be some relationships between lower graduation rates and percent ELL students and between graduation rates and free and reduced meal rates, the results are mixed.

Table 3. Characteristics of School Districts (Revenues)

Graduation Rate Category	Median District Enrollment	Local Revenue per Pupil	State Revenue per Pupil	Federal Revenue per Pupil	Total Revenue per Pupil
Highest (95.4% or higher)	386	$2,310	$5,720	$2,001	$10,031
Next Highest (75.4%-95.2%)	798	$2,602	$5,370	$1,700	$9,672
Mid (62.4%-75.3%)	824	$2,316	$5,303	$1,622	$9,241
Next Lowest (49.4%-62.3%)	1,014	$1,995	$5,963	$2,077	$10,035
Lowest (49.3% or lower)	643	$2,435	$5,618	$2,052	$10,105

Table 4. Characteristics of School Districts (Expenditures)

Graduation Rate Category	Total Current Expenditures per Pupil	Total Current Instructional Expenditures per Pupil	Total Transportation Expenditures per Pupil
Highest (95.4% or higher)	$8,905	$5,286	$410
Next Highest (75.4%-95.2%)	$8,216	$4,844	$455
Mid (62.4%-75.3%)	$8,234	$4,863	$460
Next Lowest (49.4%-62.3%)	$8,473	$4,927	$412
Lowest (49.3% or lower)	$9,030	$5,232	$430

Results presented in tables 3 and 4 suggest that there is little or no relationship between the level of available resources and high school graduation rates. However, there does seem to be some relationship between school district size and high school graduation rates as medium district enrollment increases with each of the first four successively lower graduation rate categories, then drops in the lowest graduation rate category.

Top Performing Rural 800 Districts

To identify Rural 800 school districts within the 15 states that are top-performing, we identified those districts with (1) graduation rates in the top 20%, (2) 2007-08 NCLB Reading proficiency rates in the top 20%, and (3) 2007-08 NCLB math proficiency rates in the top 20%. Twenty R800 districts met these standards. The identified districts are listed in table 5.

Table 5. Top-performing Rural 800 Districts

Arkansas	Harrisburg School District	Missouri	Bucklin R-II School District
Arkansas	Kirby School District	Missouri	Greenville R-II School District
Arkansas	Mountain View School District	Missouri	Lutie R-VI School District
Arkansas	Omaha School District	Missouri	Zalma R-V School District
Arkansas	Wickes School District	Oklahoma	Allen School District
Kentucky	Cloverport Independent School District	Oklahoma	Battiest School District
Kentucky	Jackson Independent School District	Oklahoma	Caddo School District
Kentucky	Johnson County School District	Oklahoma	Carnegie School District
Missouri	Arcadia Valley R-II School District	Oklahoma	Konawa School District
Missouri	Bismarck R-V School District	Oklahoma	Lookeba School District

Of note, we performed statistical analyses (e.g., independent samples t-test) to determine whether these districts differed significantly from other Rural 800 districts with regard to characteristics presented earlier in the report. The only statistically significant difference between the two groups (i.e., the 20 highest performing Rural 800 districts in these 15 states and all other Rural 800 districts in the same states) was obtained from the comparison of school district size. Higher performance is associated with smaller district size. This finding is consistent with the research literature reporting that smaller school and district size is associated with improved educational outcomes, especially among economically disadvantaged students and minority students (see http://www.ruraledu.org/articles.php?id=2038 for a summary of the relevant research).

It is also interesting that all but one of these top performing R800 districts are in one of four south central states that employ a governance system featuring local control, independent districts with authority to levy taxes, and small districts. More significant, the racial/ethnic characteristics of these districts is very different from that of the Rural 800 overall. Eighty three percent of the students in these high-performing, high-poverty district are white and fewer than one percent are English language learners. This reinforces the widely recognized reality that an achievement gap separates the performance of students of color and white students.

The Rural Dropout Problem: An Invisible Achievement Gap

Conclusion

The 616 high-poverty rural school districts in 15 Southern states that are among the 800 rural districts with highest student poverty rates nationally exhibit both low graduation rates and a pattern of racial and ethnic achievement gaps that is all too familiar. These districts are more likely to serve children of color than do other rural and non-rural districts, and even among these high-poverty districts, those with the lowest graduation rates are more likely to serve children of color. Nearly half (47%) of the students in the lowest graduation-rate quintile are African-American. Moreover, the twenty districts that met our criteria for "high performing" districts on combined measures of academic achievement serve only 17% children of color compared with 59% for all 616 districts.

The challenges faced by the high-poverty districts in these 15 states are magnified by the fact that state funding provided to them does a little, but not enough, to make up for the extremely low level of local funding support they receive. Nonetheless, total revenue and expenditure measured on a per pupil basis seems to have little relationship to differences in graduation rate between the quintiles. The highest and lowest graduation-rate quintiles evidence the highest per pupil revenue and expenditures. These are also the two quintiles with the smallest median district size. The per pupil fiscal data at these highest and lowest graduation-rate quintiles may therefore be more a matter of economies of scale than of the efficacy of resource allocation.

Despite this convergence with respect to fiscal characteristics and district size at the top and bottom of the graduation-rate quintiles, there is also a linear pattern in the first four graduation-rate quintiles with respect to district size. Each successively lower graduation-rate quintile is accompanied by a substantial increase in median district size.

Some of these patterns may be a product of educational governance policy and structure. We reach no firm conclusion about this, but the patterns we report raise unavoidable questions. In states where R800 districts serve disproportionally White, Hispanic, or Native children, rural school districts (and schools) tend to be small and fiscally independent. In states where the R800 student population is disproportionally African-American, the governance system may be small and independent (as it is in Arkansas) but it is more likely to be more centralized (often county-wide or near county-wide districts with larger schools) and fiscally dependent on county or municipal government. To a lesser extent, this is true of some rural districts with high percentages of Hispanic students. In fact, the largest median school district size is in the fourth graduation-rate quintile (49.4 to 62.3% graduation rate) where Hispanic students make up nearly one-third of the student population.

High drop out rates in high-poverty rural districts may converge at the intersection of larger districts and higher percentages of African American and Hispanic enrollment.