

The Influence of Family and Community Social Capital on Educational Achievement*

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ABSTRACT It is increasingly recognized that families and communities are important in helping youths develop the knowledge and skills they need to obtain technologically sophisticated jobs, which are an emerging part of the global economy. In this paper we adopt social capital as a framework for examining the influence of family and community on promoting educational achievement among public school students. We explore more fully the role of community social capital in influencing educational performance beyond that attributed to family social capital. Using data from the National Education Longitudinal Survey (NELS), we find that both process and structural attributes of family social capital are key factors affecting high school students' educational achievement. Process and structural attributes of community social capital also help youths to excel, though they contribute less strongly to achievement. These findings suggest that policies designed to promote educational achievement must extend beyond the school and must seek to strengthen social capital in the family and the community.

Increasing evidence indicates that our nation's economic well-being is linked directly to three factors: our capability to be participate actively in the global economy, our ability to incorporate information technology into the workplace, and our capacity to develop a labor force with the knowledge and skills necessary to operate in an increasingly complex and dynamic work environment (Judy and D'Amico 1997; Katz 1992:30–35). Probably the last of these three elements, an educated and skilled pool of workers, is the key feature supporting our nation's effort to progress in the technologically sophisticated global environment.

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Recognizing the crucial role of education, the authors of the recent Hudson Institute report on work and workers in the twenty-first century stated that the improvement of public education must be the most important goal of workforce development (Judy and D'Amico 1997:8–9). Although few would dispute this opinion, a debatable point is the authors' assertion that achieving a skilled, educated workforce depends largely on introducing major improvements into our nation's public schools.

Though improving public schools is important, increasing evidence indicates that the schools are not solely responsible for promoting our young people's academic success (Lerner 1995; Stockard and Mayberry 1992). Rather, families and communities must be engaged in helping youths develop the knowledge and skills they need to function effectively in tomorrow's workplace. Schorr (1988) asserts, for example, that the most meaningful efforts are based on the view that children are part of families, and families are part of communities. Therefore the entire community must build a support system devoted to working with families in helping children realize their full potential (Lerner 1995; Little 1993).

How might such a support system be created? In this paper we consider the possible role of social capital—the set of supportive interpersonal interactions that exists in the family and community—in promoting educational achievement. Though the notion of social capital needs refinement and is applied in a variety of ways (Wall, Ferrazzi, and Schryer 1998), it focuses on the process and structure of relationships that can facilitate or inhibit action and access to resources (Coleman 1988a; Putnam 1993). Employing data on public school students from the National Education Longitudinal Survey (NELS), we examine the link between students' access to family and community social capital and their educational achievement.

Below we outline the structural and process attributes of families and communities that indicate the presence and strength of social capital. Although we build on past work (Beaulieu, Israel, and Smith 1990; Coleman 1988a, 1988b; Smith, Beaulieu, and Seraphine 1995), we refine the conceptualization and measurement of community social capital, and explore its influence on students' educational performance beyond that which could be attributed to family social capital. According to ample evidence from studies based on community field theory (Lloyd and Wilkinson 1985; Luloff and Wilkinson 1979; Wilkinson 1991), residential communities remain a vibrant part of local societies. By adopting the notion that communities act (although some do so more vigorously than others), we can explore how social capital in the residential community might enhance educational achievement. Further, we examine how the influence of community social capital may be moderated by a community's location in a metro or a nonmetro area.

An Overview of Family Social Capital

The term *family social capital* represents the norms, social networks, and relationships between adults and children that are valuable for children while they are growing up (Coleman 1990:334). Thus an important feature of social capital is that it is invested in relationships which emerge through interpersonal interaction. Smith et al. (1995) elaborate on Coleman's notion of social capital by suggesting that its attributes include both structure and process, which condition the environment for educational achievement in a complementary fashion. Structure determines the opportunity for interpersonal interactions, as well as for their frequency and duration. Process, on the other hand, represents the quality of parents' involvement in their children's lives. Process not only incorporates parents' nurturing activities but also includes efforts intended to constrain inappropriate behaviors by their children.

Several structural characteristics in the family can influence the extent of social capital, including the presence of one or both parents in the home and the number of siblings. These components help to determine the opportunity for interpersonal interactions between parents and children, and give shape to the frequency and duration of such interactions (Smith et al. 1995). The process elements of family social capital include parents' nurturing activities, such as helping children with their homework, discussing important school activities with them, and holding high educational aspirations for them. It also embraces constraint of activities, such as limiting television viewing, providing adult supervision when the children return from school, and monitoring homework.

The evidence suggests that rural families are more likely than urban families to have "traditional" family arrangements, in which both mother and father are present. Rural families also tend to be larger because of their higher fertility rates (Fuguitt, Brown, and Beale 1989). In addition, a disproportionate share of U.S. families with limited education or with incomes below the poverty line live in rural places (Hobbs 1991; Lichter and Eggebeen 1992; Lichter, Beaulieu, et al. 1993; O'Hare 1988). Taken together, these structural traits shape the quality and quantity of interaction between children and their parents, as well as the children's academic achievement and educational aspirations (Haller and Portes 1973; Kandel and Lesser 1969; Lichter, Cornwell, and Eggebeen 1993; Smith et al. 1995).

