

What Does a School Mean to a Community? Assessing the Social and Economic Benefits of Schools to Rural Villages in New York

Thomas A. Lyson
Cornell University

Using data from the 1990 U.S. Census and from the New York State Department of Education, I identify community-level characteristics associated with the presence or absence of a school. My inquiry focuses on two sets of rural communities: those with populations of 500 or less and those with populations between 501 and 2,500. I find that the social and economic welfare in all rural communities is higher in places that have schools. Further, in the smallest villages, which have fewer resources and fewer civic places, schools are especially critical to the social and economic well-being of the community. For policymakers, educational administrators, and local citizens it is important to understand that schools are vital to rural communities. The money that might be saved through consolidation could be forfeited in lost taxes, declining property values, and lost businesses.

Introduction

Schools in rural communities play many roles. In addition to providing for basic education, they serve as social and cultural centers. They are places for sports, theater, music, and other civic activities. Over 20 years ago, Alan Peshkin (1978, 1982) showed how vital a school is to the survival of rural communities. He noted that schools serve as symbols of community autonomy, community vitality, community integration, personal control, personal and community tradition, and personal and community identity. According to Peshkin (1978, p. 161), "Viable villages generally contain schools; dying and dead ones either lack them or do not have them for long. The capacity to maintain a school is a continuing indicator of a community's well-being." For many rural communities, the school is not only the social hub of the village, but the school setting also contributes to the sense of survival of adults in the culture.

School consolidation has been the bane of rural communities for at least the past 50 years. In 1930 there were more than 130,000 school districts in the United States (and many more individual schools). By 2000, the number of school districts had dwindled to fewer than 15,000. Prior to 1970, school consolidation was driven by a belief that

educational quality and efficiency would improve when schools became larger (see Callahan [1962] for an examination of the lengths to which school administrators have sacrificed educational goals to the demands of business procedures). Economies of scale and more "bang for the buck" are two rationales that are still offered by proponents of consolidation today.

While consolidation advocates can sometimes make an economic argument for merging districts and closing schools, they have not been able to marshal evidence to show that educational quality improves as scale increases. Indeed, since 1970, the overwhelming consensus among educational researchers is that the advantages of consolidation on academic performance and achievement are greatly outweighed by the disadvantages (Kauffman, 2001; Kennedy, 2001). According to Huang and Howley (1993) ". . . results have generally pointed to a negative relationship between size and academic achievement. All else held equal, small schools have evident advantages for achievement." The relationship between school size and achievement has been documented in scores of empirical studies (see Fowler [1992] for a review).

In addition to the detrimental effects on educational quality and student performance, school consolidation also has deleterious effects on small rural communities (Peshkin, 1982). Sell and Leistriz (1996), for example, note, "The impact of school consolidation on students is immediate, or nearly so; however, the impacts of consolidation on the respective communities—social and economically—may take place over several years" (p. 1).

Rural communities serve as trade and service centers for local populations. They also serve as places that nurture participation in civic and social affairs and as such can

Correspondence concerning this article should be addressed to Thomas A. Lyson, Department of Rural Sociology, Cornell University, Ithaca, NY 14853. (tal2@cornell.edu)

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be viewed as nodes that anchor people to place. And, as many commentators have noted, schools, churches, volunteer fire departments, post offices, and other civic institutions serve to solidify and define community boundaries (Loomis & Beegle, 1957; Lyson, in press).

Of all civic institutions in a village, however, the school serves the broadest constituency. Not only do schools meet the educational needs of a community and may be a source of employment for village residents, the local school also provides social, cultural, and recreational opportunities. It is a place where generations come together and where community identity is forged (Langdon, 2000). As Fuller (1982, pp. 234-235) noted almost 20 years ago, "To close a country school was to destroy an institution that held the little rural community together. It was to wipe out the one building the people of the district had in common and, in fact, to destroy the community."

