Parents' Extrafamilial Resources and Children's School Attainment

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The study presented in this article examined the contribution of parents' extrafamilial resources in childhood to children's completed years of schooling in young adulthood, controlling for human and financial resources. The sample consisted of 901 black and white children observed in the Panel Study of Income Dynamics at ages 11–16 and again at age 22. The findings indicated that human and financial resources of the family are strongly associated with children's schooling and that parents' access to time or money help from friends is significantly associated with the years of schooling completed by children from high-income (but not low-income) families. Help from friends affects college attendance but not high school completion and is not uniform across the socioeconomic spectrum of families. Some residential mobility appears to increase the college attendance of children from high-income families, but it is detrimental to the college attendance of children from low-income families.

Schooling remains one of the most important investments young people can make in their future. Better-educated youths make more money (Murphy and Welch 1989) and have more stable employment (Levy and Michel 1991; Topel 1993). They are more likely to marry and stay married longer than are their less educated counterparts (Axinn and Thornton 1992; Teachman 1982). Finally, better-educated adults live longer and healthier lives (Adler, Boyce, Chesney, and Cohen 1994; Evans 1994).

Over the past several decades, sociologists of education have learned a lot about the factors associated with school attainment. Whether a youth completes high school depends on his or her family background and resources; parenting; school experiences, such as attendance, grades, and behavior; and the characteristics of his or her neighborhood (Rumberger 1995). Additional factors associated with attending college include information about and access to schools (Fuller, Manski, and Wise 1982; Manski and Wise 1983). Yet such models explain less than half the variance in schooling (Hauser and Featherman 1977).

To address the gap in understanding of the school-attainment process, this article presents a new measure of extrafamilial resources that we developed. This measure complements both previous research that focused more narrowly on the involvement of parents in their children's schooling and current

research that emphasizes the characteristics of neighborhoods. It shows how, under certain conditions, the involvement of parents in exchanges with others also benefits their children's school attainment. The advantage of this measure is that it uses data from a long-term prospective study, the Panel Study of Income Dynamics, that enabled us to examine how parental investments in social relationships when children are young are linked to children's later human capital attainment, that is, their level of schooling as young adults, net of parental human and financial capital.

PREVIOUS RESEARCH

Familial Factors in School Attainment

In spite of major advances in what is known about school and the schooling process, family characteristics continue to outweigh extrafamilial resources and characteristics in explaining school attainment (Alexander and Entwisle 1988; Hanushek 1989; Hauser and Featherman 1977; Schneider and Coleman 1993). Research has consistently found a large positive impact of parental schooling on children's schooling (Haveman and Wolfe 1994). Economic factors also continue to be associated with school success. In particular, children from less economically advantaged families are consistently more likely than those from more advantaged families to drop out of high school (Haveman and Wolfe 1994; Rumberger 1995). They are unlikely to do so because of the cost of tuition per se, since most children attend public secondary schools, but they may be disadvantaged in their access to other types of resources, such as books, clothing, and stable housing.

Family structure is also important. Children from one-parent families are more likely to drop out than are children from two-parent families, and the more years spent with only one parent, the greater the likelihood of dropping out (Haveman and Wolfe 1994). It is not just the number of parents, however, that affects school completion. Research has shown that children who grow up in stepparent families also have a high propensity to drop out, compared with those in intact two-parent families (Astone and McLanahan 1991; McLanahan and Sandefur 1994). Race-ethnic status has generally been linked to school leaving, with black, Native American, and Hispanic students more likely to drop out than white or Asian American students. However, when socioeconomic characteristics are controlled, the differences disappear (Rumberger 1995). Other research (Haveman and Wolfe 1994) has found that some non-Asian minority students are less likely to drop out and more likely to succeed than are white students. For example, black women achieve more schooling than white men, once other differences are controlled (Haveman and Wolfe 1994).

Extrafamilial Factors in School Attainment

Recent research has explained school success not solely through family influences but also through social or extrafamilial processes. Neighborhoods reflect the social environment within them and have been linked to school dropout (Brooks-Gunn, Duncan, Klebanov, and Sealand 1993; Duncan, Brooks-Gunn, and Klebanov 1994). However, for the most part, studies have measured relatively static characteristics, such as poverty, the proportion of youths who have not completed

school, or the value of housing, rather than relationships among the neighborhood residents. One exception is the study by Sampson, Raudenbush, and Earls (1997) that examined the relationship between social processes and violent crime in neighborhoods. Sociologists have also focused on the interaction between neighborhood characteristics and family behavior, such as how family strategies for managing activities in dangerous neighborhoods facilitate children's success in school (Elder, Eccles, Ardelt, and Lord 1995). Schools are also important contexts for child development, but research has consistently found that schools' financial resources are only marginally linked to school attainment (Hanushek 1989).

Less often emphasized, but of enormous potential import for the lives of children, are resources in the form of extrafamilial social relationships. Beginning with Coleman and Hoffer (1987), a number of works have addressed the relative importance of extrafamilial ties. Coleman and Hoffer viewed religious-affiliated private, particularly Catholic, schools as extensions of family values, providing a functional community to enforce parental norms and values. Consistent with their expectations, they found that the dropout rates of Catholic school students were significantly lower than those of other private and public schools. Although studies (Furstenburg and Hughes 1995; Schneider and Coleman 1993; Teachman, Paasch, and Carver 1996) have examined the consequences of such parental relationships for middle- and high school-age children, none has examined them in early to middle childhood for children's school attainment in young adulthood. We argue that families who are more embedded in a network of social exchanges outside their households are better able to develop their children's human capital than are those who are not.

Social Capital

Families have at least three major types of resources, or capital, that can be devoted to children (Coleman 1988). *Financial capital* consists of monetary resources that can be used to purchase goods and services. *Human capital* consists of the skills and capabilities that individuals have to learn and adapt to their environments, usually indicated by their level of formal education. *Social capital,* posited by Coleman and others, consists of the relationships between (1) parents and children and (2) parents and other individuals and institutions that affect children's development and are needed for the development of human capital.