Community Social Capital and Educational Achievement

Community field theory (Wilkinson 1991) provides an important framework for understanding the role of social capital in educational achievement. From this perspective, community social capital develops from residents' action to improve the local economy,

provide human and social services, and express local cohesion and solidarity. According to Robert Putnam (1993), localities with high community social capital are marked by extensive civic engagement and patterns of mutual support (or norms of reciprocity). Though there is much interaction in most locales, community occurs when local actors link groups and coordinate activities that serve the public at large rather than the interests of private groups (Wilkinson 1991).¹ A pattern of community activeness builds social capital in that the networks developed during past activities provide a foundation for new community efforts to address educational or other needs (Lloyd and Wilkinson 1985; Luloff and Wilkinson 1979; Putnam 1993; Zekeri, Wilkinson, and Humphrey 1994). Similarly, relationships developed in the ongoing activities of community-oriented groups, as well as a social psychological investment in the community, are resources that facilitate residents' mobilization to address issues of common interest and concern. One way in which community social capital accumulates is through the activities of generalized leaders (Israel and Beaulieu 1990; Wilkinson 1974, 1991), whereby local interests are coordinated through overlapping, multiple relationships.

Structural Attributes of Community Social Capital

Structural attributes that can influence the accumulation of community social capital include socioeconomic capacity, isolation, instability, and inequality. These features shape opportunities for emergence of the community field, as well as for interaction between youths and adults at the local level. Localities large enough to support the variety of associations for meeting most daily needs have a capacity to develop extensive community social capital. A larger community generally has greater access to outside resources and greater structural differentiation for dealing with an array of community issues (Luloff and Wilkinson 1979). Structural differentiation increases adaptive capacity because people with the expertise and experience needed to address a particular issue, including the generation of human capital, are available in the organizational structure of the community. In short, structural differentiation can facilitate the accumulation of community social capital.

In recent decades, the socioeconomic capacity of rural areas has lagged behind that of suburban and urban areas. As a result, lower-skilled, low-paying production jobs have been concentrated in rural areas, while more highly skilled managerial and technical positions

¹Social capital also can accumulate within any local group or organization, and thus can be used to further the private interests of that group, sometimes to the detriment of other groups in the community (see Flora 1998; Wall, Ferrazzi, and Schryer 1998).

have clustered in urban places (Hobbs 1995; Jensen and McLaughlin 1995). The local labor market profile is critical because the availability of well-paying jobs is likely to increase individuals' interest in pursuing formal education and making other human capital investments (Stallmann et al. 1995). Low-capacity rural communities, where educational attainment, income levels, and job-related skills are lower, can develop a milieu that does not support educational success. This can create resistance to educational investments, which in turn may reduce rural students' educational achievement and aspirations relative to those of urban and suburban students (Cobb, McIntyre, and Pratt 1989; Sewell 1964; Smith et al. 1995).²

Other attributes, such as isolation, instability, and inequality, affect the development of community social capital by enhancing or inhibiting opportunities for relationships that contribute to structural integration. Structural integration provides normative channels in a local society, through which specialized resources may be mobilized (Luloff and Wilkinson 1979). The degree to which local activity is actually coordinated by integrative structures, such as local government or informal community networks, can vary greatly across communities. Physical isolation, both spatial and temporal, decreases the interaction necessary for building community bonds among residents (Wilkinson 1991). Residents of the sparsely populated countryside incur added cost in maintaining social networks, especially the "weak ties" consisting of the more transitory and less intimate interactions that underpin much of community interaction (Granovetter 1973; Wilkinson 1991). Residents who are employed outside the locality also can become isolated because they have less time for maintaining local relationships (Elder 1996). Though spending time outside the community does not, in itself, mean that residents are not involved in locally oriented activities, it may reduce the importance of local activities, including supporting the education of local youths.

Residential instability also can disrupt local relationships, thereby reducing the social capital available to community members. As observed by Coleman (1988a), individuals may benefit by moving, but those who remain behind suffer disruption of relationships that are important to specific outcomes, such as educational attainment. Localities experiencing extensive turnover or containing many short-term residents have fewer opportunities to develop relationships that help to coordinate community activities and build social capital.

²According to Hobbs (1995), many rural communities cannot fully capture the benefits of their investments in children because many leave the community upon graduation from high school. This situation creates a disincentive for rural communities because urban and suburban areas are the major beneficiaries of their investments (Lichter, Beaulieu, et al. 1993).

Inequality creates social cleavages that affect the quality of interaction (Blau 1994). Insofar as certain sociodemographic groups, such as racial or ethnic minorities in American society, have more or less access to a locality's various resources, inequalitarian processes can create durable, overlapping cleavages between powerful elites and weak, unorganized commoners in community affairs. The have-nots can become disenfranchised and alienated (Gaventa 1980; Luloff and Swanson 1995). When many residents are alienated from local activities, participation in community affairs declines and collective action is fragmented at best. Fragmented, incomplete networks of relationships inhibit structural integration. One result of high inequality is what Luloff and Swanson (1995) call the disaffected community, in which little social capital is available for promoting local educational issues.

Process Attributes of Community Social Capital

The process components of community social capital can be described at two levels: first, by the extent and character of community action, and second, by individual relationships among adults and youths.

The first of these components is characterized by large numbers of actions and actors, inclusiveness of interests represented, and widespread involvement in decision making and implementation. Typical actions conducive to educational achievement include campaigns urging voters to pass initiatives that improve facilities such as schools, sports arenas, and community centers, or to create programs for use by youths and activities that involve students in community development projects (Israel, Coleman, and Ilvento 1993).