Interestingly, while several case studies have documented some of the social, economic, demographic, and political consequences of communities that lose schools (Dreier, 1982; Koepke, 1991; Peshkin, 1982), there is a dearth of studies that attempt to quantify and generalize what a school means to a community (Sell & Leistritz, 1996 is a notable exception). In this paper I am particularly interested in identifying community-level characteristics associated with the presence or absence of a school. My inquiry focuses on two sets of rural communities: those with populations of 500 or less and those with populations between 501 and 2,500. I expect that the social and economic welfare in all rural communities will be higher in communities with schools, but that in the smallest villages, which have fewer resources, the school is likely to be especially critical to the social and economic well-being of the community.

Data and Methods

Data for the analysis come from various machine readable data files compiled by the U.S. Census Bureau and from the New York State Department of Education. To begin, I identified all incorporated villages and cities in New York from the 1990 STF-3A census data file ($N = 639$). The STF-3A file contains detailed population and housing characteristics for geographic units down to the census block level. As such, it is the best available source of detailed social, economic, and demographic characteristics of villages and cities in the U.S. Because my interest is with smaller rural villages in New York, I created a subset of data that contains all incorporated villages with populations of 2,500 or less ($N = 357$). I follow the Census Bureau definition of *rural* villages. These are places defined as having 2,500 or fewer residents. *Urban* places, on the other hand, are villages and cities that have 2,500 or more residents.

From the STF-3A data file, I identified a set of village-level indicators that tap basic population characteristics of the villages, housing conditions and municipal infrastructure, income and welfare characteristics of individuals and households living in the villages, and occupational and employment characteristics of the labor force in the villages. In addition, I obtained from the New York State Department of Education a machine readable data file with the names and addresses of all public schools in the state for 1997 ($N = 4,248$). I matched the census file of all villages and cities with the New York Department of Education file to identify communities that have schools and those that do not.

One caveat is in order. I am interested in the effect of schools on small rural villages. While the data are restricted to New York, I expect the findings to have relevance to rural communities in other states as well. To make the findings as widely applicable as possible, I chose to drop a small set of very affluent villages, so-called "gated communities," from the analysis. These places have average house values of several hundred thousand dollars and also have demographic profiles that make them extreme statistical outliers. Most of the excluded villages are located near New York City, particularly in the Hudson Valley region and on Long Island.¹

Results

The rural communities in the study are all incorporated villages in the state of New York. This means that each community has, at a minimum, a mayor, a set of elected trustees, and a village clerk. All of these are paid positions. Most have village halls and post offices. And, as villages, each place is responsible for police and fire protection, public works such as water and sewer systems, and various sorts of planning and zoning activities.

¹A total of 60 communities were excluded from the list of rural villages in New York based on average housing values in 1990. The frequency distribution of housing values in rural villages showed a nearly perfect bi-modal distribution. The low end of the distribution falls to zero at about \$150,000, and the high end of the distribution begins at about \$200,000. I used \$150,000 as the cut point. The average value of homes in the excluded communities in 1990 was in excess of \$400,000. In the nonexcluded rural communities, the average home value was approximately \$60,000. Almost 60% of the workers in the excluded communities were professional, administrative, or executive workers compared to 38% of the workers in the other communities. More telling, only 33% of the affluent communities have a public school compared to 77% of the remaining communities. And over 26% of the students in excluded communities attend private schools compared to about 5% of the students in the other rural villages.

Almost all rural villages in New York have both a set of commercial establishments such as retail stores, cafes, gas stations and the like as well as a set of civic/public establishments such as village halls, post offices, fire stations, and schools. Larger villages tend to have more private and public establishments than do smaller communities. For example, larger communities will have a broader range of commercial establishments and may have civic institutions such as libraries, public health clinics, municipal swimming pools, and skating rinks not found in smaller places. It is not surprising that larger villages are more likely to have schools than smaller villages. Of the 71 smallest rural communities in New York, those with 500 or fewer residents, only 52.1% have a school. On the other hand, 73.7% of the 281 rural villages in the state with 501 to 2,500 residents have a local school. Among urban communities, those with 2,500 or more residents, almost 90% have public schools within their borders. And, of course, the larger the urban place, the more likely it is to have a school. For example, there are no incorporated places in New York with populations of 10,000 or more without schools.