The first type of social capital is present in households and is developed through the time that parents spend teaching, nurturing, monitoring, and caring for their children. Many studies have recognized this type in various ways, though it is not usually referred to as social capital. Maternal employment, for example, is often used as a proxy for the lack of time mothers invest in children, under the assumption that there is a direct trade-off between time spent in employment and time spent with children (Nock and Kingston 1988).[1] Children in single-parent families are disadvantaged because they lack the time and attention that two parents could provide. The number of siblings is an important indicator of the dilution of attention to children, with parents less able to devote personal time to each as the number of children increases (Coleman 1988).

Coleman's (1988) conceptualization of social capital also includes the style with which parents interact

with their children. Studies that have attempted to measure such parent-child interactions directly on the basis of questions about communication and monitoring have generally found that such measures are linked to school attainment (Astone and McLanahan 1991; Furstenberg and Hughes 1995; Hagan, Macmillan, and Wheaton 1996; Teachman et al. 1996). Finally, expectations for their children are key to determining the level of social and human capital investments by parents (Schneider and Coleman 1993).

Although the first type of social capital has been shown to be linked to children's development, the second type, social relationships between households, has rarely been explored in longitudinal studies. Coleman (1988) argued that these relationships provide a source of assistance and information based on the strength of interpersonal ties, characterized by mutual obligations, expectations, and reciprocity, and which are maintained by norms and sanctions. These interpersonal ties can be strong (as with kin) or weak (as with professional networks) (Granovetter 1973). Coleman and Hoffer (1987), among others, argued that the linkage among families creates a "functional community" with norms and effective sanctions that both "shape and constrain" the actions of the children. If parents have these ties, they can more effectively communicate the common goals and values they share and monitor and control their children's behavior. Parental networks may provide information about and connections to colleges and may facilitate communication and monitoring of one's children and their friends. Thus, social capital interacts with parents' other resources to facilitate the development of human capital.

Participation in school activities or contact with school personnel indicates parents' involvement in their children's schools, and enrollment in Catholic schools indicates embeddedness in networks. Both types of measures were found to be significantly related to children's grades in school (Coleman 1988; Schneider and Coleman 1993). An increasingly available measure of interhousehold linkages is whether parents know the parents of their children's friends. However, this measure indicates nothing about the nature or consequence of the acquaintances or ties.

A key question is whether kin or nonkin provide more important linkages across families in improving children's attainments. According to Granovetter (1973, 1983), among others, although the strong ties of kin are important, they cannot give the number and heterogeneity of information that the weak ties of nonrelated networks provide. Kin are neither numerous nor diverse, and family members cannot provide both normative control and information about colleges and job opportunities.

In contrast, weak ties are conduits through which resources, such as time and financial assistance, can flow *when needed.* Besides numbers and variety, weak ties also allow for more reciprocity in networks than do strong ties. Parents who have invested in friends (but not relatives) are more likely than those who have not to expect help from them in emergencies (Hofferth, Boisjoly, and Duncan in press). This evidence supports the idea that giving assistance creates obligations that form an "account" of social capital (Coleman 1988) and that friendship ties are essential in this regard.

Another aspect of these social ties is that they are not a permanent characteristic of families. A variety of events and circumstances, including

divorce and substance abuse, can disrupt social, human, and financial capital. Although it is unlikely to disrupt human capital or financial capital, residential mobility can be expected to disrupt social capital, since it disrupts the network of relationships, including those with teachers, schools and their staffs, parent-teacher organizations, and other families, in which individuals conduct their daily lives.

Coleman's research (1988), as well as several recent studies (Astone and McLanahan 1994; Hagan et al. 1996; Haveman and Wolfe 1994; Teachman et al. 1996), showed that geographic mobility is linked to a higher rate of school dropout and substantially explains the difference in school completion between children in two-parent intact families and two-parent stepparent families (McLanahan and Sandefur 1994).[2] Since it takes considerable investment to build up social capital in a new place, high residential mobility is likely to be associated with low social capital. Hofferth et al. (in press) found that moving away from the family of origin was associated with greater investment in social capital in friends and hence greater access to friend-based social capital.

Unique to the concept of social capital compared with the narrower notion of social networks is the idea that social capital, like financial or human capital, represents a stock or account of *potential* assistance and network linkages that is developed through a conscious or unconscious investment process and could be drawn upon when needed (Bourdieu 1983; Coleman 1988). Actual exchanges are likely to represent investment in these networks or reciprocity for past investment. Just as financial capital in the form of parental income and human capital in the form of parental education have been associated with the amount of schooling children complete (Haveman and Wolfe 1994), so we hypothesized that social capital would be associated with completed schooling.

We expected that social capital might interact with other resources to enhance or reduce the amount of schooling completed. Income is the most important of these other resources. The effects of social capital need not be the same for all income groups, since other resources may make up for low social capital. On the one hand, children whose parents have the financial and personal resources to help them may not need as strong a network of supportive family members and friends. On the other hand, social capital could be seen as amplifying the effects of income on children's schooling. Both Teachman et al. (1997) and Valenzuela and Dornbusch (1994) found interactions between measures of social capital and income in school success. In both cases, the effects were positive; social capital increased the effects of other resources, such as parental income and education.

Embeddedness in networks may not be uniformly positive. Networks may limit educational mobility if families are burdened by networks of obligations and, therefore, do not benefit from them. The literature on modernization argues that success in contemporary industrial societies is based on the separation of youths from their extended families to pursue individual opportunities (Goode 1982; Valenzuela and Dornbusch 1994). An example of a negative impact is the strain that extended networks place on black single mothers, who may be expected to help their kin, regardless of their own scarce resources (Stack 1974). Being involved in networks that do not reciprocate (giving without reporting access to help) may strain resources and limit

parents' ability to support children's schooling. In the empirical portion of this article, we focus on parents' human, financial, and social capital and residential mobility as they relate to the likelihood that a child will complete more years of schooling. Social capital has an important intergenerational dimension. Figure 1 illustrates the hypothesized linkages across generations between human, financial, and social relationships and child development, with G_1 indicating the parent generation and G_2 indicating the child generation.

