

Social Capital as Process: The Meanings and Problems of a Theoretical Metaphor

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In this study, we suggest that the difficulty in defining, locating, and measuring social capital is at core a philosophical confusion of language, and not just a consequence of excessively wide application. The term “capital” refers to resources for investment. Financial capital consists of specific quantities of assets. Human capital, a metaphorical extension of financial capital, also consists of specific quantities of assets, in the form of skills or credentials. However, social capital, a third metaphorical construction, does not consist of resources that are held by individuals or by groups but of processes of social interaction leading to constructive outcomes. Therefore, we argue, social capital is not located at any one level of analysis: it emerges across levels of analysis. The confusion over the meaning of this term, then, is a consequence of a metaphorical confusion of a substantive quantity (capital) and a process that takes place through stages (embedded, goal-directed social relations). Locating and defining social capital is further complicated by the variability, contextuality, and conditionality of the process. Stages of social relations that lead to constructive outcomes for one group of people or in one situation may not lead to constructive outcomes for another group or in another situation. To illustrate empirically how social capital may be thought of as a process consisting of stages and to demonstrate why the concept is inherently problematic, we employ data from the 1995 interviews of the National Longitudinal Study of Adolescent Health (Add Health). These data enable us to examine connections among the stages of the social capital process found in the literature and to look at predictors of academic achievement, a central topic in research on this topic.

The term “social capital” has come into wide use in recent years and it has become common for researchers and theorists to observe that the term is applied in so many different ways and to so many different situations that it is difficult to say precisely what this term means (Portes 1998; Sandefur and Laumann 1998; Sampson, Morenoff, and Earls 1999). While social scientists have struggled to define the concept theoretically, they have also engaged in debates over how to operationalize and measure it. Level of analysis has posed a particular problem. Social capital has been located at the level of the individual, the informal social group, the formal organization, the community, the ethnic group, and even the nation (Coleman 1988; Portes 1998; Putnam 1995; Sampson et al. 1999).

The popularity of the phrase has undoubtedly contributed to imprecision in the use of the concept. However, we suggest that the difficulty in defining, locating, and measuring social capital is at core a philosophical confusion of language, and not just a consequence of excessively wide application. The term “capital” refers to resources for investment. Financial capital consists of specific quantities of assets. Human capital, a metaphorical extension of financial capital, also consists of specific quantities of assets, in the form of skills or credentials. However, social capital, a third metaphorical construction, does not consist of resources that are held by individuals or by groups but of processes of social interaction leading to constructive outcomes. Therefore, we argue that social capital is not located at any one level of analysis and that it emerges across different levels of analysis. The confusion over the meaning of this term, then, is a consequence of a metaphorical confusion of a substantive quantity (capital) and a process that takes place through stages (embedded, goal-directed social relations). Locating and defining social capital is further complicated by the variability, contextuality, and conditionality of the process. Stages of social relations that lead to constructive outcomes for one group of people or in one situation may not lead to constructive outcomes for another group or in another situation.

In this study, we discuss the philosophical problems with the concept of social capital as a sociological construct and we use data from the 1995 interviews of the National Longitudinal Study of Adolescent Health (Add Health) to illustrate how social capital may be thought of as a process and why the concept is inherently problematic. These philosophical problems, we suggest, complicate the use of the concept in sociological analysis, since the effective employment of theoretical constructs in sociology depends on precision in definition. Although we do find support for the social capital perspective, we suggest that the findings indicate that the concept of social capital should be approached with caution and with awareness that the metaphorical character of the concept can confuse, as well as enlighten.

Theoretical Background

Conceiving of structured interactions among individuals as “capital” can be metaphorically useful. Social relationships can be seen as investments that yield advantageous outcomes. Metaphors can be misleading as well as helpful, though, and it is important to recognize differences as well as similarities among concepts. Perhaps the greatest difference between “social capital” and “financial capital” or “human capital” is that “financial capital” and “human capital” can both be defined as specifiable quantities with definite locations in the socioeconomic arrangement of human affairs, while “social capital” cannot be so defined. While it may be the case that all theoretical constructs (and, indeed,

all human thinking, as Lakoff and Johnson 1980, 1999 argue) are metaphorical, the metaphorical character of social capital is particularly notable and potentially troublesome, since it involves the extension of a term from one area of social life (financial investment) to another (social relationships).

Social capital, as the term is commonly used, describes an emergent property variously located by researchers and theorists at various levels of analysis. Although Sampson et al. (1999) argue that social capital is not lodged in individuals but in the structure of social organization, the three dimensions of social capital that they identify (intergenerational closure, reciprocal exchange, and informal social control and mutual support) all involve interactions among individuals and constitute a form of capital because they have beneficial results for individuals. Formal organizations, such as the Coleman's Catholic schools (Coleman 1990a; Coleman and Hoffer 1987) or Morgan and Sørensen's (1999a) norm-enforcing schools or Putnam's (1993, 1995) civic associations, foster social capital because they make possible network connections among sets of individuals. The network connections, in turn, foster social capital because they produce goal-oriented interactions of sufficient frequency and depth to produce and maintain productive normative orientations.

Where do we locate the "capital" in this process—in the organizations, the network connections, the nature of the relationships, or in the norms? One inherent problem in conceptualizing social capital as a process lies in identifying the proper level of analysis for social capital because a process of effects emerges in different stages. While social capital may be difficult to locate at any stage in the process of production, however, it is possible to map out the stages as these appear in the literature. The normative, goal-directed character of the process is clear, leading some to point out the similarity between social capital theory and moral philosophy (Favell 1993; Sampson et al. 1999). Indeed, Fukuyama (1999, p. 16) proclaims, "social capital can be defined simply as a set of informal values or norms shared among members of a group that permit cooperation among them."

However, Fukuyama notwithstanding, social capital cannot be defined simply as consisting of norms or values. If social capital could be reduced to social bonding through norms, it would be difficult to distinguish social capital theory from classical Durkheimian social integration, in which cooperation is the result of socialization into shared norms (Durkheim 1951 [1897]). Portes (1998) and Zhou and Bankston (1998, see pp. 12–14) have pointed out the connections between Durkheimian normative sociology and Coleman's thinking. Durkheimian normative sociology tends to portray shared norms as sources of social solidarity, with solidarity per se considered as a functional consequence. Social capital theory, however, envisages shared norms as part of the production of capital only insofar as the norms promote productive behavior. Social capital theorists see the intensity and quality of shared norms as

important because close, emotionally intense, trusting associations among individuals facilitate reinforcement of norms leading to constructive outcomes (Coleman 1990b; Fukuyama 1995). Along these lines, Beaulieu, Israel, Hartless, and Dyk (1998) remark that strong and dependable relationships among adults and children tend to give the children access to social capital.

Further, social capital theorists emphasize the “embeddedness” (Portes and Sensenbrenner 1993) of normative orientations. In the literature, this type of investment generally appears in the guise of network associations. In the writings of Coleman and those in his tradition, social capital consists of closed systems of social networks inherent in the structure of relations between persons and among persons within a collectivity (Coleman 1988, 1990b; Portes and Sensenbrenner 1993; Fernandez-Kelly 1995). The essence of this approach is that a “dense set of associations” (Coleman 1990b, p. 316) within a social group can promote cooperative behavior that is advantageous to group members.

Social networks, relationships, and norms, then, are stages in the production of goal-oriented behavior. Close, emotionally intense, bounded networks among parents and other adults surrounding children, for example, enable groups of parents “. . . to establish norms and reinforce each other’s sanctioning of the children” (Coleman 1990a, p. 318). Norms are produced by relationships in social networks. Social networks, in turn, exist in structured social relationships, in institutions. Families and neighborhoods are often described as the structural settings for network relationships. Coleman (1990a, 1990b) emphasizes the importance of family structure, particularly two-parent family structure in creating advantageous relationships. Moreover, Coleman (1988) sees mothers who do not work outside the home as a structural source of capital because this enables one of the two parents to invest time and attention in children. Along these lines, Gold (1995) has found that nonworking immigrant Israeli mothers in the US dedicate themselves to their children, leading to intimate mother–child relations that constitute a form of investment in children.