It is quite likely that all villages in New York had a school at one time. Indeed, the *Index to the Public Schools of New York State* published in 1951 by the New York State Department of Audit and Control shows that 50 of the 69 of the rural villages that do not currently have schools, had at least one school in the early 1950s. Even as late as 1970, 15 of the 69 communities still had a school.

Population Characteristics

Despite differences in size and the presence or absence of a school, the demographic profiles of rural villages in New York are remarkably similar. The age profile, the percentage of households with children, and the percentage of children enrolled in school are virtually the same across size and school types in Panel A of Table 1. Likewise, almost all of the rural villages in New York are located in nonmetropolitan counties² and their populations are overwhelmingly white.

During the decade between 1990 and 2000, most rural villages in New York lost population. Indeed, of the 297 communities in the study, 186 experienced a decline in population. However, over 60% of the smallest rural villages with schools saw their populations grow during this period. Only 46.4% of the smallest villages without schools grew. Among the larger rural communities, 33.3% of the communities with schools experienced a gain in population between 1990 and 2000 compared to 29.3% of the communities without schools.

Housing and Municipal Infrastructure Characteristics

For the smallest rural communities, the presence of a school is associated with appreciably higher housing values compared to similar communities without a school (Panel B). The average value of a home in a small village with a school was \$59,508 and the median value was \$57,450 in 1990. This is equivalent to the mean value of houses in much larger rural villages. On the other hand, in small rural villages without schools, the average house value was \$47,782 and the median value was \$43,500. In larger rural communities, those with between 501 and 2,500 residents, housing values are higher in villages with schools (mean = \$62,329, median = \$58,450) than in villages without schools (mean = \$58,832, median = \$50,400).³

Housing stock in the smallest rural communities with schools is somewhat newer than the housing stock in communities without schools. Almost 16% of the houses in villages with schools were built after 1970 compared to 13.5% of the houses in small villages without schools. In the larger rural communities, there was no significant difference in the age of housing between places that have schools and those that do not.

Rural villages with schools are more likely to have municipal water systems than those without schools. This finding holds true for the smallest rural communities as well as for larger rural places. Likewise, municipal sewer systems are also more prevalent in places with schools than in places without them. Taken together, these findings suggest that the physical infrastructure is more developed in villages with schools than in communities that do not have schools. It may be that because housing values are higher in places with schools, there is a sufficient tax base in these communities to support other municipal services, such as municipal water and sewer systems.

Income and Welfare

Household income and per capita income are virtually the same across size and school categories (Panel C). However, income inequality (i.e., the gap between the rich and the poor) is greater in the smaller rural communities without schools than in communities with schools. Furthermore, although the differences are not large, the percentage of

²The Census Bureau distinguishes between *metropolitan* and *nonmetropolitan* counties. Metropolitan counties have a city with at least 50,000 residents. Nonmetropolitan counties do not have a large city.

³A review of several text books on real estate appraisal showed that for the average community/neighborhood, proximity to a school is associated with higher housing values (Appraisal Institute, 1996; see also *The Bismark Tribune*, 2001 for a case study).

Table 1
Social and Economic Factors Related to the Presence or Absence of a School in Rural Villages of New York