The model shows both the factors related to having access to financial, human, and social capital and the paths through which that capital affects child development. Starting from the left and examining the determinants, we view the financial, human, and social capital of the parents as depending on the investment choices made by the parental family; the cultural background and values of the parents; and events that have occurred, including divorce and geographic mobility.[3] Cultural differences resulting from different racial or ethnic backgrounds may lead to different values. Divorce may reduce access to social capital in the family by reducing access to two parents. Although we would have liked to measure the actual time parents spent with children during childhood, we lacked that information. Parental human capital was measured by the educational level of the mother, financial capital by family income, and (low) intrafamilial social capital by the number of childhood years spent in a female-headed household.

Extrafamilial social capital takes many forms, of which we measured only a few. It includes the structure and number of ties; norms developed and shared by parents and their acquaintances; and closeness, contact with, obligations to, and access to help from grown-up children, extended family members, friends, and neighbors. In this study, we developed three kinds of measures of social capital: (1) perceived access to (the current "stock" of) social capital, reflecting embeddedness in a network of social relations, measured by parents' perceptions of access to emergency time and money help from extra-household family members and from friends or by actual participation in exchanges; (2) receipt of assistance, either investments of others or reciprocity for previous exchanges, measured by whether parents reported the actual receipt of emergency time or money in the past five years; and (3) geographic mobility, indicating potential disrup-

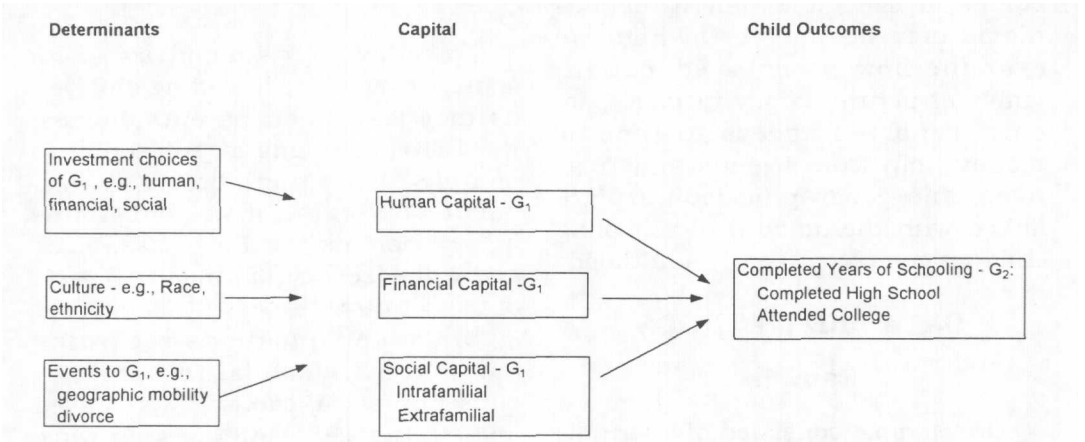

Figure 1. Conceptual Framework for How Social Capital Is Formed and How It Affects Children. Note G_1 denotes the parent generation; G_2 denotes the child generation.

tions to the stock of social capital and measured by the number of residential moves when children were aged 11 to 16. Although we measured a number of important theoretical aspects of extrafamilial ties, our empirical work represents an important but decidedly incomplete test of the possible benefits of social capital relationships.

The right side of Figure 1 focuses on completed schooling. Completed schooling has two components: completed high school and attended college. Social capital may have a direct effect on child outcomes, influencing educational attainment net of other factors. Parents' social relationships may also act as protective factors. That is, healthy parental social-support relationships may interact with a risk factor, such as low family income, to improve children's schooling over what it would have been without these relationships. In this case, one might expect the effect of social capital to depend on the family's level of income.

In this article, we estimate a reduced form of the model because we do not have measures of the potential intervening mechanisms (information and monitoring) discussed earlier. However, if the reduced form shows no relationship between social capital and child outcomes, a search for such mechanisms may not be worthwhile. We examine how parents' education, family structure, family income, parents' reported access to time or money help from friends and relatives, and geographic mobility are linked with the amount of schooling children complete in early adulthood.

DATA AND METHODS

Sample

Our sample consisted of 901 individuals observed in the 1980 wave of the Panel Study of Income Dynamics (PSID) at ages 11–16 and in subsequent interviews at least at age 22. The PSID is an annual longitudinal telephone survey of a national sample of U.S. families, conducted by the Survey Research Center, University of Michigan, since 1968 (Hill 1992). Children who leave home and other family members who move out are interviewed in their new households, so the sample is continuously being refreshed. Because no new families have been added, however, the sample excludes post-1968 immigrants, now about 10 percent of the population. Low-income families were initially oversampled in the PSID, but weights were developed and are used (normalized) throughout our analyses to adjust for the differential initial sampling probabilities and for differential nonresponse that have arisen since the beginning of the study. Attrition averages about 3 percent from one year to the next; however, after 30 years, about 60 percent of the original sample is still being interviewed. Researchers who have conducted comparisons of the PSID with other data have concluded that these weighting procedures make the study representative of the nonimmigrant U.S. population (Becketti, Gould, Lillard, and Welch 1988; Fitzgerald, Gottschalk, and Moffitt 1998).

By following *all* members of its sample over time, including children as they leave their parents' homes, the PSID maintains a representative sample of the nonimmigrant U.S. population and of major subgroups in the population—in our case, black and white teenagers living in all parts of the country.

Since key questions regarding parental extrafamilial resources, a subset of "social capital," were asked only in the 1980 interviewing wave and we wanted responses to those questions to correspond to the time

at which the children were adolescents, we defined our analysis sample to consist of individuals who were aged 11-16 in 1980. Furthermore, to observe completed schooling, we restricted the sample to individuals for whom data on completed schooling were available at age 22 or later. These restrictions produced a sample of 901 individuals—228 white males, 252 white females, 201 black males, and 220 black females.[4]

Measures

Dependent variables. Our primary dependent variable was a continuous measure of years of completed schooling, typically ascertained when the individual was in his or her mid-20s. To determine whether the effects of social capital on schooling vary at different levels of schooling, we also examined the determinants of two dichotomous measures of completed schooling: (1) whether the individual completed high school and (2) whether the individual attended college.[5] The analysis sample was the same for all three analyses, since we wanted to determine whether any effect of social capital on total years of schooling was due more to its effect on high school completion or on college attendance.[6]

Human capital measures. Human capital of the family of origin was measured by the years of schooling the mother completed.