Individual relationships are demonstrated by adult residents' interest in the welfare of other people's children and by the efforts of individuals and organizations to engage children in local programs and activities that make effective use of their time and energy (Beaulieu and Israel 1997; Coleman and Hoffer 1987; Smith et al. 1995). Adult-youth relationships, which may develop through church- and community-based groups, offer an opportunity to shape youths' norms, values, and aspirations. When these activities involve more highly educated adults, youths are surrounded by positive role models that illustrate the importance of educational achievement. The most distinctive property of community social capital is that adults' involvement creates a "caring community" (Lerner 1995), where a social support system is in place for local youths and where adults seek to maximize youths' development.

In sum, in this paper we further explore whether supportive interpersonal interactions existing in the family and the community enhance youths' achievement in public school.

Methodology

The analysis is based on data collected as part of the National Educational Longitudinal Study (NELS) conducted by the National Opinion Research Center for the National Center for Education Statistics. The initial survey, conducted in 1988, involved a stratified national probability sample of more than 1,052 schools. A sample of grade 8 pupils was selected from each of these schools and surveyed, yielding a total of 24,599 usable responses. Students provided information on individual and family background characteristics, school experiences, extracurricular activities, attitudes about family and school, and future plans. Linked to the student surveys were nearly 22,700 parent surveys with information on family characteristics, parents' views of their children's school experiences, family life, and expectations for their children.

Additional data from the School District Data Book (SDDB) and the Common Core of Data (CCD) files developed by the National Center for Education Statistics were linked with the privileged version of the NELS data.³ We merged key 1990 census data describing community structural attributes with the NELS base year data. Although there is a slight time lag between the data sets, we can assume that these data are representative, given the small yearly changes in census data.

Finally, we incorporated into our data set county typology codes from the Economic Research Service and voter participation data from the Inter-University Consortium for Political and Social Research. Though the overlap and hierarchy of school, school district, and county differ across states, we treated these variables as a single level in our analysis.

This study also is limited to public school students because we wanted to assess variations that might exist in tax-supported schools located in different places. Because public schools are funded largely by local citizens, the values and attitudes of families and communities can significantly influence the character of these schools and can orient children to their future position in society (Flora et al. 1992). In addition, students whose schools contributed fewer than 10 students in the sample were excluded from the analysis.

We achieved the following final sample sizes for three measures of educational achievement: composite test score, 635 schools and 10,967 students; grade point average, 641 and 11,229; staying in school, 675 and 8,961. These numbers vary because of differences in item nonresponse patterns; in the analysis for staying in school,

³The privileged version includes geographic codes that are not available in the public version. These codes allow school district and county census data from other sources to be combined with the NELS data.

cases were lost because of attrition. We used weights to correct for oversampling of policy-relevant strata, such as schools with disproportionate numbers of Asians and Hispanics (Owings et al. 1994).

Measurement of Variables⁴

We measure the dependent variable, educational achievement, using three indicators: a composite score based on standardized math and reading tests, an average of grades in four subject matter areas, and staying in high school. Though each measure can be criticized, together they show more fully how educational achievement is influenced by family and community social capital.

We use a set of individual and family variables to assess what Coleman (1988a) labeled the “traditional disadvantages” of background. Family income and parents’ education reflect resources possessed by the parents that can influence the child’s academic aspirations and success. There is ample evidence for the positive influence of family socioeconomic characteristics on academic performance and staying in school (Wehlage and Rutter 1986; Weidman and Friedmann 1984). In addition, because blacks are more likely than whites to leave school, we included a race/ethnicity variable (Ekstrom et al. 1986; Natriello, Pallas, and McDill 1986). Finally, gender can affect educational achievement because levels of college attendance are lower among females (Smith et al. 1995).

Family social capital measures determine the opportunity and the process of interaction. Two family structural factors that can affect interaction include the number of parents in the household and the number of siblings. As the number of siblings increases, opportunities for high-quality, uninterrupted interaction between a parent and a child are reduced (Blake 1981; Zajonc 1976). A third structural variable that we included as a proxy for possible disadvantages in the family is the number of siblings who have dropped out of high school.

Our measures of family process focus on interaction relevant to education: these factors include nurturing activities (parents expect child to attend college; child discusses school matters with parents; child talks to parents about planning high school program) as well as monitoring efforts (whether parents check on homework; how much parents limit TV viewing; the amount of time the child spends at home alone after school with no adult present).

We use two community background variables as controls: school size (grade 8 enrollment) and district expenditures per student. Increased school size is linked to higher levels of dropouts, greater absenteeism, lower academic performance, and lower participation

⁴Appendix Table A1 details the coding scheme employed for the variables in this study.

in school activities (Barker and Gump 1964; Lambert n.d.; Lindsay 1982; Sher 1989; Walberg and Fowler 1987). Higher per-student expenditures can translate into better facilities, improved programs, and more highly qualified faculty, thereby improving educational achievement. Though many studies have found no relationship between expenditures and achievement, those which have found this relationship usually do so when increased resources are devoted to the programs in which students participate (Stockard and Mayberry 1992).