Extrafamilial structures, as well as familial structures, can promote productive action. Neighborhood settings in which individuals know each other make close network relationships possible. Thus, Coleman (1990b) emphasizes ties among neighbors in promoting the oversight of children. In their studies of social capital in a Vietnamese community, Zhou and Bankston (1996, 1998) and Bankston and Zhou (1995a, 1995b, 1997) see a structure of dense relationships among neighbors as sources of bounded solidarity and enforceable trust. Intergenerational closure, in this view, may exist among parents, children, and community members, as well as between parents and children.

Formal organizational participation is a stage in the social capital process that has received wide attention in the literature. Banks (1997) has argued that voluntary organizations are successful in promoting their goals when the organizations serve

to link members to each other and thereby develop shared norms of collective action. Along somewhat similar lines, Zhou (1997) considers community-based organizations as means of generating social capital. Putnam (1993, 1995) frequently tends to equate social capital with participation in formal associations. Putnam argues that a decline in organizational participation indicates a decline in social capital. While Putnam emphasizes civic organizations, other authors have focused on religious organizations. Coleman (1990a) and Coleman and Hoffer (1987) have argued that Catholic schools are sources of social capital because these schools connect children to churches as norm-enforcing institutions. Bankston and Zhou (1995a, 1995b, 1996) have argued that participation in ethnic religious institutions tends to create network relationships that lead to effective norms.

Demographic characteristics, such as socioeconomic status or race and ethnicity, may be part of the social capital process. Family educational background, family occupational status, and income are usually considered as forms of human or financial capital. However, family socioeconomic status can also connect individuals to advantageous networks (see Bourdieu 1985) and privileged socioeconomic status can be a source of norms and values consistent with productive behavior (Caldas and Bankston 1997). Ethnicity has been pointed to as a form or source of social capital because ethnic group membership is often a basis for systems of social relations (Portes 1987; Clark and Ramsay 1990; Fernandez-Kelly 1995; Furstenberg and Hughes 1995; Bankston and Zhou 1995a; Bankston, Caldas, and Zhou 1997; Sun 1998; Hao and Bonstead-Bruns 1998; Zhou and Bankston 1998).

Throughout the literature, these stages are presented either as parts of a definition of social capital or as sources of social capital. Bankston et al. (1997) speak of "ethnicity as social capital," although their argument would be the same if they described ethnicity as particular patterns of organization and interaction that produce social capital. Portes (1998, p. 3), acknowledging the difficulty in defining the concept, remarks that "the consensus is growing in the literature that social capital stands for the ability of actors to secure benefits by virtue of memberships in social networks or other social structures." However, Portes also describes forms of social networks and social structures as sources of social capital. It appears that the tendency to confuse definition with causation is a consequence of confusing a process with a substance. The social production of advantageous behavior occurs across stages and across analytical levels, involving formal organizations, social networks, communal norms, and individual actions. Thus, there is an inherent difficulty in locating and measuring this type of capital.

Conceptualizing social capital as a process, rather than a quantity, suggests a second problem with precisely defining and operationalizing it. What is the nature of the connections between the stages in the process? One of the central disagreements between Hallinan and Kubitschek (1999) and Morgan and

Sørensen (1999a, 1999b) concerns the connections of institutions, environments, social networks, and normative orientations. Hallinan and Kubitschek (1999) argue that a high degree of intergenerational closure does not necessarily make a school into a norm-enforcing institution. In response, Morgan and Sørensen (1999b) maintain that social capital theory as formulated by Coleman holds that closed networks tend to lead to the creation of effective norms. In our view, it is unfortunate that Morgan and Sørensen (1999b) dismissed the criticism of Hallinan and Kubitschek without more careful consideration, since Hallinan and Kubitschek raise a legitimate question about social capital theory. If networks and norms are not identical but are two steps in a process, with what degree of confidence can the existence of the first step assure us of the existence of the second? Do closed networks lead to effective norms sometimes, most times, or only under the proper conditions?

Coleman's own work implies that the relationships among the stages in the production of social capital are conditional and contextual. Stages may be included or excluded from the process, and the exclusion of some stages may make others more important. Coleman (1990a) describes the social capital generated in Catholic schools as particularly important for children from economically disadvantaged or single-parent families. Gold (1995) finds that social capital is produced through community relationships in Israel. However, when Israelis move to the United States where prior community relationships are disrupted, social capital is generated through close relationships between mothers and children in families, which help to compensate for the loss of community. Thus, different processes are identified with social capital in different situations. Financial capital is, in contrast, relatively easy to specify and locate because it is a definable quantity and does not vary by situations. What constitutes a financial resource for one group of people in one situation will also constitute a resource for other groups in other situations.

A third problem raised by the conceptualization of social capital as a conditional process instead of a quantity is that we may frequently come close to tautology in judging where social capital exists. Portes (1998) has recognized this difficulty. Close-knit relations fostered by institutions and organizations may lead to productive outcomes but may also inhibit productive outcomes. In the economic tradition of Veblenian institutionalism, as interpreted by Ayres (1952), institutionalized patterns of social relations are seen as binding individuals to accepted beliefs and practices, creating resistance to change for individuals and groups. In Granovetter's (1973) "strength of weak ties" argument, sets of dense, close-knit network relations serve to restrict access to information and opportunities. Fernandez-Kelly (1995) observes that dense social networks among inner-city Black families isolate family members from the outside world and reinforce disadvantageous cultural styles. How do we know in what

situations a process of social relations can be legitimately described as capital rather than as a liability? In answering this question, researchers tend to reason backwards from the effect: if the outcome is desirable, then the process involves the production of capital by definition.

Although we do see some utility in the idea of social capital, we suggest that it is a problematic idea because it involves the presentation of a process as if it were a quantifiable entity, because relationships among the stages of the process are variable, and because it tends to be defined by its results. In order to illustrate the complicated character of this process, we present below an empirical examination of a common topic in the social capital literature. By looking at predictors of academic achievement, we seek to demonstrate, first, how the concept may be considered as a process. Second, we seek to show that it is a variable process, in which it cannot simply be assumed that dense social networks will necessarily be produced by institutional settings or will necessarily lead to productive social relationships. In this, we do engage in some reasoning backward from effects. This is a philosophical and methodological problem, but one that may be inherent in the concept of social capital.