	Village Population			
	500 or Under		501 to 2,500	
	School (N = 36)	No School (N = 28)	School (N = 192)	No School (N = 41)
A. Population Characteristics				
Age structure				
18 years old and under (%)	28.7	29.1	27.9	27.8
19-39 years old (%)	30.4	30.9	30.7	31.4
40-64 years old (%)	26.0	26.5	25.6	25.9
65 years old and over (%)	14.9	13.4	15.8	14.9
Households with children (%)	35.8	37.7	34.7	35.0
Children between ages 3-18 enrolled in school (%)	83.8	82.9	84.1	83.6
Children between ages 3-18 enrolled in private school (%)	3.9	4.1	5.1	5.2
Communities in nonmetropolitan counties (%)	100.0	96.4	94.8	92.7
White population (%)	99.1	98.7	98.2	95.7
Nonwhite population (%)	0.9	1.3	1.8	4.3
Communities that increased population 1990-2000 (%)	61.1	46.4	33.3	29.3
B. Housing and Municipal Infrastructure Characteristics				
Average house value (\$)	59,508	47,782*	62,329	58,832
Median house value (\$)	57,450	43,500	58,450	50,400
Houses with municipal water (%)	67.3	64.8	93.3	83.6*
Houses with municipal sewer (%)	33.5	26.7	67.2	54.6*
Houses built after 1970 (%)	15.7	13.5	19.5	20.3
C. Income and Welfare				
Household income (\$)	25,992	26,130	26,860	26,752
Per capita income (\$)	11,914	11,574	10,722	12,201*
Income inequality (coefficient of variation)	.873	.961*	.662	.679
Households receiving public assistance (%)	6.3	7.5	6.7	7.1
Per capita income from public assistance (\$)	92	117	103	102
Population in poverty (%)	10.6	11.6	10.3	10.2
Children in poverty (%)	13.1	14.5	13.4	13.6
D. Occupational and Employment Characteristics				
Professional, managerial, executive workers (%)	38.4	34.0*	39.7	35.9*
Households with wage income (%)	73.5	75.9	73.5	74.9
Per capita income from wages (\$)	8,170	7,861	8,787	8,586
Households with income from self-employment (%)	15.4	12.7*	12.5	12.6
Per capita income from self-employment (\$)	711	453*	652	564
Residents who work in village (%)	23.0	13.8*	28.2	16.3*
Workers who commute less than 15 minutes to their jobs (%)	42.4	36.7*	41.9	41.9

* $p < .05$ within community size categories.

households receiving public assistance is higher in communities without schools than in communities with schools. Among the smallest rural villages that have schools, 6.3% of the households received public assistance in 1990 compared to 7.5% of the households in communities without schools. The comparable figures for the larger rural villages were 6.7% in communities with schools and 7.1% in communities without schools. Further, the amount of welfare dollars per capita is higher in the smallest rural villages without schools than in those with schools. Per capita public assistance in the larger rural communities is not related to the presence or absence of a school.

Small, rural communities with schools have somewhat lower poverty rates than communities without schools. Likewise, child poverty rates are lower in small villages with schools than in communities without them. Poverty rates in general, and child poverty rates in particular, are not related to the presence or absence of a school in the larger rural villages.

Occupational and Employment Characteristics

Small, rural communities with schools have proportionately more workers in the professional, managerial, and executive class than communities without schools (Panel D). In the smallest rural places with schools, 38.4% of the workforce occupies the upper occupational categories compared to 34% in communities without schools. Nearly 40% of the workers in the larger rural communities with schools hold upper echelon jobs compared to 35.9% of workers in communities without schools.

Not surprisingly, considerably more workers earn wages than receive income from self-employment. Although about three quarters of all individuals living in rural villages receive wages, per capita wages are somewhat higher in the larger rural communities. The presence of a school is not related to the percentage of wage workers in a village or per capita wages.

On the other hand, in villages with schools, slightly more workers in the smallest rural communities reported income from self-employment than workers in communities without schools. And per capita income from self-employment is considerably higher in communities with schools, especially the smallest villages. Self-employment is a key indicant of the economically independent middle class and has been shown to be a foundational element of the "civic community" (Mills & Ulmer, 1946/1970; Tolbert, Lyson & Irwin, 1998).

Related to the notion of a civic community, 23% of the workers in the smallest villages with schools and 28.2% of the workers in the larger villages with schools, are employed within their villages. Only 13.8% of the residents of the smallest rural villages without schools and 16.3% of the residents in the larger rural places are employed in their

villages. Not surprisingly, workers in the smallest rural communities without schools have longer commutes to their jobs than workers in places with schools. While comprehensive and reliable data on the number and type of businesses in rural villages in New York are not available, the fact that considerably more individuals in villages with schools work in those communities suggests that these places are more economically robust than places without schools.