The structural attributes of community social capital that we include here measure the extent of, and opportunities for, community action. One such measure, socioeconomic capacity, is a composite measure based on six highly interrelated indicators: diversity of county employment (a measure of the concentration within the distribution of occupations),⁵ percentage of unemployed householders, poverty rate, inequality in wealth (measured with a Gini concentration coefficient), median income, and mean education level (based on a four-point scale). Low capacity is indicated by lower levels of employment diversity, such as in a one-industry town, where most people possess the same skills and experiences. This situation can constrain residents' capacity to address a broad range of community activities. Similarly, high levels of poverty depress capacity and contribute to a decrease in past community activeness and current community mobilization (Zekeri et al. 1994).

Isolation is another structural attribute of community social capital. Three measures tap aspects of isolation: county type (metro core, other metro, adjacent nonmetro, and nonadjacent nonmetro) (Butler and Beale 1994); the geographical homogeneity of the school's student population (whether all the students are drawn from one area or from several localities); and the percentage of employed persons who commute to work outside the county. Nonadjacent nonmetro counties have lower population densities and are remote from resources; the result is a milieu that can inhibit extensive networks of relationships (Wilkinson 1991). Geographic homogeneity measures opportunities for interaction between students and adult members of a community. If students who attend a school live in the same area as the school, opportunities for interactions with adult members of the community are enhanced. Such interaction is less likely if students live some distance away from the school. Finally, commuting means that residents are isolated temporally. Localities with a high percentage of commuters display less solidarity, a less extensive pattern of past community activeness, and less community mobilization (Zekeri et al. 1994).

⁵We calculated the county's diversity in employment using Simpson's diversity index (Simpson 1949).

Instability is measured with two indicators: the percentage of the county's residents living in the same county as they did five years earlier and the county's mean number of years a householder has lived in his or her current place of residence. A low percentage of residents who remain in the same county suggests that more relationships have been disrupted, including those with youths. Similarly, the fewer the persons who establish a long residence, the less likely they are to have developed social bonds (via memberships in community organizations), participated in community projects or programs, and developed a procommunity sentiment (Goudy 1990). Though long residence is the norm for developing a denser set of relationships in many communities, this does not preclude newcomers from participating. Indeed, some communities are invigorated when newcomers take part in community activities (Ploch 1980).

We include two indicators to measure inequality and disaffection. The first, percentage of a school's student population that is of minority status, is a proxy for the community's minority profile. The longstanding association of socioeconomic status with racial-ethnic group in American society (Blau 1994) inhibits social interactions that contribute to structural integration. Lyson (1995:177) offers convincing evidence that members of minorities suffer from unequal opportunities for education and employment; this situation can contribute to disenfranchisement and disaffection. The second measure of community disaffection is the voter participation rate: low rates indicate a moribund democracy and, in turn, a higher potential for a disaffected community (see Putnam 1993).

The process measures of *community social capital* focus on the extent of students' social integration in the community.⁶ Social integration refers to relationships within and between groups that contribute to a person's attachment to these groups and to his or her desire to conform to the groups' norms and expectations (Weidman and Friedmann 1984). We include three measures designed to represent social integration: the number of times a student changed schools since first grade, the student's participation in a religious group, and the number of community organizations in which the student has been involved. Children who move frequently are often unable to develop a sense of integration into a community's social structure, and consequently are hampered in establishing long-term relationships with individuals (Smith et al. 1995). Similarly, a student's involvement in a local religious organization facilitates relationships with nonfamily youths or adult members. Likewise, the more groups (e.g., scouts, boys' and girls' clubs, sports programs) to which a student belongs, the greater the likelihood that he or

⁶Measures of other aspects, such as aggregate measures of communitywide social networks, were not available.

she will establish ties with other youths and adults. Collectively these resources provide the student with a valuable support system beyond the family, which he or she can tap when necessary.

A fourth process component of community social capital that we include here is the degree to which parents know the parents of their child's closest friends. This indicator is intended to measure the breadth of ties existing among these adults. It is important in that parents can monitor their children through these links, and can ensure that norms are mutually understood and enforced (Coleman 1988a; Lee 1993).

Analysis

To make inferences about U.S. public schools and their students, we used multilevel models. We employed a special case of linear mixed models, a two-level hierarchical linear model (HLM), to examine students' base year grade average and standardized composite math/reading test score. We used generalized linear mixed models to develop a multilevel model for the dichotomous response of students' staying in school.⁷

Results

Table 1 presents results for the regression of three dependent variables—math/reading composite test score, base year grade average, and staying in school—on the independent variables. Though each model differs somewhat from the others, we find a striking overall consistency in the direction and magnitude of the independent variables' estimates; with only a few exceptions, the findings are as expected. The results described below show that many variables are important in predicting educational achievement.⁸

The results are consistent with previous status attainment research in that individual and family background characteristics are important influences on educational achievement. Children whose mother or father attended college scored higher on all three measures. Family income generally has a strong effect except for the composite test scores of students in single-parent households. Thus family structure mediates the effects of income in the analysis of composite scores. The positive effects of income also diminish at higher levels (as indicated by the quadratic term). African Americans and Hispanics recorded lower test scores and grades than

⁷A detailed discussion of the models used for the analysis is available from the senior author.

⁸We included the following variables in the initial models, but dropped them because they lacked significance: percentage of district's population living in same county five years previously (P043 from SDDB), percentage of employed persons (age 16 or older) who commute (P045 from SDDB), and school's grade 8 enrollment (BYSC3 from NELS).