Data and Methods

The data in this study come from interviews conducted in 1995 as Wave 1 of the Add Health. Funded by the National Institute of Child Health and Human Development and 17 other federal agencies and conducted by the National Opinion Research Center of the University of Chicago, the Add Health study collected data on health and health-related behavior among adolescents. In Stage 1 of the study, researchers selected a random, stratified sample of all high schools in the United States. In Stage 2, they further selected adolescents from the communities served by these schools and conducted in-home interviews with these adolescents and collected data separately from their parents. The students included in these interviews were seventh through twelfth graders. The Public Use Sample that we used contains a random sample of 6,504 cases from these interviews. Missing cases in some of the variables lowered the number of individuals included in several of our analyses, but the data set is sufficiently large that the missing cases did not substantially alter our sample. Detailed descriptions of the Public Use Sample and all other Add Health data sets may be found at the Add Health website at www.cpc.unc.edu/addhealth. As a result of missing cases in responses to some variables, the number of respondents in our analysis did vary somewhat, depending on which variables were included. However, the sample size was large enough to ensure that loss of some cases did not substantially affect the results. Descriptive statistics of the variables under consideration are presented in Table 1, which offers minimum and maximum

Table 1
Descriptive Statistics

Variable	Minimum	Maximum	Mean	S.D.	N
Age	12	21	16.037	1.772	6,504
Sex	0	1	0.517	0.503	6,504
Asian	0	1	0.035	0.184	6,485
Black	0	1	0.236	0.424	6,485
Latino	0	1	0.115	0.319	6,481
Family Income (thousands)	0.00	999.00	46.864	53.258	5,530
Father's Education	0	7	3.814	2.011	5,540
Mother's Education	0	7	3.815	2.012	5,540
Father's Occupational Status	0	7	4.195	2.265	5,540
Mother's Occupational Status	0	7	4.779	2.152	5,540
Single-Female-Headed Family	0	1	0.296	0.457	5,540
Single-Male-Headed Family	0	1	0.037	0.188	5,540
Nonworking Mother in Home	0	1	0.077	0.266	5,612
Parent Knows Most Neighbors	0	1	.728	0.445	5,578
Parent or Spouse Born in Neighborhood	0	1	.187	0.390	5,574
Parental Organizational Membership	0	3	0.642	0.807	5,544
Student's Religious Involvement (factor score)	-1.657	1.886	0.000	1.000	6,495
Parental Involvement in Children's Networks	0	8.00	3.904	2.148	5,617
Parent-Neighbor Oversight	-4.09	1.117	0.000	1.00	5,585
Parent-Child Interactions	0	18	5.271	3.236	6,495
Parent-Child Closeness	1	5	3.456	0.774	6,396
Parental Trust in Child	0	4	3.316	0.859	5,684
Parental Understanding of Child	0	4	2.557	0.987	5,668
Desire for Higher Education	1	5	4.425	1.029	6,504
Belief in Efficacy of Hard Work	1	5	3.899	0.879	6,497
Averaged Reported Grade	1	4	2.750	0.728	6,376

values, means, standard deviations, and the total number of valid responses to each survey item.

In order to examine our view of social capital as a process, we begin by regressing indicators of intergenerational network closure, a key concept in the literature, on age, sex, race, family socioeconomic position, family structure, mother's work status, acquaintance of parents with neighbors, residential stability of parents, involvement of parents in civic and social organizations, and involvement of children in religious institutions. Next, we include the indicators of intergenerational closure together with the other predictors in a regression equation with indicators of the depth and intensity of ties between parents and children. Then, we regress the normative orientations of children on depth and intensity of ties, network closure, and all of the other predictors. Finally, we look at all of these variables as predictors of academic performance. Underlying these procedures is a view of social capital as a process in which demographic, structural, and organizational characteristics of families contribute to intergenerational network closure; network closure and these other characteristics contribute to close bonds between parents and children; the depth and intensity of ties between parents and children together with the other stages produce constructive normative orientations; and the various stages in the process lead to constructive outcomes. In order to examine just how these stages are empirically related to school performance, we engage in a strategy inspired by the concept of reverse engineering. We regress school performance on the full model. Then, in a series of models, we progressively drop indicators of stages in the social capital process. By looking at how the coefficients of variables increase or decrease across models, we can, in the words of Clogg, Petrovka, and Haritou (1995, p. 1263), "test whether 'controlling' for a variable suppresses or enhances the relationship between two variables."

We use age and sex as control variables. Sex is dichotomous, with "0" for male and "1" for female. Our race variables are all dichotomous, coded as "0" if a respondent does not belong to the racial category in question and "1" if the respondent does. We included four major racial categories: White, Black, Asian, and Latino. The category White is left out of the regression equations, as the reference category. Note that approximately 3.5% of respondents who gave an answer regarding their Asian background classified themselves as Asian, while nearly a quarter of all respondents classified themselves as Black, and 11.5% of those who gave an answer regarding their Latino or Hispanic background classified themselves as Latino or Hispanic.

Both family socioeconomic status and family structure are frequently associated in the literature with the concept of social capital (McClanahan and Sandefur 1994; Hao 1994; Teachman, Paasch, and Carver 1996, 1997). To measure the socioeconomic position of families, we used three standard

components of socioeconomic status: family income, parental education, and parental occupation. Family income is the amount of income reported by parents in the parent interview portion of the Add Health. Education of parents is derived from reports of adolescent respondents. For each parent, we recoded responses as “0” if the parent in question had no formal education, “1” if eighth grade or less, “2” if more than eighth grade but less than high school, “3” if the parent finished high school or received a GED, “4” if the parent completed a trade or vocational school education after high school, “5” if the parent had some college, “6” if the parent was a college graduate, and “7” if the parent had a graduate or professional degree. In families in which no father was present, we coded the absent father’s educational level as equal to the mother’s. In families in which no mother was present, we coded the absent mother’s occupation as equal to the father’s. The rationale for this procedure was twofold. First, in two-parent families both parents determine parental educational background, while in one-parent families the parent present alone determines this background. Second, if we were to code education as a missing value in families in which no father or mother were present, we would be excluding single-parent families from the analysis. In the process of conducting the analysis, we found that there was such a high correlation between paternal and maternal education that these could be regarded as statistically the same thing. Part of this correlation was a result of our coding of parental education in single-parent families, but much of it was due to the recognized strong tendency toward educational homogamy in American families (Kalmijn 1991a, 1991b; Qian and Preston 1993). Because mother’s and father’s educations overlapped to such a great extent, in OLS regression equations we used a single measure of parental education. This was the father’s education in families in which a father was present and the mother’s education in families in which no father was present.

To measure occupational status, we coded students’ reports of their parents’ occupations into eight categories, from laborer to manager–professional. Again, when one of the parents was missing, we coded the missing parent’s occupational level as equal to that of the parent present. Although fairly highly correlated (see Table 2), it was possible to distinguish between maternal and paternal occupational levels, so we did enter these into OLS regression equations as separate variables.

Respondents were coded as “1” on the single-female family variable if they came from families headed by a woman without a man in the household, and as “0” otherwise. The single-male family variable was coded in corresponding fashion for respondents from families headed by a man without a woman in the household. As Table 1 shows, the overwhelming majority of single-parent families were headed by women (30% of all the respondents lived in families headed by single women, while fewer than 4% of respondents lived in families

headed by single men). The “nonworking mothers” variable was dichotomous, coded as “0” if the mother was employed outside of the home or if there was no mother in the household and as “1” if the mother was not employed outside of the home. There may be a difference between the effects of nonworking mothers in two-parent households and nonworking mothers in female-headed households, but we control for this possibility by including both family structure variables and mother’s work status variables in the same statistical models.

As indicators of parental connections to the neighborhood, we used two dichotomous variables from the parent interview section of the survey. Parents were coded as “1” on acquaintance with neighbors if they answered “yes” when asked whether they knew most of their neighbors and as “1” on being born in the neighborhood if they reported that they were living in the neighborhood in which they were born.

As an indicator of parental involvement in organizations, we combined membership in school organizations (such as PTAs), civic organizations, and hobby or sports groups. We constructed a measure of children’s involvement in religious institutions from three indicators: church attendance (“0” for never attend, “1” for *attend less than once a month*, “2” for *attend once a month or more*, “3” for *attend once a week or more*), the importance of religion to the respondent (“0” for *not important at all*, “1” for *fairly unimportant*, “2” for *fairly important*, and “3” for *very important*), and how often the adolescent respondent takes part in activities at the religious institution (coded the same as church attendance). We used principal components analysis to generate factor scores of these three crucial dimensions of religious involvement, physical presence, subjective commitment, and active participation. These three items were sufficiently correlated ($r = .602$ for church attendance and participation in church activities, $r = .691$ for church attendance and importance of religion, and $r = .489$ for participation in activities and importance of religion) and they loaded on a single factor with communalities of .650 for participation in religious activities, .730 for importance of religion, and .813 for attendance. As Table 1 shows, factor scores ranged from -1.657 to 1.886 .