Financial capital measures. Family financial capital was measured as the ratio of family income to needs, a measure of family economic status obtained by dividing each family's total income by its corresponding poverty threshold and averaged over the period when the children were aged 11 to 16.[7]

Other family-level measures. Three other family-level variables included in our models reflect family structure, race, and historical period. Family structure was measured by the fraction of years between ages 11 and 16 in which the child's family was headed by the mother, and, as a control for cohort, we included the calendar year the child turned 14. The sample consisted of blacks and whites; the few families of other races were excluded.

Access to and receipt of assistance. The potential access to gifts and loans of money or time assistance from nonhousehold members in an emergency represents the stock of social capital, regardless of whether families actually request such assistance. We use the term *stock* in its economic sense of a supply accumulated for future use, rather than as a total accounting of all forms of social capital. As a measure of the stock of a family's social capital, we used responses to the following questions asked in the 1980 interviewing wave.

Time stock:

> K74. Suppose there were a serious emergency in your household. Is there a friend or relative living nearby whom you could call on to spend a lot of time helping out? (IF YES): Would that be a relative?[8]

Money stock:

> K89. Suppose in an emergency you needed several hundred dollars more than you had available or could borrow from an institution. Would you ask either a friend or a relative for it? (IF YES): Is the person you would ask a relative?

As measures of a family's recent "investments" in its social capital network, we used responses to the following pair of questions:

Time investments:

> K71. People sometimes have emergencies and need help from others—either time or money. Let's talk about

time. In the last five years have you (or has anyone living with you) spent a lot of time helping either a relative or friend in an emergency? (IF YES): Was the person you helped a relative of (yours/anybody who lives there)?

Money investments:

K98. In the last five years have you helped a friend or relative in an emergency by giving or loaning them several hundred dollars or more? (IF YES): Was the person you helped a relative?

We used responses to these questions to create four dummy variables: whether parents reported (1) access to time or money help from friends, (2) access to time or money help from relatives, (3) access to neither time nor money help from friends or relatives but gives help (burdened by the network), and (4) access to neither time nor money help from friends or relatives nor gives help (socially isolated). The socially isolated were the comparison group. Access to time or money help from friends and relatives are not mutually exclusive categories, since some families have access to both.

Variables 1 and 2 represent embeddedness in nonkin and kin networks, respectively. Variable 3 represents persons who claimed no access to help but still participate in a network through the provision of assistance to others. These persons may be developing new network ties or their assistance may not have been reciprocated. Variable 4 represents social isolates, those who reported no network ties.

The 1980 interviewing wave also included questions on the receipt of time and money help from friends and relatives:

K95. In the last five years have you received any amount, such as several hundred dollars, from either a friend or relative?

K83. In the last five years has either a friend or a relative spent a lot of time helping you in an emergency?

These responses were used to create two variables: (1) whether parents reported receiving emergency money from friends or relatives in the past five years and (2) whether parents reported receiving emergency time from friends or relatives in the past five years. As is clear from the wording of the questions, help from friends and relatives could not be distinguished. Although it is possible that children may have benefited directly from the reported help, we view affirmative responses to these questions more as indicators that the family was embedded in a set of relationships that might well have benefited the children during adolescence.

Geographic mobility. We were also interested in examining factors that may disrupt a family's stock of social capital and that may require investments in social capital in the new location. Previous research clearly showed that it is not just having moved, compared to not having moved, but having moved several times that was linked to disruptions of social capital. Since the sample was geographically stable, we constructed two dummy variables indicating whether the child moved (1) once or (2) twice or more between ages 11 and 16. Given the composition of the sample, these moves may have preceded or followed the 1980 measurement of social capital. Thus, our measures of geographic mobility should be viewed as alternative indicators of the disruption of social capital, rather than properly timed intervening factors. We leave for later work, using other data, the task of disentangling the timing of whatever effects we found.

Differences in effects by income. We hypothesized that the

effects of time or money help on children's schooling would be larger for those who were most in need of help—families with low incomes. To test this hypothesis, we divided the sample according to whether family incomes averaged more or less than three times the need standard, which is roughly the weighted median income level for the sample. Tests for significant differences between the coefficients for the low- and high-income subsamples were obtained from regressions of the schooling-related dependent variables on a complete set of independent variables, plus the interaction between each independent variable and whether the income-to-needs ratio was greater than 3. For ease of presentation we report the results from regressions run separately for each income subgroup and note when coefficients differed significantly between the groups.

Limitations of the Data

Although these data are unique in indicating whether a family perceives that it has any access to social capital at all, they are limited in two important ways. First, a detailed accounting of the amount and diversity of social capital available to families—the number of people in the network, the number of times contacted, the amount of help, the type of help, the sources of help, whether help is repeated, and nonemergency assistance—was not available.

Second, the wording of the questions did not permit a respondent to name both relatives and friends as a potential source of each type of help. The respondent was first asked whether the source of friend- or relative-based help was a relative; a friend was coded as a source only if the respondent did not say "relative." Thus, by time help from friends, we generally mean "when time help from a relative was not mentioned." It is possible that assistance from friends and relatives could both have been available to the respondent, but the assistance from friends was preferred. Since the availability and source of time and money assistance were ascertained separately, the respondent could have reported friends as a source for time help and relatives as a source of money help. Thus, joint assistance shows up when time and money are pooled. However, it should be noted that the data underrepresent help from friends. For this reason, we did not attempt to distinguish between time and money as potential forms of help.

RESULTS

Description of the Sample

Sample-wide average values on these variables and weighted statistics are presented in Table 1. The actual unweighted number of observations is shown at the bottom of the table. Data are also presented separately for subgroups defined by the average ratio of income to needs. Since data for the PSID are drawn from a probability sample and weighted to adjust for differential selection probabilities and nonresponse, the descriptive statistics presented in Table 1 constitute representative national estimates of family characteristics of young (nonimmigrant) men and women.