Table 1. Regression Coefficients and Contrasts Showing the Effect of Family and Community Social Capital on Three Measures of Students' Achievement

Explanatory Variable	Students' Achievement: Parameter Estimate		
	Composite Score	Base Year Grades	Staying in School
Individual and family background			
At least one parent has a college education	2.20***	.109***	.390**
Respondent is female	n.s.	.087***	n.s.
Race/ethnicity contrasts among categories			
Other—Hispanic	2.33***	.073**	n.s.
Other—Black	4.35***	.059**	
Hispanic—Black	2.00***	-.014	
Family income ^a			
All families			
Linear term		.002***	.009***
Quadratic term		-.0001**	-.00004**
Single-parent families			
Linear term	n.s.		
Quadratic term	n.s.		
All other families			
Linear term	.038***		
Quadratic term	-.0001**		
Family social capital			
Structural attributes			
Family structure			
Two parents - single parent			
All areas	See Table 2	.074***	.23**
Two parent - other			
All areas		.079***	
Core metro areas			1.19***
All other areas			.39***
Single parent - other			
All areas		.005	
Core metro areas			.96***
All other areas			.16
Number of siblings	-.322***	-.017***	-.078***
Sibling(s) dropped out of school	-.333*	-.050***	-.297***

other grade 8 students (whites and Asians) but were no less likely to stay in school.

Next we assess whether family social capital exerts a significant influence on educational achievement. In keeping with earlier research (Beaulieu and Israel 1997; Smith, Beaulieu, and Israel 1992; Smith et al. 1995), students who live with two parents generally enjoyed an advantage over those in all other family structures with regard to grades and staying in school (Table 1). This was not the case for composite test scores: contrary to our expectations, students living with a single parent earned significantly higher math/read-

Table 1. Continued

Explanatory Variable	Students' Achievement: Parameter Estimate		
	Composite Score	Base Year Grades	Staying in School
Process attributes			
Discuss school plans with parent(s)	n.s.	.106***	.485***
Discuss other school matters with parent(s)	3.48***	.247***	.162**
Parents expect child to attend college	1.74***	.140***	.376***
Parents check on homework	-1.17***	-.075***	-.146***
How often parents limit TV time	.714***	.044***	.225***
Time alone after school without an adult			
All areas		n.s.	
Core metro areas	-.49***		-.115***
Other metro areas	-.35**		.024
Nonmetro adjacent areas	-.35*		-.141***
Nonmetro nonadjacent areas	-1.01***		-.036
Community background			
Core expenditures per student	.0004**	.00004***	.0002***
Community social capital			
Structural attributes			
Community socioeconomic capacity			
All areas		n.s.	.109*
Core metro areas	1.19***		
Other metro areas	1.07***		
Nonmetro adjacent areas	1.07*		
Nonmetro nonadjacent areas	1.46**		
Average years in current home			
All areas			n.s.
Core metro areas	-.092	-.013*	
Other metro areas	-.185*	-.004	
Nonmetro adjacent areas	.092	.016	
Nonmetro nonadjacent areas	.288	-.030**	
All children in district attend same school			
All areas	n.s.		n.s.
Core metro areas		.140**	
Other metro areas		.060	
Nonmetro adjacent areas		-.098	
Nonmetro nonadjacent areas		.043	
Voter participation (1988 Presidential)	4.47**	-.509*	n.s.
Minority percentage in the school	-.747*	n.s.	-.340***
Process attributes			
Number of moves since first grade	-.237***	-.035***	-.251***
Parents know parents of child's friends	.164**	.022***	.066***
Involvement in a religious group:			
All areas	2.29***		.270***
Metro core areas		.090***	
Other metro areas		.141***	
Nonmetro adjacent areas		.199***	
Nonmetro nonadjacent areas		.144**	
Involvement in nonreligious community groups			
Linear term	.436**	.044***	n.s.
Quadratic term	-.181***	-.007**	n.s.

* $p < .05$; ** $p < .01$; *** $p < .001$

^a Family income has been centered on group mean.

Table 2. Family Composition Contrasts for Composite Test Scores at Selected Levels of Income

	Estimate
When both households have income at first quartile of their community	
One-parent household—two-parent household	.81***
One-parent household—other household	1.11***
Two-parent household—other household	.30
When both households have income that is average for their community	
One-parent household—two-parent household	.21
One-parent household—other household	.51
Two-parent household—other household	.30
When both households have income at third quartile of their community	
One-parent household—two-parent household	-.15
One-parent household—other household	.16
Two-parent household—other household	.30

*** $p < .001$.

ing composite scores than students from all other family structure types at lower income levels (Table 2).⁹ At middle and higher income levels, students in single-parent families performed no differently on the standardized tests than did students in two-parent or other types of families. The number of siblings is a significant negative factor influencing achievement: in keeping with the literature (see Blake 1981; Zajonc 1976), this finding suggests that parents' opportunities to provide their child with high-quality, uninterrupted time are scarce when there are many children in the home. Achievement also was reduced when the child had one or more siblings who had dropped out of high school. This finding may indicate a weak family environment with little support for academic progress.

The process attributes of family social capital apparently are important in shaping a child's academic performance. Students are more likely to attain higher test scores and grade averages, and to stay in school, when they discuss school programs (not significant for composite scores) and other school matters with their parents, if at least one and preferably both parents expect them to attend college, and if parents limit the amount of TV time. The fifth measure, parents checking homework, is associated negatively with all three achievement measures. Although this last finding seems to be counter to expectation, one could argue that parents who often assist with a child's homework may be doing so because the student

⁹This result appears to be an artifact of family structure's mediating effect on family income. It is likely that if the family income variable were replaced by a family per capita income variable, the difference in family types would be negligible.

lacks discipline or self-motivation. Highly motivated students may need little, if any, assistance in completing assignments.