We employ three measures of intergenerational network closure. In order to examine network connections among parents, children, and other parents, we created a scale from three items in the parent interview portion of the data set. The first item was whether or not parents had met the best friends of their children (“0” for *no*, “1” for *yes*). The second was whether parents had met the parents of the best friends of their children (“0” for *no*, “1” for *yes*). The third was how many parents of the friends of their children had the parents talked with in the previous 4 weeks (from “0” for *none* to “6” for *6 or more*). These items were strictly scalable, since there were no parents who had met the parents of best friends who had not met the best friends themselves and since overwhelmingly

Table 2
Zero-Order Correlations among Major Variables in the Analysis

	1	2	3	4	5	6	7	8	9	10	11	12
2	-.27*											
3	-.78*	-.11*										
4	-.14*	-.05*	-.17*									
5	.12*	.03*	-.10	-.08*								
6	.08*	.04*	-.05	-.12*	.27*							
7	.08*	.04*	-.06*	-.12*	.27*	.74*						
8	.05	-.01	.008	-.16*	.17*	.32*	.31*					
9	.07*	.03*	-.04*	-.09*	.22*	.35*	.35*	.21*				
10	.19*	.06*	-.23*	-.03*	.20*	.18*	.18*	.09*	.07*			
11	-.20*	-.07*	.25*	.03*	-.20*	-.18*	-.18*	-.07*	-.06*	-.91*		
12	.02	.01	-.03*	.001	-.02	-.04*	-.02	-.07*	-.03*	-.27*	-.13*	
13	.03*	-.03*	-.05*	.07*	-.05*	-.08*	-.08*	-.30*	-.03*	.02*	-.01	-.04*
14	-.004	-.07*	.07*	-.07*	-.05*	-.09*	-.09	-.04*	-.07*	.05*	-.05*	-.01
15	.04*	-.06*	.01	-.09*	-.06*	-.09*	-.09	-.06*	-.10*	.02	-.02	.002
16	.05*	.002	-.005	-.13*	.19*	.30*	.29*	.25*	.18*	.12*	-.11*	-.03*
17	-.14*	.01	.17*	-.02	-.02	.10*	.10*	.09*	.04*	.10*	-.08*	-.07*
18	.21*	-.04*	-.14*	-.15*	.15*	.22*	.21*	.20*	.13*	.16*	-.14*	-.07*
19	-.10*	-.02	.16*	-.09*	-.03*	-.02*	-.03*	-.03*	-.02	-.03*	.03*	.02
20	.10*	-.01	-.09*	-.06*	.14*	.21*	.21*	.15*	.11	.41*	-.37*	-.13*
21	-.02	-.04*	.05*	-.01	-.03*	-.02	-.02	-.01	-.01	.04*	-.03*	-.02
22	.04*	.001	-.04*	.01	.05*	.08*	.08*	.03*	.03	.08*	-.06*	-.07*
23	.05*	-.001	-.05*	.005	.07*	.07*	.06*	.04*	.05*	.06*	-.05*	-.04*
24	-.03*	.04*	.04*	-.05*	.11*	.21*	.21*	.17*	.11*	.08*	-.07*	-.04*
25	.005	.004	.004	-.02	-.01	-.03*	-.02	-.05	-.01	.03*	-.02	-.01
26	.09*	.05*	-.10*	-.09*	.14*	.26*	.26	.16*	.15*	.18*	-.15*	-.08*

(1) White, (2) Asian, (3) Black, (4) Latino, (5) Family income, (6) Mother's education, (7) Father's education, (8) Mother's occupation, (9) Father's occupation, (10) Two-parent family, (11) Single-female-headed family, (12) Single-male-headed family, (13) Nonworking mother, (14) Parent knows most neighbors, (15) Parent born in neighborhood, (16) Parental membership, (17) Child's religious involvement, (18) Parents-friends-parents ties, (19) Parent-neighbor oversight, (20) Parent child interactions, (21) Parent-child intimacy, (22) Parental trust in child, (23) Parental understanding, (24) Desire for higher

13	14	15	16	17	18	19	20	21	22	23	24	25
.02												
.01	.13*											
-.12*	-.01	-.03*										
-.02	.08*	.03*	.10*									
-.08*	.07*	.03*	.29*	.14*								
-.03*	.14*	.06*	.04*	.05*	.06*							
-.01	.05*	.01	.16*	.25*	.24*	-.01						
.04*	.11*	.04*	.02	.14*	.09*	.04*	.31*					
.04*	-.04*	-.02	.05*	.08*	.11*	.04*	.13*	.16*				
-.02	-.04*	-.02	.07*	.05*	.11*	.01	.11*	.13*	.27*			
-.08*	-.02	-.04*	.12*	.18*	.15*	.01	.20*	.13*	.12*	.06*		
.02	.04*	-.01	.04*	.06*	.01	-.09*	.09*	.10*	.08*	.07*	.10*	
-.04*	-.02	-.001	.17*	.18*	.21*	-.03*	.26*	.07*	.24*	.15*	.30*	.14*

education, (25) Belief in efficacy of hard work, and (26) Average grades.
 *($p < .05$).

those who had talked with many other parents had also met the parents of their children's best friends. Adding these items together gave us a scale of parental involvement in children's social networks that ran from "0" to "8." Our indicator of parent-neighbor oversight is composed of two items from the parent interview section of the 1995 Add Health data. The first asked, "if you saw your neighbor's child getting in trouble, would you tell your neighbor?" The second asked, "if your neighbor saw your child getting in trouble, would your neighbor tell you?" Possible responses fell into five categories, from *definitely would not tell* (coded as "0") to *definitely would tell* coded as 4. The two items were reasonably correlated ($r = .425$) and principal components analysis yielded a single factor with a communality of .712. Factor scores from this principal components analysis produced our measure of parent-neighbor network connections, which ran from 4.09 to 1.117, as shown in Table 1. We constructed an index of parent-child interactions by adding together all of the activities children reported engaging in with their parents (such as going shopping, going to a movie, attending a sports event, etc.).

We use three indicators of the depth and intensity of ties between parents and children: how close children report feeling to their parents, how much parents report trusting their children, and how much parents report understanding their children. As an indicator of parent-child closeness, we use responses of children to the questions "how close do you feel to your mother" and "how close do you feel to your father." There were five possible answers to each, ranging from *not at all* (coded as "1") to *very much* (coded as "5"). For one-parent families, we used the response relevant to the parent present. For two-parent families, we used the average of responses to questions about closeness to parents. Parental trust of children is measured by parents' responses to the survey item "you feel that you can really trust (him/her)." There were five possible responses, which we coded as ranging from *never* ("0") to *always* ("4"). Parental feelings of understanding were measured by responses to the survey item "you do not understand (him/her)." Again, there were five possible responses, which we coded in a reverse direction indicating increasing increments of understanding, from *always* (do not understand child) ("0") to *never* (do not understand child) ("4").

We used two indicators of normative orientations by children likely to lead to the accumulation of human capital: desire for higher education and belief in the efficacy of hard work. Desire for higher education was measured by a survey item that asked students to rank on a scale of one to five how much they wanted to go to college. Belief in the efficacy of hard work was measured by responses to the statement "if I get something, it is because I work hard for it." Responses ranged from *strongly disagree* ("1") to *strongly agree* ("5").