The data in Table 1 show that 80 percent of the parents reported access to time or money help from relatives (65.7 percent from relatives only, 14.4 percent from both friends and relatives—data not shown in Table 1) and 23 percent reported access to time or money help from friends (8.4 percent from friends

Table 1. Weighted Means and Standard Deviations (in parentheses) of Variables

Variables	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Means or Proportions
Independent Variables				
Access to time or money help from friends	0.23 (0.42)	0.25 (0.36)	0.21 (0.50)	NS
Access to time or money help from relatives	0.80 (0.40)	0.77 (0.35)	0.82 (0.46)	0.03
No access to help but help given	0.04 (0.20)	0.03 (0.15)	0.05 (0.26)	NS
No access to help and no help given	0.07 (0.26)	0.08 (0.22)	0.07 (0.31)	NS
Received emergency money from friend or relative in past 5 years	0.21 (0.40)	0.23 (0.35)	0.19 (0.48)	NS
Received emergency time from friend or relative in past 5 years	0.09 (0.29)	0.13 (0.29)	0.06 (0.28)	0.00
Moved once between ages 11 and 16	0.20 (0.40)	0.20 (0.34)	0.20 (0.48)	NS
Moved twice or more between ages 11 and 16	0.20 (0.40)	0.27 (0.38)	0.14 (0.42)	0.00
Mother's education	11.98 (2.20)	10.94 (1.73)	12.81 (2.36)	0.00
Female head (proportion of time)	0.16 (0.32)	0.29 (0.35)	0.05 (0.22)	0.00
Income-to-need average	3.65 (2.31)	1.87 (0.59)	5.05 (2.63)	0.00
Black men	0.09 (0.29)	0.17 (0.31)	0.03 (0.21)	0.00
White women	0.44 (0.50)	0.31 (0.39)	0.55 (0.60)	0.00
Black women	0.07 (0.26)	0.15 (0.30)	0.02 (0.16)	0.00
Calendar year at age 14	79.02 (1.66)	79.12 (1.45)	78.95 (1.96)	NS
Dependent Variables				
Years of completed schooling	13.32 (2.24)	12.30 (1.64)	14.12 (2.58)	0.00
Proportion who completed high school	0.88 (0.33)	0.79 (0.35)	0.95 (0.25)	0.00
Proportion who attended college	0.50 (0.50)	0.29 (0.38)	0.67 (0.57)	0.00
Unweighted number of observations	901	557	344	

only, 14.4 percent from both friends and relatives—not shown).[9] Some 4 percent reported no current access to help but had given help in the past five years. In addition, 7 percent of the families appeared to be socially isolated in the sense that they reported access to time or money from neither friends nor relatives and gave no help.

T-tests of the difference in means between high- and low-income families showed a significant difference only in access to time or money help from relatives, with 82 percent of the high-income parents and 77 percent of the low-income parents reporting such access. About 21 percent of the parents reported that they received emergency money from friends or relatives in the past five years, a result that differed little by family income level. In contrast, about 9 percent received emergency time help, with the low-income families reporting the receipt of time help more than twice as often as the high-income families, a statistically significant difference.

In the average family, the mothers had completed almost 12 years of schooling overall, with an average of 11 years for mothers in families with an income-to-needs ratio below 3 and almost 13 years for those with an income-to-needs ratio above 3—a statistically significant difference. The average income-to-needs ratio was 3.65 total, with an average of almost 2 for families with a ratio below 3 and an average of 5 for those with a ratio above 3.

About 40 percent of the families moved at least once; 20 percent moved once and 20 percent moved twice or more when the children were aged 11 to 16. Repeated mobility varied by family income; 27 percent of the low-income families but only 14 percent of the high-income families reported having moved twice or more when the children were aged 11 to 16. This difference was statistically significant.

The remaining sample statistics were as expected. First, 16 percent of the families were headed by women. Low-income children's families were significantly more likely than high-income children's families to be female headed, 29 percent versus 5 percent. Second, 16 percent of the weighted sample was black and 84 percent was white. A significantly higher proportion of the low-income families than of the high-income families were black.

Effects of Social Capital on Completed Schooling

Coefficients and standard errors from ordinary least-squares regressions on completed schooling are presented in Table 2. All the regressions were estimated with the SUDAAN sampling error program, which adjusts for the stratified, clustered, and weighted nature of the PSID sample design (Shah, Barnwell, Hunt, and La Vange 1992).

The first column of Table 2 presents the effects of regressing years of schooling completed on social capital and family background. Columns 2 and 3 split the sample into low- and high-income groups, with separate regressions for each group and a test of the statistical significance of the difference between coefficients in Column 4 (a test of interaction).

Family background measures. As expected, maternal education is associated with completed schooling; each additional year of a mother's education is associated with an additional one-third of a year of education completed by her child. Dividing the sample by the family's income-to-needs ratio when the child was in early adolescence, we found that mother's education is significantly related to completed schooling for children in both low- and high-income families, with the effect larger for children in high- than for those in low-income families.

Higher family income in adolescence is also significantly associated with children completing more schooling. Moving from a income-to-needs ratio of 1 to 2, for example,

Table 2. Effects of Parental Access to Help, Help Given, Help Received, and Residential Mobility on Completed Schooling (standard errors in parentheses)