Conclusions

Most of what we know about the relationship of schools to the social and economic well-being of rural communities comes from a few in-depth case studies (Peshkin, 1978, 1982; Post & Stambach, 1999) and a small handful of surveys (Barkley, Henry, & Bao, 1995; Dreier, 1982; Sell & Leistriz, 1996). Part of the reason social scientists have ignored this important issue is probably related to the lack of secondary data that bring together measures of community/village well-being with indicators of a village's civic infrastructure such as schools. For example, the U.S. Census Bureau does not collect information on schools, churches, or other civic institutions that are typically found in villages. Instead, it is usually at the state level that information about the location of schools and characteristics of school districts is assembled. There is no national or state census that identifies the location of churches at the community level.⁴

This research fits with a broader line of inquiry that is focused on understanding the effects of civic structures on community welfare. The origins of this work date back to early community studies by C. Wright Mills and Melville Ulmer (1946/1970). They showed that communities with strong civic infrastructures manifested higher levels of well-being and welfare. More recent research has demonstrated that the civic community is one in which residents are bound to place by a plethora of local institutions and organizations (Irwin, Tolbert, & Lyson, 1997). Business enterprises are embedded in institutional and organizational networks (Piore & Sabel, 1984). And, the community is the source of personal identity, the topic of social discourse, and the foundation for social cohesion (Barber, 1995).

Why is it important to document and quantify what a school means to small rural villages? First, it is important for policymakers, educational administrators, and local citizens to understand that schools are vital to rural communities (see Fuller, 1982). The money that might be saved through consolidation could be forfeited in lost taxes, de-

⁴The Glenmary Research Center in Louisville, Kentucky, conducts a decennial census of churches. However, the coverage of all denominations is not complete, and their data are only available at the county level.

clining property values, and lost businesses. I have shown a pattern of consistent results. For the smallest rural communities, the presence of a school is associated with many social and economic benefits. Housing values are considerably higher and municipal infrastructure is more developed in small villages with schools. The occupational structure in these communities is qualitatively different than in places without schools. Not only are there more people employed in the more favorable occupational categories, but there is more employment in "civic" occupations. The civic occupations are those held by the economically independent middle class. While average household income is not markedly different across places with and without schools, income inequality and welfare dependence is lower in villages with schools.

In the larger rural communities, the benefits of a school are also apparent, though the differences between places with schools and without schools are sometimes not as dramatic as those found for the smallest villages. It could be that in the larger communities there are other civic places such as libraries, parks, and service clubs that contribute to community welfare. Certainly, we know that there are population thresholds for different civic institutions (Warren, 1965). Nevertheless, on virtually every indicator of social and economic well-being, larger rural communities that have schools ranked higher than communities without schools.⁵

Given the positive attributes associated with schools, it is not surprising that when threatened by consolidation most small rural communities mount vigorous campaigns to keep their schools open (Peshkin, 1982). When challenges to school closings move into the legal arena, the results reported here can be used to begin to quantify some of the impacts of losing a school might have on community viability. In New York, for example, legislation was recently passed which stipulates that a decision by a board of education to close a school in one community and consolidate enrollment in another community must undergo a State Environmental Quality Review (SEQR). The community that loses a school must be mitigated for that loss. While school superintendents and boards of education may believe they have good reasons for consolidation (Cummins, 1998), the SEQR process insures that a village that loses its school and its residents are compensated for their losses.

⁵I did not seek to establish a cause and effect relationship between the loss of a school and a decline in welfare. Although one might infer that villages that lose schools will become less desirable places to live, the longitudinal data needed to address this issue for all rural village in New York are simply not available. However, the few case-study accounts of the effects of school closings on community well-being (Sell & Leistritz, 1996) suggest that there is a causal link.

School consolidation is likely to remain a threat to many rural communities in the coming decades. For at least a century, rural areas in the U.S. have been marked by a profound depopulation. In most cases, rural areas are losing economically and socially viable populations, tax bases, and essential services, such as schools, and retail establishments. But, there are also cases of rural communities that are thriving and, in doing so, retaining populations or even growing. There is a body of research which shows that in communities where the citizenry is civically engaged, local businesses prosper, and that these factors anchor populations to place (Irwin et al., 1997). My results show that in even the smallest rural villages in New York, schools serve as important markers of social and economic viability and vitality.

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