Our measure of academic achievement is the average of the grades respondents reported receiving the previous school year in English or language

arts, math, history or social studies, and science. The average was created by adding up these grades and dividing by four. Each of the subjects had four possible values: "1" for "D or F," "2" for "C," "3" for "B," and "4" for "A." The average, then, runs from a low of "1" (D or F in all subjects) to "4" (A in all subjects). It is possible that respondents may have a tendency to inflate grades somewhat in reporting. A simple inflation of numbers should not affect the analysis, though, unless the inflation is systematically correlated with one of the other variables in the analysis.

Results

Table 2 presents zero-order correlations among major variables in the analysis, including racial/ethnic categories, demographic variables, and variables representing indicators of the stages we have identified in the social capital process. For the sake of space, we report correlation coefficients only to two decimal places and we report only if correlations are significant at $p < .05$.

For the sake of brevity, we will note only that among the demographic variables, ethnicity shows mixed relations with the indicators of stages of social capital. In general, only Whites show a fairly consistent pattern of advantage in the production of social capital. Asians, cited in the literature as an example of ethnicity as a source of social capital, do show relatively positive academic outcomes. Still, although Asians tend to occupy comparatively advantaged socioeconomic positions (except with regard to the occupations of mothers) and to live in two-parent families, they show lower scores on most of the indicators of organizational and intergenerational network stages. The scores of Black children are the most mixed, while Latinos show a consistently negative pattern in the generation of social capital. It will be noted that educational levels of mothers and fathers are so highly correlated that it is difficult to distinguish between these. Therefore, the educational level of fathers in two-parent or father-only families or of mothers in mother-only families may be taken as a reasonable indicator of family educational level. Although fairly highly correlated ($r = .21$), occupational levels of mothers and fathers can be statistically distinguished and considered separately.

In order to look more closely at social capital as a process, rather than as a specific quantity, we now turn to a series of OLS regression analyses. Since intergenerational network closure has been identified as a critical point in this process, we look first at predictors of indicators of closure in intergenerational networks. The first three columns of Table 3 present coefficients and standard errors of predictors of network ties among parents, children, friends of children, and parents of friends of children. Asians, Blacks, and Latinos all show significantly weaker parental involvement in the social networks of children

Table 3
 OLS Regressions of Selected Indicators of Intergenerational Closure on Demographic, Structural, and Organizational Predictors

	Parents–Friends–Parents Ties			Parent–Neighbor Oversight			Parent–Child Interaction		
	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
Age	-.100**	.016	-.082	-.020*	.008	-.035	-.075**	.022	-.041
Sex	.096	.054	.020	-.061*	.027	-.031	.432**	.078	.067
Asian	-.900**	.165	-.070	.002	.081	.001	-.688**	.235	-.035
Black	-.902**	.070	-.173	.363**	.035	.153	-.324**	.100	-.042
Latino	-.728**	.092	-.103	-.152**	.045	-.047	-.223	.131	-.021
Family Income	.002**	.001	.047	-.000	.000	-.008	.002*	.001	.025
Parental Education	.098**	.016	.089	-.009	.008	-.027	.144**	.023	.088
Mother's Occupation	.076**	.014	.082	-.020**	.007	-.043	.074**	.019	.050
Father's Occupation	.014	.012	.015	-.001	.006	-.002	.025	.018	.018
Single-Female-Headed Family	-.177**	.065	-.037	-.002	.032	-.001	-2.272**	.092	-.319
Single-Male-Headed Family	-.709**	.151	-.059	.091	.074	.017	-2.468**	.216	-.139
Nonworking Mother	-.082	.067	-.039	-.054	.050	-.015	.011	.144	.001
Parent Knows Most Neighbors	.317**	.063	.065	.264**	.031	.117	.147	.090	.020
Parent Born in Neighborhood	.182*	.071	.033	.084*	.035	.033	.066	.101	.008
Parental Membership	.520**	.036	.197	.058**	.018	.047	.224**	.051	.056
Child's Religious Involvement	.226**	.009	.105	.010	.014	.009	.637**	.040	.197
Constant	4.095**	.301		.271	.147		5.232**	.426	
R^2	.183			.054			.238		
<i>N</i>	5,246			5,278			5,336		
<i>F</i>	73.052,			19.367,			103.842,		
	$p < .000$			$p < .000$			$p < .000$		

* $p < .05$, ** $p < .01$.

compared to Whites. Higher socioeconomic status, in the form of family income and parental education, is positively related to network ties. The occupational level of mothers, but not fathers, is significantly related to closure in network ties among parents, children, and friends of children. This may be a result of relatively greater involvement of high-status mothers than of high-status fathers in the lives of children. Single-parent family structure is associated with fewer links between parents and the social circles of children. This is consistent with Coleman's version of social capital, but, contrary to Coleman, families with nonworking mothers do not show more intergenerational closure of this sort. In fact, although the coefficient is not statistically significant, the sign is negative. Controlling for family structure and mother's occupational level, there is no evidence that stay-at-home mothers promote greater intergenerational network closure than working mothers do. Residential stability, knowing the neighbors, parental membership in organizations, and children's involvement in religious institutions are all positively associated with connections among parents and children. It is worth noting, given Putnam's emphasis on organizations in the generation of social capital, that the standardized coefficients suggest that parental involvement in organizations is the most powerful predictor of whether parents know the friends and parents of the friends of their children.

Fewer predictors are significantly related to parent-neighbor oversight. The parents of Black adolescents are, according to their own reports, more likely than parents of all other ethnic and racial groups to exchange information with other parents when children get in trouble. Mother's occupation, which was positively related to ties among parents, friends of children, and other parents, is negatively related to parent-neighbor oversight. Knowing the neighbors is understandably associated with sharing information with them and parents who live in the neighborhoods of their birth tend to report themselves more likely to exchange information than more mobile parents are. Parents who are relatively active in organizational involvement are more inclined to offer and receive news about children's trouble-making. In sum, while communication between parents and neighbors in theory seems to fit Coleman's description of social capital, empirically this does not show a very strong connection to any of the expected predictors of advantageous parent-child-community relations.

The patterns of associations with parent-child interactions are quite similar to those of network connections among parents, the friends of children, and the parents of friends of children. All of the minority groups show fewer parent-child interactions than Whites, and children who are in families with relatively high incomes and relatively well-educated parents report more interactions. Interestingly, as in the case of the indicator of ties among parents, friends, and parents of friends, parent-child relations are positively associated with the occupation of the mother, but not the occupation of the father. Once again, it appears that it is

specifically the level of the work of women in families that is positively related to connections between parents and children. Children in single-parent families engage in fewer activities with their parents, even after we control for economic circumstances. Parents' ties with neighbors, though, display no significant association with parent-child interactions. However, both the organizational involvement of parents and the involvement of children in religious institutions are positively and significantly related to interactions between parents and children.

In Table 4, we look at the next identified stage of the social capital process; that is, at how demographic, structural, organizational, and intergenerational closure factors may be related to the depth and intensity of ties between parents and children. First, we look at parent-child intimacy, as indicated by the degree of closeness with parents reported by children. Black children, who appeared to be closer to their parents in the zero-order correlations, are significantly less close to parents than Whites after controlling for single-parent family structure. It will be noted that the negative unstandardized coefficient for Asians is slightly larger than that of Blacks, but not statistically significant because of the much smaller number of Asians in the sample (see Table 1). Interestingly, children are less likely to report feeling close to parents with comparatively high educations, and those in single-parent families are substantially more likely to report feeling close to their parents, controlling for the relative infrequency of parent-child interactions in single-parent homes. There is greater perceived intimacy between parents and children in neighborhoods in which parents know most of the neighbors and between parents and children when the parents were born in their present neighborhoods. The religious involvement of children, ties between parents and the social circles of children, and frequency of interactions between parents and children are all positively related to a feeling of closeness to parents.