The amount of time that a child spends alone after school with no adult supervision is another significant factor. The more time spent unsupervised, the lower the score on the math/reading composite tests, especially for students living in more isolated nonmetro nonadjacent areas and, to a lesser extent, those in core metro counties. Similarly, students who live in core metro and nonmetro adjacent areas and are unsupervised for a longer period are less likely to stay in school.

Only one of the two community background variables included in our initial models—expenditure per student—shows a significant positive effect on students' achievement. Despite the rhetoric about "throwing money at schools," the results suggest that higher per-student expenditures translate into improved academic performance.

Results presented under "community social capital" in Table 1 provide the basis for addressing whether community social capital influences students' achievement. In many instances, we found significant relationships between the three measures of achievement and community social capital attributes. Among the community structural attributes, socioeconomic capacity had a positive effect on students' test scores (especially for those in nonadjacent nonmetro counties) and on staying in school. The results suggest that the smallest, most isolated localities having high socioeconomic capacity can provide more community support, which contributes to higher composite scores, than do towns with less socioeconomic capacity. A second structural factor, average years in the current home, generally was not significant; when it was, the effect was contrary to our expectation. That is, stability due to long residence in a community did not contribute to educational achievement. Rather, it was associated negatively with students' test scores in other (non-core) metro areas, and with grades in metro core and nonadjacent nonmetro areas.

A structural measure for isolation—whether all the students come from the same area—was significant for students' grades in metro core areas. Students at metro core schools serving a single area had higher grade point averages than those in metro core schools serving students from several areas. This point suggests that schools in which the students travel from different neighborhoods are structurally deficient, because opportunities for creating adult-student relationships and a sense of community are limited by spending time in different locations. Finally, we obtained mixed results for minority percentage and voter participation, the measures tapping inequality and disaffection. Though the effect of voter participation on the math/reading composite score was as we expected, this was not the case for grade point average.

As expected, students living in communities with a high minority percentage registered lower composite scores and were less likely to stay in school. Communities with large proportions of minorities often suffer from limited economic opportunities and inequality (Lyson 1995), which can create disaffection among these residents. This, in turn, can create an environment that reduces opportunities for relationships conducive to educational success.

In sum, the community social capital structural attributes exert a significant influence on students' educational achievement. An important component is the type of community, which moderates the effect of other community structural attributes.

The process characteristics associated with community social capital also have an important influence on students' test scores and grades, as well as on staying in school. Students who had made numerous moves from one school to another since entering the first grade were much less likely to obtain higher test scores and grade point averages and to stay in school than children who had made few or no moves. Repeated moving may inhibit children's and parents' opportunities to develop relationships with people and organizations outside the family. As Coleman (1988a:S113) notes, for parents and children in mobile families, relationships that constitute social capital are severed at each move. Uprooted individuals need time to establish new networks in the destination community (Putnam 1995).

The evidence in Table 1 also suggests that parents who know the parents of their child's best friends are more likely to have children who obtain a higher composite test score and higher grades and who stay in school. The ties formed by knowing the friends' parents provide closure in local networks, which can reinforce community norms and practices that promote achievement. The results also show that involving youths in a religious group tends to enhance their educational achievements. (For grades, the benefits of participation in a religious group were largest in adjacent nonmetro areas.) This finding supports Coleman's (1988a, 1988b) argument that churches offer opportunities for interaction and support, activities that provide youths with ways to feel attached to the adult community beyond the family. Similarly, involvement in nonreligious groups facilitates educational achievement, though the benefits are limited to involvement in two or three groups (indicated by the quadratic term). For the math/reading composite score, involvement in one or two organizations is beneficial, while involvement in three or more reduces the score. This suggests that participation in a few organizations helps to develop positive relationships with adult role models, which then facilitate educational success. Participation in a larger number might fragment a student's time so that positive relationships are not developed. On balance, the

process attributes of community social capital apparently exert a more significant and more consistent influence than the structural attributes. This result is not surprising, however, given the proximity of the process measures in students' daily life.

Educational Achievement and Community Type

The parameter estimates in Table 1 show that the effect of location, as indicated by the community type variable, varies across the set of moderating variables. The contextual effect of community type was either nonexistent or trivial for many of the family and community factors included in our analysis. On the other hand, the relative isolation of nonadjacent nonmetropolitan communities and the accessibility of metro core communities facilitated educational achievement in some ways and inhibited it in others. For example, a high community socioeconomic capacity and limited time spent alone resulted in higher composite test scores for students living in nonadjacent nonmetro areas (and, to a lesser extent, in metro core areas) than in other areas. Residential stability (average years in the current home) had no effect in most areas, but higher levels of stability were associated with lower test scores in "other metro" communities.

Base year grades and staying in school show that a different set of factors moderates the effect of geography. For base year grades, increases in residential stability (average years in the current home) were associated most closely with lower grades for nonadjacent nonmetro areas and with somewhat lower grades for core metro areas, but were not significantly different for other metro and adjacent nonmetro areas. Metro core students made higher grades, however, when all students attending the school came from the same area than when all students in the school did not; students living in other types of communities showed no such difference. Metro core students benefitted least from participation in a religious group; adjacent nonmetro students showed the greatest gain in grades over those who did not participate in a religious group. Of the four types of communities, metro core areas also influenced the probability of staying in school more strongly than did the others, as shown in the effects of family composition and time without adult supervision. The effect of family structure on staying in school is consistent with earlier findings by Lichter, Cornwell, and Eggebeen (1993).