Variables	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Coefficients
Access to time or money help from friends	*0.31*	**-0.14**	**0.82**	0.01
	(0.17)	(0.28)	(0.19)	
Access to time or money help from relatives	-.29	-0.28	-0.40	NS
	(0.21)	(0.25)	(0.37)	
No access to help but help given	-0.27	-1.32	0.19	NS
	(0.54)	(0.82)	(0.52)	
Received emergency money from friend or relative in past 5 years	*0.30*	0.23	0.39	NS
	(0.18)	(0.31)	(0.24)	
Received emergency time from friend or relative in past 5 years	-0.09	-0.02	0.06	NS
	(0.26)	(0.21)	(0.58)	
Moved once between ages 11 and 16	-0.18	**-0.72**	0.27	.06
	(0.20)	(0.31)	(0.35)	
Moved twice or more between ages 11 and 16	**-0.74**	**-0.93**	-0.19	NS
	(0.15)	(0.32)	(0.35)	
Mother's education	**0.36**	**0.22**	**0.45**	0.02
	(0.03)	(0.06)	(0.05)	
Female head (proportion of time)	-0.51	-0.31	*-1.12*	NS
	(0.32)	(0.36)	(0.57)	
Income-to-need average	**0.20**	**0.33**	**0.08**	NS
	(0.04)	(0.15)	(0.04)	
Black men	-0.13	0.01	0.21	NS
	(0.25)	(0.30)	(0.57)	
White women	0.19	0.09	0.30	NS
	(0.17)	(0.33)	(0.23)	
Black women	**0.56**	**0.81**	**-0.42**	0.01
	(0.20)	(0.28)	(0.26)	
Calendar year at age 14	**-0.14**	*-0.11*	**-0.15**	.06
	(0.05)	(0.06)	(0.06)	
Intercept	**19.72**	**18.24**	**19.57**	
	(4.16)	(5.02)	(5.12)	
R^2	0.313	0.159	0.284	
Unweighted number of observations	901	557	344	

Note: Parameters in italic are significant at $p < .10$; parameters in bold are significant at $p < .05$. NS = not significant.

increases the amount of schooling a child has completed by one-fifth of a year. The income-to-needs ratio is significantly associated with completed schooling for children from both low- and high-income families.

Consistent with Haveman and Wolfe's (1994) study, young black women were found to have completed more total years of schooling than young white men, all else equal. Overall, young black women completed half a year more schooling than comparable young white men. The effect is strongest for those from a family whose income-to-needs ratio

was less than 3—young black women from low-income families completed almost one year more schooling than did young white men from similar family backgrounds.

No significant relationship was found between the proportion of time the child was in a female-headed family and completed years of schooling. However, when the sample was divided by income, there was a marginally significant negative relationship between years in a female-headed family and education for children growing up in high-income families. Children from high-income families who spent an additional 10 percent of their childhoods with only one parent completed one fewer year of schooling. This finding is consistent with those of previous studies.

Access to time or money help. The regression results (Table 2, Column 1) suggest that access to time or money help is only weakly related to children's completed schooling for the entire sample. Relative to the omitted group of children with socially isolated parents and controlling for differences in family socioeconomic status, children whose parents had access to time or money help from friends attained about one-third more years of schooling, but the relevant coefficient is only marginally significant at the 10 percent level. Both access to time or money help from relatives and lacking access to help but giving help are negatively but not significantly related to children's schooling.

One reason for the lack of significance of time or money help in the entire sample is that the effects of social capital operate in different directions for low- and high-income families, thus effectively canceling each other out. The relationship between access to time or money help from friends is positive for children from high-income families but negative for children from low-income families (Table 2, Columns 2 and 3, Row 1). In contrast to the omitted group of children from socially isolated high-income families, children from high-income families whose parents had access to time or money help from friends attained nearly a full year of additional schooling (a statistically significant coefficient), whereas children from low-income families whose parents had such access attained .14 fewer years of completed schooling (coefficient not statistically significant). Thus, contrary to our hypothesis, the results suggest that children in high-income families benefit substantially from parental access to time and money help, whereas children in low-income families do not. There is no significant relationship between time or money help from relatives and children's completed schooling for either low- or high-income families; the estimates are negative but not precise.

Receipt of emergency money. The receipt of emergency money from friends or relatives in the past five years is also only weakly related to children's completed schooling. Whether parents had received emergency money from friends or relatives over that time is associated with one-third of a year more schooling, but the relationship is only marginally significant ($p < .10$). The size of the effect is similar to that of perceived access to help from friends. This finding suggests that exchanges may be reasonably reliable indicators of embeddedness in a network. However, when we divided the sample into high- and low-income subgroups, the coefficients for the effect of having received emergency money on the completed schooling of children from low- and high-income families did not differ from that of the entire sample and were not sta-

tistically significant. Nor did we find a significant relationship between the receipt of emergency time help from friends or relatives in the past five years and children's completed schooling for either the total sample or for the income subgroups. This lack of significance may be due to the fact that these variables do not distinguish between assistance from friends and from relatives. In any case, the variables do not add explanatory power to the model.

Mobility. Repeated geographic mobility had the largest effect of any of the variables included in our analysis on completed years of schooling. Having moved twice or more between ages 11 and 16 significantly reduced the number of years of school completed by the entire sample of children by three-quarters of a year, but having moved once did not significantly affect children's schooling. These results are consistent with those of previous research, which showed that only a large number of moves or changes of schools are associated with dropping out. Having moved once has a much weaker effect.

When we divided the sample by income, we found that the reason the effect of a single geographic move on schooling is not significant for the total sample is that, as for access to time or money help from friends, the effect operates in different directions for children from low- and high-income families. For children from low-income families, geographic moves are consistently harmful to school attainment: Having moved once between ages 11 and 16 is associated with .72 fewer years of schooling, and having moved more than once is associated with .93 fewer years of schooling. Geographic mobility does not significantly affect the completed schooling of children from high-income families. High-income families are likely to have the resources to move to good neighborhoods with good schools, to invest in their new communities, and to provide the necessary time and attention to prevent children from having school problems.

Although these results are interesting and consistent with many of our hypotheses, the question remains: Does social capital primarily affect the completion of high school or the enrollment of high school graduates in college. Therefore, Table 3 presents the results of separate logistic regression analyses for completing high school and for having attended college by the mid-20s.

Effects of Social Capital on Completing High School and Attending College

The effect of human, financial, and social capital on completing high school is shown in Table 3, Columns 1–4 and on college attendance in Columns 5–7. The results for the background variables are similar to those for the entire sample and are not discussed here.[10]

Completion of high school. None of the social capital variables representing access to time or money help or receipt of emergency assistance is significantly related to completing high school for families of any income level (Table 3, Column 1). Nor are there any statistically significant interactions between income and access to social capital in completing high school (Table 3, Columns 2 and 3).