Factors that apparently contribute to intimacy between parents and children are not necessarily connected to parental trust in children. Moreover, the predictors do not account for very much variation in parental trust ($R^2 = .038$). Parents in single-mother families report no greater trust in their children than parents in two-parent families and those in single-father families report significantly less trust. Parents who know most of the neighbors may feel closer to their children than other parents, but they trust their children less. The trust of parents is positively related to children's involvement in religious institutions; social ties among parents, friends, and parents of friends; parent-neighbor oversight; and interactions between parents and children.

Few of the predictors are significantly related to reported parental understanding of children, also, and again we are unable to account for much variation in parental understanding. Parents with higher family incomes tend to claim greater understanding of their offspring. Parents who know most of the

Table 4
 OLS Regressions of Selected Indicators of Depth and Intensity of Parent–Child Ties on Demographic, Structural, Organizational,
 and Intergenerational Closure Predictors

	Parents–Child Intimacy			Parental Trust in Child			Parental Understanding		
	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
Age	–.046**	.006	–.104	.003	.007	.007	–.018*	.008	–.032
Sex	–.221**	.020	–.145	.026	.024	.015	–.083**	.027	–.042
Asian	–.108	.061	–.023	.034	.072	.006	–.026	.083	–.004
Black	–.070**	.027	.038	–.048	.031	–.023	–.066	.036	–.028
Latino	.058	.034	.023	.075	.040	.027	.035	.047	.011
Family Income	–.000	.000	–.008	.000	.000	.022	.001**	.000	.043
Parental Education	–.012*	.006	–.031	.013	.007	.029	–.000	.008	–.002
Mother’s Occupation	–.008	.005	–.022	–.003	.006	–.008	–.000	.007	.000
Father’s Occupation	–.004	.006	–.009	–.002	.005	–.006	.003	.006	.007
Single-Female-Headed Family	.325**	.025	.191	–.018	.030	–.009	.009	.034	.004
Single-Male-Headed Family	.141**	.056	.034	–.201**	.066	–.043	–.143	.076	–.027
Nonworking Mother	.050	.037	.017	.052	.044	.016	–.030	.050	–.009
Parent Knows Most Neighbors	.063**	.023	.036	–.087**	.028	–.045	–.112**	.032	–.050
Parent Born in Neighborhood	.053*	.026	.027	–.025	.031	–.011	–.024	.035	–.010
Parental Membership	–.015	.013	–.016	–.006	.016	–.006	.025	.018	.020
Child’s Religious Involvement	.043**	.011	.056	.041**	.013	.048	.026	.015	.027
Parents–Friends–Parents Ties	.013*	.005	.037	.034**	.012	.085	.035**	.007	.078**
Parent–Neighbor Oversight	.010	.010	.017	.041**	.012	.048	.016	.014	.016
Parent–Child Interactions	.070**	.004	.295	.022**	.004	.085	.024**	.005	.077
Constant	5.049**	.113		4.014**	.133		3.744**	.153	
R^2	.131			.038			.031		
<i>N</i>	5,246			5,177			5,164		
<i>F</i>	40.790,			10.345,			8.695,		
	<i>p</i> < .000			<i>p</i> < .000			<i>p</i> < .000		

p* < .05, *p* < .01.

neighbors tend, in their own eyes, to understand their children less than parents with few neighborhood ties. Parents who know the friends and parents of the friends of their children and who engage in more interactions with their children report greater understanding. We note that overall the most powerful predictor of these indicators of depth and intensity of parent-child ties is the number of interactions between parents and children.

The small R^2 's in the case of both parental trust and parental understanding suggest an interesting problem with the generation of social capital. That is, family background and network ties, which might be supposed to promote the depth and intensity of parent-child bonds, are apparently only weakly related to trust and understanding in families.

Table 5 looks at the next step in the social capital process. Intergenerational closure and intensity of family ties are assumed to produce positive behavioral outcomes by generating and maintaining productive normative orientations. Here, we consider the desire for higher education and strength of belief in the efficacy of hard work as normative orientations likely to lead to desirable outcomes in the creation of human capital. Black children report greater desires for continued education than White children do, but no greater belief that effort will pay off. Family income is positively associated with educational aspirations, but negatively related to an orientation toward industriousness. Parental education and both maternal and paternal occupational status are positively related only to desire for higher education. Having a nonworking mother in the home is negatively associated with educational aspirations and not significantly related to work orientation, again strongly suggesting that stay-at-home mothers may not contribute to the production of social capital in the manner suggested by Coleman.

There is a weak relationship between the acquaintance of parents with the neighbors and children's belief in the efficacy of work. Children's religious involvement is positively related to both normative indicators, as are the number of reported interactions between parents and children, and parental intimacy and trust. There is some indication, then, that ties between parents and children, indicated by frequency of interaction and by quality of relations, are connected to potentially productive normative orientations.

Ultimately, the generation of social capital depends on whether the process leads to constructive outcomes. In Table 6, we attempt to examine whether stages may be seen as conducive to academic achievement in the manner predicted by the process model of social capital we have identified in the literature. In order to do this, we use a reverse engineering strategy, beginning with the full model and progressively dropping variables. This will enable us to say, for example, whether it is reasonable to see close ties between parents and children as promoting academic achievement by promoting constructive norms.

Table 5
 OLS Regressions Indicators of Children's Normative Orientations on Demographic, Structural, Organizational, Intergenerational Closure,
 and Intensity of Ties Predictors

	Desire for Higher Education			Belief in Efficacy of Hard Work		
	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
Age	-.054**	.008	-.094	.040**	.007	.081
Sex	.183**	.027	.091	.005	.024	.003
Asian	.115	.081	.019	.042	.073	.008
Black	.112**	.035	.046	.002	.032	.001
Latino	.012	.046	.004	-.060	.041	-.021
Family Income	.001**	.000	.043	-.000*	.000	-.030
Parental Education	.056**	.008	.109	.009	.007	.020
Mother's Occupation	.037**	.007	.079	-.000	.005	-.001
Father's Occupation	.016*	.000	.030	.000	.006	-.017
Single-Female-Headed Family	.041	.034	.018	-.041	.031	-.021
Single-Male-Headed Family	.017	.075	.003	-.044	.067	-.009
Nonworking Mother	-.125**	.049	-.034	-.009	.044	.003
Parent Knows Most Neighbors	-.023	.031	-.010	.061*	.028	.031
Parent Born in Neighborhood	-.074*	.035	-.029	-.039	.031	-.018
Parental Membership	.008	.018	.007	.027	.016	.025
Child's Religious Involvement	.103**	.014	.102	.042**	.013	.048
Parents-Friends-Parents Ties	.026**	.007	.055	-.010	.006	-.024
Parent-Neighbor Oversight	-.009	.014	-.009	-.022	.012	-.025
Parent-Child Interactions	.025**	.005	.078	.013**	.004	.047
Parent-Child Intimacy	.076**	.018	.062	.112**	.017	.099
Parental Trust of Child	.081**	.016	.068	.040*	.015	.035
Parental Understanding	.006	.014	.005	.040**	.013	.045
Constant	3.466**	.187		2.331**	.164	
<i>R</i> ²	.125			.034		
<i>N</i>	5,106			5,106		
<i>F</i>	33.119,			8.146,		
	<i>p</i> < .000			<i>p</i> < .000		

p* < .05, *p* < .01.