Variance Decomposition by Family and Community Variables

Table 3 partitions the variance into the contribution made by the family social capital variables (including the individual and family background attributes) and by the community social capital characteristics. It shows that 12 to 21 percent of the total variance for the math/reading composite occurs between communities, while

the remaining 79 to 87 percent occurs within communities. The family variables (which include individual-level control variables) exerted a substantial effect on test scores and accounted for 23 to 28 percent of the total variance for the math/reading composite score. The addition of the community social capital variables, which include the process and structural dimensions of the community as well as the community background variable, accounted for an additional 1 to 5 percent of the variance for the composite score; the effect of the community variables was most evident in nonmetro non-adjacent areas.

We find a similar pattern for the variance of base year grade average. For students in metro core areas, for example, most of the variance (.4658 of .5102, or 91 percent) occurred within the community at the individual level; only 9 percent of the variance was explained by the between-community component. Overall the community variables added no more than 1 percent of the total variance explained by family variables or individual-level control variables for any of the community types in the fitted models. Finally, Table 3 shows the decrease in the variance parameter for staying in school.¹⁰ The addition of community social capital variables reduced the variance parameter for each residential category and indicates that community social capital has an influence on staying in school.

Conclusions

We have examined the influence of social capital on educational achievement using three indicators: a composite math/reading test score, base year grade average, and staying in school. We also elaborated the concept of community social capital and further explored its application to enhancing educational achievement. Our findings reaffirm the significant role of parents' socioeconomic status in shaping their children's educational performance. Children born into more affluent homes or born to well-educated parents tend to perform well academically. These family assets create an environment where educational achievement is valued and expected. In addition to family background attributes, however, social capital available in the family promotes a child's educational achievement further. When youths are provided with a nurturing environment and with guidance on behaviors that are deemed appropriate and inappropriate, the effects on their educational progress are powerful and positive.

Although it makes a smaller contribution to academic performance, community social capital helps children excel in school. We

¹⁰Because staying in school follows a binomial distribution, the analysis can generate only the between-community parameter estimate.

found that both the process components of community social capital and the structural features of the locality are important in influencing students' composite test scores and academic grades. Children who have experienced few if any moves since the first grade, who are engaged in group activities through their church or elsewhere, and whose parents know their friends' parents tend to do better in school. This finding suggests that access to adults outside the immediate family has a positive effect on these students, as does the stability of living in a locality for a long period without interruption by a physical move to another school or community.

Despite the key role of families in promoting their children's academic success, families are generally left out of the mix of strategies proposed to strengthen America's human capital resources—resources that are vital to our country's ability to compete in a global marketplace. This omission may be due largely to the common belief that schools are the key instruments for developing our young people. Rarely, if ever, are the state and local resources that flow to public schools invested in enhancing families' capacity to provide an environment that promotes their children's education. Similarly, the country's major workforce training programs, such as the Job Training Partnership Act and its successor, the Workforce Investment Act of 1998, lack a focus on family strengthening for those aspects of its programs which deal with youths' workforce preparation. We witness a failure to fully appreciate parents' potent role in shaping their children's education and career aspirations.

Enhancing families' capacity should be viewed as essential for promoting students' educational achievement. This may entail the design and delivery of an array of programs that build parents' competencies, which are crucial to the creation of social capital in the home. They could include tools for promoting high-quality parent-child interactions, for building children's self-confidence and raising their educational aspirations, and for curbing behaviors that inhibit academic progress. The goal is to create a home environment where parent-child relationships are strong, and where parents place a high value on education.

Although community social capital is less significant in influencing a student's academic achievement, one should not disregard community social capital as a resource for children. In the words of John Gardner (1991:16), "The child absorbs values, good and bad, on the playground, through the media, on the street—everywhere. It is the community and culture that hold the individual in a framework of values. . . . Values that are never expressed are apt to be taken for granted and not adequately conveyed to young people." The role of community social capital may not directly influence high school students' educational performance, but it may exert indirect effects through the variety of programs, organizations, and

activities available in a locality. By these means, citizens can convey the importance of high educational performance to children. Lerner (1995:63), for example, contends that such efforts are a vital part of the “village response” in fostering positive development among America’s youths. Such programs offer young people an opportunity to engage in positive relationships with peers and adults, teach students important life skills, and nurture self-competence. Lerner’s notion of a “village response” encompasses the creation of social capital in the community.

Localities will differ in their ability to enhance community social capital. Inequality, isolation, dependency, and gaps in the organizational and institutional structure can inhibit community action (Wilkinson 1991). Communities that are fragmented, manipulated by outside organizations, or limited by smallness or distance are less likely to increase their social capital or (on the basis of our results so far) to be able to address local youths’ educational achievement. Until these structural deficiencies are confronted, many communities will be less able to muster the social capital needed to make a real difference in local youths’ lives.

We observe some positive signs, however, in federal policies that are intended to involve communities in implementing youths’ workforce preparation and development. The Workforce Investment Act of 1998, for example, requires the creation of local workforce investment boards. These boards are composed of broad segments of the community such as businesses, educational institutions, local social service agencies, and civic organizations; they are asked to give attention to the needs for postsecondary training in educational and occupational skills among at-risk low-income youths (e.g., school dropouts, teen parents, juvenile offenders). Block grants are being provided to help implement the workforce investment boards’ plans.