Geographic moves are significantly associated with completing high school, as in other studies. Having moved twice or more between ages 11 and 16 reduced the chances of completing high school for the entire sample of children and for those from low-income families. Having moved twice or more during that period sig-

Table 3. Effects of Parental Access to Help, Help Given, Help Received, and Residential Mobility on Completing High School and Attending College (standard errors in parentheses)

	Completing High School				Completing College			
Variable	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Coefficients	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Coefficients
Access to time or money help from friends	0.06	0.14	-0.06	NS	0.47	0.12	**1.09**	NS
	(0.36)	(0.43)	(0.72)		(0.29)	(0.42	(0.45)	
Access to time or money help from relatives	0.04	.22	-0.98	0.09	0.03	0.20	-0.10	NS
	(0.39)	(0.39)	(0.85)		(0.24)	(0.47)	(0.47)	
No access to help but help given	-0.57	-1.51	—	NS	0.40	-0.19	0.71	NS
	(0.96)	(0.95)	—		(0.63)	(1.12)	(0.79)	
Received emergency money from friend or relative in past 5 years	0.25	0.02	1.08	NS	0.30	0.05	0.62	NS
	(0.33)	(0.43)	(1.09)		(0.23)	(0.36)	(0.44)	
Received emergency time from friend or relative in past 5 years	-0.22	-0.11	-0.41	NS	-0.25	0.12	-0.24	NS
	(0.39)	(0.42)	(0.87)		(0.37)	(0.44)	(0.67)	
Moved once between ages 11 and 16	-0.43	-0.54	-0.42	NS	0.07	**-0.79**	**0.87**	0.00
	(0.32)	(0.46)	(0.77)		(0.21)	(0.38)	(0.37)	
Moved twice or more between ages 11 and 16	**-0.76**	**-1.12**	0.56	NS	**-0.66**	**-0.83**	-0.20	NS
	(0.28)	(0.42)	(1.13)		(0.19)	(0.40)	(0.38)	
Mother's education	**0.29**	**0.32**	**0.48**		**0.42**	**0.24**	**0.58**	0.06
	(0.06)	(0.08)	(0.16)		(0.05)	(0.08)	(0.10)	
Female head (proportion of time)	-0.47	-0.43	**-1.95**	0.06	0.06	0.50	-1.02	NS
	(0.41)	(0.41)	(0.90)		(0.46)	(0.52)	(0.91)	
Income-to-need average	**0.43**	0.20	0.50	NS	**0.31**	**0.93**	0.13	NS
	(0.12)	(0.27)	(0.44)		(0.10)	(0.27)	(0.11)	
Black men	0.03	-0.18	0.01	NS	0.03	0.37	0.50	NS
	(0.44)	(0.58)	(1.11)		(0.37)	(0.47)	(0.57)	

(Continued)

Table 3—Continued

Variable	Completing High School				Completing College			
	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Coefficients	Total	Income/ Need < = 3	Income/ Need > 3	Significance Level of Difference between Coefficients
White women	0.21 (0.32)	0.16 (0.44)	0.49 (0.77)	NS	0.21 (0.24)	0.32 (0.35)	0.36 (0.36)	NS
Black women	**1.40** (0.41)	**1.30** (0.50)	**1.92** (1.45)	NS	**1.14** (0.34)	**1.62** (0.38)	0.25 (0.99)	NS
Calendar year at age 14	-0.06 (0.08)	*-0.13* (0.07)	0.12 (0.26)	NS	0.00 (0.05)	-0.02 (0.08)	0.01 (0.07)	NS
Intercept (6.50)	2.76 (6.50)	8.21 (5.73)	-13.91 (20.40)		-6.07 (4.44)	-3.87 (6.94)	-8.34 (5.33)	
-2 log likelihood	533	355	156		984	415	513	
Unweighted number of observations	901	557	344		901	557	344	

Note: Parameters in italic are significant at $p < .10$; parameters in bold are significant at $p < .05$. NS = not significant.

nificantly reduced the probability of an average child completing high school by 11 percentage points, from .88 to .77 and for a low-income child by 24 percentage points, from .78 to .54.[11]

College attendance. As with total years of schooling completed, having access to time or money help from friends is positively but not significantly associated with a greater likelihood of attending college (Table 3, Column 4). Similarly, there are strong differences by family income. The coefficient for access to time or money help from friends is large and statistically significant for children from high-income but not from low-income families (Table 3, Columns 2 and 3). Almost 9 out of 10 of the children from high-income families whose parents had access to time or money help from friends attended college, compared with 2 out of 3 of those without such access (not shown). No relationship was found between the receipt of time or money help from relatives and attending college or between the receipt of emergency time or money help in the past five years from friends or family and attending college.

Having moved twice or more between ages 11 and 16 reduced the chance of attending college by 16 percentage points for the entire sample, from .50 to .34. However, this negative effect was found primarily for low-income families, not high-income families. Moving once or more cut the probability of college attendance among children from low-income families in half, from .29 to .15 compared with nonmovers (not shown). For children from high-income families, moving once between ages 11 and 16 was associated with a greater chance of attending college, increasing the probability from .67 to .83 (not shown). This difference is probably related to the reasons why families move. High-income families are likely to move for career and housing reasons—to improve family income or the quality of their houses and/or neighborhoods—whereas it is likely that more of the moves of low-income families are unplanned, negative events.

CONCLUSION

This article has examined how extrafamilial networks of time and financial assistance (forms of social capital) and geographic mobility (an indicator of the disruption of social capital) are linked to the school attainments of children, net of family background, demographic, and intrafamilial influences. Parents' human and financial capital are consistently related to children's schooling as young adults, net of other factors.

Parents' access to assistance from nonkin, such as friends and acquaintances, has an important but limited influence on children's completion of school, according to our study. These nonkin ties are important to the years of school completed by the children of high-income families, though they have little influence on the education of children of low-income families. In contrast, parents' access to assistance from kin has no effect on children's schooling. This finding suggests that strong family ties are not sufficient to ensure that children complete high school and attend college, since the educational attainment of children in such families does not differ from that of children in socially isolated families.

Most individuals appear to have access to help from family members, regardless of their level of investment. However, not everyone has access to help from friends; access is linked to investment. Consequently, friend-based social capital may be more likely to distinguish families who

invest from those who do not and to make a greater difference for the outcomes of their children. This finding is consistent with Granovetter's (1973) conceptualization of weak and strong ties. Weak ties are better than strong ties at linking people to information because even though relatives may be more motivated to assist, friends and acquaintances are linked to networks and circles beyond the family and can better provide the necessary information (Granovetter 1995). The contacts needed to obtain information about the locations and advantages of colleges and opportunities to attend colleges draw on a variety of different sources beyond the immediate family.