Table 6
 OLS Regressions of Academic Achievement on Variables in
 Previous Tables

	Model 1			Model 2		
	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
Age	-.039**	.005	-.094	-.043**	.005	-.102
Sex	.180**	.018	.123	.204**	.019	.141
Asian	.141**	.054	.032	.162**	.055	.037
Black	-.124**	.024	-.070	-.109**	.024	-.062
Latino	-.131**	.031	-.054	-.133**	.031	-.055
Family Income	.000	.000	.018	.000*	.000	.023
Parental Education	.039**	.005	.042	.046**	.006	.126
Mother's Occupation	.010*	.004	.029	.014**	.005	.043
Father's Occupation	.016**	.005	.042	.018**	.005	.048
Single-Female-Headed Family	-.044	.023	-.027	-.043	.023	.020
Single-Male-Headed Family	-.090	.050	-.022	-.087	.052	.022
Nonworking Mother	.017	.033	.006	-.043	.034	.000
Parent Knows Most Neighbors	-.001	.021	-.001	.001	.021	.000
Parent Born in Neighborhood	.042	.023	.023	.031	.024	.016
Parental Membership	.030**	.012	.033	.034**	.012	.038
Child's Religious Involvement	.043**	.010	.058	.059**	.010	.080
Parents-Friends-Parents Ties	.021**	.005	.061	.023**	.005	.068
Parent-Neighbor Oversight	-.023*	.009	-.032	-.026**	.009	-.036
Parent-Child Interactions	.022**	.003	.097	.026**	.003	.114
Parent-Child Intimacy	-.023	.013	-.025	-.004	.013	-.004
Parental Trust	.135**	.011	.156	.148**	.011	.171
Parental Understanding	.047**	.010	.063	.050**	.010	.067
Desire for Higher Education	.132**	.010	.181			
Belief in Efficacy of Hard Work	.074**	.010	.088			
Constant	1.073**	.132		1.700**	.129	
<i>R</i> ²	.263			.224		
<i>N</i>	5,106			5,106		
<i>F</i>	74.130,			65.666,		
	<i>p</i> < .000			<i>p</i> < .000		

p* < .05, *p* < .01.

Model 3			Model 4			Model 5			Model 6		
<i>b</i>	S.E.	β	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
-.042**	.005	-.100	.046**	.005	-.109	-.051**	.005	-.122	-.051**	.005	-.122
.208**	.019	.143	.224**	.019	.153	.236**	.019	.162	.238**	.018	.163
.160**	.056	.037	.101	.056	.023	.115	.056	.027	.108*	.054	.025
-.125**	.025	-.071	-.167**	.024	-.096	-.117**	.023	-.067	-.114**	.023	-.065
-.121**	.032	-.050	-.144**	.031	-.060	-.135**	.031	-.062	-.136**	.031	-.065
.000*	.000	.031	.001**	.000	.039	.001**	.000	.035	.000*	.000	.032
.051**	.006	.138	.060**	.005	.161	.069**	.005	.188	.069**	.005	.188
.014**	.005	.042	.018**	.005	.055	.024**	.005	.072	.023**	.005	.069
.012**	.004	.040	.014**	.004	.045	.016**	.004	.051	.016**	.004	.051
-.043	.023	-.027	-.112**	.022	-.069	-.142**	.022	.088	-.142**	.022	-.089
-.128**	.053	-.032	-.221**	.052	-.055	-.261**	.052	-.064	-.270**	.052	-.067
.001	.035	.000	.006	.035	.002	.018	.035	.007	.012	.035	.004
-.023	.022	-.014	-.013	.021	-.008	.023	.021	.001			
.021	.024	.011	.032	.024	.017	.042	.024	.022			
.036**	.012	.040	.050**	.012	.055						
.022**	.003	.092	.093**	.010	.128						
.030**	.005	.088									
-.023*	.010	-.032									
.030**	.003	.131									
2.460** .105			2.711** .102			2.710** .102			2.721** .097		
.185			.164			.148			.147		
5,106			5,242			5,328			5,400		
60.793,			63.993,			65.831,			77.240,		
<i>p</i> < .000			<i>p</i> < .000			<i>p</i> < .000			<i>p</i> < .000		

(continued)

Table 6 (continued)

	Model 7			Model 8		
	<i>b</i>	S.E.	β	<i>b</i>	S.E.	β
Age	-.052**	.005	-.123	-.055**	.005	-.132
Sex	.240**	.018	.165	.224**	.018	.154
Asian	.116**	.055	.027	.164**	.048	.042
Black	-.146**	.023	-.084	-.188**	.021	-.110
Latino	-.145**	.031	-.061	-.237**	.029	-.103
Family Income	.000**	.000	.045			
Parental Education	.074**	.005	.201			
Mother's Occupation	.024**	.005	.073			
Father's Occupation	.015**	.004	.048			
Single-Female-Headed Family						
Single-Male-Headed Family						
Nonworking Mother						
Parent Knows Most Neighbors						
Parent Born in Neighborhood						
Parental Membership						
Child's Religious Involvement						
Parents-Friends-Parents Ties						
Parent-Neighbor Oversight						
Parent-Child Interactions						
Parent-Child Intimacy						
Parental Trust						
Parental Understanding						
Desire for Higher Education						
Belief in Efficacy of Hard Work						
Constant	2.654**	.097		3.350**	.087	
<i>R</i> ²	.137			.064		
<i>N</i>	5,400			6,340		
<i>F</i>	94.839,			76.101,		
	<i>p</i> < .000			<i>p</i> < .000		

In the full model, we see that Asians report significantly higher grades than Whites do, while Latinos and Blacks report significantly lower grades. Adolescents in families with highly educated parents and parents in high-status occupations tend to report higher grades than other young people do. Family

structure, in this full model, does not show a significant association with reported academic performance.

The organizational variables, which we saw earlier to be strongly related to aspects of intergenerational closure, are both significantly and positively related to reported school performance. Although all of the social network variables are significantly related to grades, we note that in the case of parent–neighbor oversight the association is negative. This particular case is counter to the social capital view, and it is consistent with the alternative view that excessive control and conformity inhibit achievement. Along similar lines, although parental trust and understanding do show positive relationships with academic outcomes, the coefficient for parent–child intimacy is significantly negative. The normative indicators—desire for higher education and belief in the efficacy of work—are both positively related to reported school performance.

When we drop the normative variables from the equation, in Model 2, we are asking to what extent relationships in the full model can be statistically explained by normative factors or suppressed by normative factors. More simply, is the evidence consistent with the argument that demographic, structural, organizational, or network factors contribute to school performance by promoting constructive norms?

Many of the coefficients change little from Model 1 to Model 2, suggesting that their associations with school achievement are largely independent of aspirations for education or faith in the pay-off of industriousness. The coefficient for the gap between Black and White students narrows by .046 when we do not control for normative factors. Using the method suggested by Clogg et al. (1995), we can determine that this is a significant change. Statistically, the relatively strong desire of Blacks for higher education (see Table 5) acts as a suppressor. We can interpret this to imply that the Black–White gap in education would be greater if Black students did not place so much importance on higher education. By contrast, the coefficient for the Asian–White gap increases by a statistically significant .021. Although being Asian was not significantly related to either desire for education or faith in industriousness taken separately, in Table 5, some small part of the educational performance of Asians can be statistically attributed to these normative factors.

The coefficient for parental trust also increases by a small but significant amount [$d = .013$, $s(d) = .006$] when we exclude the normative factors from the equation. A small part of the association of the bond of trust between parents and children with school performance, then, is statistically attributable to children's normative orientations that are connected to their parents' trust in them.

In Model 3, we remove from the equation the variables indicating depth and intensity of parent–child relations. One of the greatest differences that we note

here is in the coefficient for single, male-headed families [$d = -.041, s(d) = .01$]. In households headed by a single man, the parent tends to place less trust in children (see the second set of columns in Table 4) and trust between parents and children is the strongest positive predictor of school performance of the variables indicating parent-child relations.