Programs such as these offer communities an opportunity to build community social capital. First, they engage many local organizations and people in a collaborative effort to improve at-risk youths’ educational progress and school-to-work transition. Thus they can help strengthen community networks and reduce fragmentation of services. Second, they offer youths a variety of programs that are intended to link their academic learning more closely to occupational experience. This process helps to build a network of relationships among people who hold a common objective: helping local youths to make a successful transition into the world of work. Third, they provide young people with a sense of integration into the community because they can establish ties with a number of organizations and people whose purpose is to offer support and assistance. And finally, these programs reduce disaffection by offering organizations and individuals an opportunity for collec-

tive action to improve educational and employment opportunities for local at-risk youths.

The strategies noted above are only a sample of the activities that can contribute to building family and community social capital. These efforts can increase the social resources that can help youths succeed in school and, later, in the working world. Moreover, they demonstrate a caring family and community environment, which is vital to young people's positive development.

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Appendix Table A1. Variables Used in the Analysis, Variable Names and Data Source, and Their Measurement

Variable and Source ^a	Coding Scheme	Mean ^b	SD
Standardized math and reading composite score (BYTXCOMP)	Entire base year sample has mean at 50 and standard deviation of 10	50.860	9.916
Staying in school (F2EVDOST)	1 = student dropped out during first or second follow-up; 0 = never dropped out	.170	.004
Base year grades (BYGRADS)	Average of four subject area grades placed on 0.0 to 4.0 scale (4.0 = all A's)	2.910	.756
Family income (BYFAMINC)	Linear and quadratic terms, in units of \$1,000 and centered on group mean	37.937	32.377
Parents' education (BYPARED)	1 = at least one has a college education; 0 = none	.706	.004
Race/ethnicity (RACE)	Factor with three levels: other, black (not Hispanic), and Hispanic (mode = other)	.803	.004
Gender (SEX)	Factor with two levels: female = 0; male = 1	.497	.005
Number of siblings (BYP32)	Range 0 = none to 6 = six or more	2.270	1.558
Number of siblings dropped out of school (BYP6)	Range 0 = none to 6 = six or more	.163	.606
Family structure (BYFCOMP)	Factor with four levels: living with both parents, one parent and guardian, single parent, and other (mode = both parents)	.648	.004
Discuss school plans with parent(s) (BYS50A,B)	Average of two ordinal variables, each with three levels	1.231	.620
Discuss other school matters with parent(s) (BYS36A-C)	Average response to students' and parents' discussion of (1) school programs, (2) school activities, and (3) things studied in class; each questions range from 0 to 2. (Cronbach's alpha = .61)	1.393	.501
Parents expect child to attend college (BYS48A,B)	Number of parents that student thinks expect him/her to attend college	1.579	.747
Parents check on homework (BYS38A)	0 = never, 1 = rarely, 2 = sometimes, 3 = often (treated as interval-level)	2.083	.998

Appendix Table A1. Continued

Variable and Source ^a	Coding Scheme	Mean ^b	SD
How often parent(s) limit TV time (BYS38C)	0 = never, 1 = rarely, 2 = sometimes, 3 = often (treated as interval-level)	1.102	1.059
Time alone after school without an adult (BYS41)	Number of hours spent alone after school on average, ranging from 0 = none to 4 = 3 or more hours (treated as interval-level)	1.830	1.197
Core expenditures per student (C_COREPP from SDDB Top 100)	Amount in dollars	3,115.25	1,023.31
Community socioeconomic capacity (P117, P080A, P077, H061, P113, P204 from SDDB)	A standardized composite of highly related district SES measures ^c	0	.817
Community type (BEALE93 from 1989 ERS County typology codes)	Factor with four levels: metro other, metro core, nonmetro adjacent, nonmetro nonadjacent (mode = metro other)	.382	.004
All children in district attend same school (BYSC24A)	1 = yes; 0 = no	.907	.003
Average years in current home (H028 from SDDB)	School district's average: how long, in years, householders have lived in current home	10.892	2.459
Voter participation (variable 54, ICPSR 0013; variable 325, ICPSR 9405)	Percent of registered voters in county who voted in the 1988 presidential election	.717	.089
Percent minority in school (G8MINOR)	1 = 30% or more; 0 = less than 30%	.297	.004
Number of moves since grade 1 (BYP6)	Number of times student changed schools since grade 1 (not due to promotion)	1.280	1.566
Parents know parents of child's friends (BYP62B1-5)	Number of parents of the student's close friends whom their own parents know; range 0 to 5	2.697	1.649
Involvement in a religious group (BYS83A)	1 = yes; 0 = no	.339	.004
Involvement in nonreligious community groups (BYS83C,D,F,G,H,I,J)	Number of groups student is involved with	1.402	1.431

^a Unless noted, the source is the National Education Longitudinal Survey.

^b The proportion for the modal category is reported for multinomial variables; the proportion for the binomial variables is shown when the attribute is coded 1.

^c The six socioeconomic measures are district poverty rate (P117), district median income (P080A), district employment diversity as measured by Simpson's Diversity Index of 18 industry categories (P077), concentration of wealth as measured by a Gini of the value of residents' homes (H061), percent of unemployed householders in district (P113), and district's mean education level on a four-point scale (P204) (Cronbach's alpha = .92).