Our research found that the positive effects of weak ties are limited to families with incomes above the median. Social capital apparently does not substitute for family income; rather, it facilitates its use. It may be that the types of networks in which low-income families participate cannot provide the kinds and amounts of resources that children need. In fact, some have suggested that because of the fragile economic circumstances of their peers, the networks of low-income families are burdensome, requiring frequent expenditures of scarce resources and limiting opportunities to save (Stack 1974). Returns from such investments are marginal at best.

The results showed that giving to network members but not reporting access to help is negatively related to children's schooling, particularly for low-income families. However, this group was small, and the coefficients, though often large, were never statistically significant. Alternatively, embeddedness in a network may have a different motivation and meaning for low- and high-income families. The involvement of low-income families in exchange networks may reflect economic necessity, while the involvement of high-income families may reflect voluntary investment in a rich network of social obligations with vastly superior payoffs.

Including actual transfers, a measure of embeddedness, did not seem to add much beyond what was contributed by potential sources of assistance. None of our measures of the actual receipt of emergency money or time from friends or relatives was significantly associated with children's eventual schooling. Unfortunately, our data did not allow us to break down actual assistance into help from friends and help from family, as we did with potential assistance. Since only the effects of potential nonkin assistance were found to be significantly related to school attainment, our ability to draw additional conclusions about the importance of actual assistance was limited.

The findings suggest that the reason for the impact of access to help from friends on school completion is the potential assistance for attending college that it entails. Access to time or money help had no impact on whether children completed high school, whereas it did affect the college attendance of children from high-income families. Parental embeddedness in a network of exchanges is an important contributor to the probability of children attending college. Whether it is a result of information gained from personal contacts, norms and values, or time and money assistance remains for future research to disentangle. Programs that seek to increase the college attendance of children from less advantaged backgrounds should not ignore parental networks.

One promising avenue for future research is geographic mobility. Social capital-disrupting geographic mobility is an important determinant of the

amount of schooling that children complete as young adults. Parents and children who have moved several times leave behind established networks of family and friends on which they depended for assistance, information, and normative controls. Although they invest in their new communities, they are less likely to do so if they move many times. Thus, high levels of geographic mobility in early adolescence have uniformly negative effects on schooling. However, mobility is more harmful to children from low-income families. Whereas even a single move reduces the schooling of children from low-income families, moving once is associated with a higher probability of attending college for children from high-income families because such moves are likely to reflect their parents' upward mobility and selection of better neighborhoods.

In this article, we could not distinguish the effects on family networks and children's schooling of the different types of moves families make. Research is increasingly finding that turbulence in children's lives is disruptive and detrimental to academic achievement, perhaps partly because of the disruption of key exchange networks on which families depend. An important principle for public policy is that it should contribute to the stability, not the disruption, of children's lives.

Finally, the finding that children from high-income families benefit more from social networks than do children from low-income families was unexpected, though consistent with other empirical work (Teachman et al. 1997). Whether income interactions are due to differences in actual levels of extrafamilial resources available to parents with different levels of income or to parents' differential abilities to take advantage of the assistance is unknown; however, the finding highlights the need for further research, particularly on the intervening mechanisms that account for the effects of parental social capital on children's lives.

NOTES

1. Recent research (Haveman and Wolfe 1994) failed to find evidence that having an employed mother is associated with lower achievement once other factors are controlled.

2. Teachman et al. (1996) found that geographic mobility had a much stronger effect than several measures of social capital on dropout between Grades 8 and 10. Using the National Education Longitudinal Survey (NELS:88), they examined the effects on high school dropout of changing schools, parent-school connectivity, parent-child connectivity, public-private school attendance, and whether parents know the parents of their friends. They found that the number of times the child changed schools was the only measure of extrafamilial social capital linked to the odds of dropping out between grades 8 and 10, once other factors were controlled. Furstenberg and Hughes (1995) found measures of both linkages in the community and changing schools to be related to children's completion of high school.

3. Although it would be theoretically possible to look at the association between the social capital of grandparents and that of parents (as for human and financial capital), this linkage has not yet been examined.

4. The relatively even racial distribution of the sample was caused by the PSID's oversampling of low-income families. Weighted data show racial distributions that are virtually identical to U.S. Bureau of the Census-based data.

5. Grades and test scores are not available in the PSID.

6. We also ran the model of college attendance for high school graduates only. The results did not differ from those presented in this article.

7. Incomes and poverty thresholds were averaged over as many of the years in that six-year period as possible. U.S. poverty thresholds were based on a set of income thresholds that were developed in the 1960s and are adjusted each year using the Consumer Price Index for changes in the cost of living. In 1992, U.S. poverty thresholds for families of three, four, and five persons were $11,186, $14,335, and $16,952, respectively. Families with annual cash incomes, before taxes, that exceed these thresholds are considered "not poor," whereas families with incomes falling below them are "poor." The ratio of income to poverty threshold (called here the "income-to-needs ratio") serves as a measure of family-size-adjusted family income. For example, in 1992, individuals in a four-person household whose income totaled $43,005 would have income-to-needs ratios of 3.0 (= $43,005/$14,335).

9. The respondents could have access to assistance from both friends and family only if they answered the questions about time and about money help differently, that is, if they reported the source as friends for one and family for the other. They could not report potential time assistance (or money assistance) from both friends and family.

10. One exception is that the effect of the proportion of years in female-headed families is strongly negative and statistically significant for the completion of high school by children from families with an income-to-needs ratio greater than 3.

11. The estimated probability of completing high school, P_c, for those who moved twice or more between ages 11 and 16, for example, was evaluated using the following formula compared with the mean sample probability, P_y: $P_c = P_y e^b / ((1 - P_y) + P_y e^b)$, where b is the logistic regression coefficient for having moved twice or more between ages 11 and 16. Comparable calculations were performed on the coefficients for college attendance.

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