Model 4 progresses to the next logical step by deleting the variables indicating the network ties between and surrounding parents and children. Between this model and the preceding one, the coefficient for the White-Asian gap in grades decreases by a substantial and significant $d = -.059 [s(d) = .009]$, and the gap between Whites and Asians ceases to be a significant one. The zero-order correlations in Table 2 indicated that the parents of Asian children are less likely than the parents of Whites to know the friends and parents of the friends of their offspring. Asian parents are also less likely to engage in frequent and varied interactions with their children. When we controlled for these parent-child ties, Asians reported much better grades. When we cease to control for the weaker parent-child ties of Asians, the reported grades of Asians are no better than those of Whites. Thus, it appears that Asian performance cannot be attributed to the type of network ties emphasized so heavily by Coleman. The evidence we see here is more consistent with the view that Asians would do even better in American schools if their parents were more involved with their and with their own social networks.

The coefficient for the Black-White gap also decreases significantly [$d = -.042, s(d) = .007$]. The parents of Black students had also shown fewer ties with parents and friends of children and fewer interactions with their children. Black parents did show greater parent-neighbor oversight of children, but parent-neighbor oversight is negatively related to achievement. Thus, Black parents do not appear to have the kinds of ties with children and social networks surrounding children that are linked to better school performance, but they do have the kinds of ties that are linked to weaker school performance. Along similar lines, the Latino-White gap decreases by $d = -.023 [s(d) = .009]$. Thus, the relative academic achievement of all three minority groups is apparently lower than it would be if the parents and children of these groups were involved in more effective sets of social ties.

Excluding the parent-child network variables leads to a difference in the coefficient of single-female-headed families of $d = -.069$ and a difference of $d = -.099$ in the coefficient of single-male-headed families. Both single-female and single-male families, moreover, are significantly and negatively related to school performance after we cease to control for the fact that parents in single-parent families have fewer ties to their children's friends and to the parents of these friends and engage in far fewer interactions with their children than parents in mother-father households do (see Table 3). This is entirely consistent with the

argument that family structure makes a difference in the school performance of children because single parents have fewer interactions with their children and fewer connections to the social networks surrounding their children. The coefficient for parental membership in organizations increases by a small but statistically significant amount ($d = .014$). The involvement of children in religious organizations increases by the substantial amount of $d = .071$ after we cease to hold indicators of intergenerational closure constant. These changes support the argument that the organizational involvement of both parents and children promotes school achievement because greater organizational involvement (Robert Putnam's locus of social capital) tends to be related to closer parent-child ties (James Coleman's locus of social capital).

Model 5 drops the parent and child organizational involvement variables from the equation. The coefficient for the Black-White gap changes by the fairly substantial and statistically significant quantity of $d = .050$. As we saw in the zero-order correlations in Table 2, Black adolescents do tend to participate more than others in religious institutions. When we control for the positive relationship between religious participation and academic achievement, the Black-White gap widens. This would be consistent with a social capital argument that involvement in religious organizations is a source of educational advantage for Black students. The most notable changes aside from race are in family structure. The negative coefficients of both single parent variables are substantially larger ($d = -.030$ and $d = -.040$) when we do not control for the organizational variables. The educational disadvantage of children in single-parent families, then, can be attributed to the tendency of the parents in these families to be less involved in organizational structures, as well as less involved in network ties with and surrounding their children.

Dropping the parents' connections to their neighborhoods, in Model 6, results in little change in the coefficients of any of the remaining variables. It has also mattered little to the school performance of children, throughout the table, whether parents lived in the neighborhoods in which they were born or knew the neighbors. We have also seen, in the network variables, that parent-neighbor oversight actually shows a negative relationship with school outcomes. Connections to the neighborhood of residence, this would suggest, should not be seen as part of the social capital process in the contemporary United States.

In Model 7, we remove the family structure variables. The primary consequence of taking these variables out is to change the coefficient for Black adolescents, the young people most likely to live in single-parent households, from $-.114$ to $-.146$ [$d = .032$, $s(d) = .005$]. The coefficients for Asians, Blacks, and Latinos all change significantly when we take the socioeconomic variables out, in Model 8. The gap between Whites and Asians is now greater in Model 8. This is consistent with an argument that part of the reason Asians tend to do better

in school is due to the socioeconomic advantages of Asians. Blacks and Latinos both lag further behind Whites when we cease to control for family income, occupation, and education. The educational disadvantages of Blacks and Latinos are, then, partly attributable to socioeconomic disadvantages. If we inquire into the nature of these disadvantages, though, it would appear that they are not purely matters of human or financial capital in families. The coefficient for parental education, in particular, increases steadily across the models as we drop indicators of stages in the social capital process. While this coefficient was $b = .039$ in Model 1, in Model 7 it is $b = .074$ [$d = .035$, $s(d) = .002$]. This is consistent with the argument that parental education, at least, contributes to school performance through the relationship between education and the structure of social relations.

Conclusion

In general, the results shown above are consistent with social capital theories. Family socioeconomic status, two-parent family structure, and organizational involvement on the part of both parents and children are positively related to intergenerational network closure. In turn, intergenerational closure is consistently associated with indicators of the depth and intensity of ties between parents and children. Close, trusting ties between parents and children, frequent interactions between parents and children, and involvement in religious organizations on the part of children are positive predictors of normative orientations. Judging social capital by its outcome, we can see that industrious and ambitious normative orientations, relatively high degrees of parental trust and understanding, intergenerational closure among parents and children, the organizational involvement of both parents and children, and parental education and occupational status are all associated with relatively strong academic performance. In our reverse engineering of predictors of reported school performance, we saw that the relationship between parental trust and performance is partly attributable to a connection between parental trust and positive normative orientations. We have also seen evidence in support of the argument that the negative association between single-parent family structure and school performance may be largely due to a lack of intergenerational closure in single-parent families. Single parents also tend to be less involved in organizations, which statistically accounts for part of the relationship between family structure and educational outcomes.

These results suggest that conceiving of social capital as process can contribute to our understanding of how social groups and social settings promote individual consequences. However, it also appears that it is difficult to judge on purely theoretical and a priori grounds just what aspects of social groups and social settings qualify as capital rather than as liabilities. Notably,

families with nonworking mothers appear to be either unrelated or negatively related to most stages in the social capital process. Coleman's argument that mothers who do not work outside the home can contribute to their children's school performance by investing time and involvement in the children makes theoretical sense, but, *a posteriori*, this does not seem to be the case. Children with mothers who do not work outside the home do report feeling closer to a parent, but this intimacy does not appear to translate into the acquisition of human capital. It is possible that in the contemporary American economy, in which two adult incomes have become a normal facet of upward mobility, families with a nonworking mother do not provide an example of industry and goal-directed behavior for children. This is pure speculation, though, and it requires further investigation.

We have also seen that parent-neighbor oversight, which the Colemanesque view of social capital would postulate as a central stage in the production of advantageous behavior, is only weakly and ambiguously related to most of the stages in the social capital process and that parent-neighbor oversight is negatively associated with school performance. Similarly, parental acquaintance with the neighbors and parental residence in the neighborhood of birth show ambiguous relations with the stages of social capital and no significant associations with school performance. We see little evidence here, then, for arguing that dense, closely interknit relations in neighborhoods produce constructive behavior. Instead, the evidence on neighborhood social relations is more consistent with Granovetter's (1973) weak ties argument or with Fernandez-Kelly's (1995) findings that dense but truncated networks within neighborhoods can reduce possibilities for upward mobility. We would like to suggest, for further inquiry, the hypothesis that the social setting for constructive behavior in contemporary America may not be located in neighborhoods *per se*, but in families and formal organizations whose social relations may not be embedded in neighborhoods.

The reverse engineering of predictors of social capital indicates that the relationship between race and school performance is more complicated than theories conceiving ethnicity as social capital generally recognize, but still consistent with the social capital as process argument. Coleman (1990b) employed an intergenerational network closure model of social capital to explain the academic achievement of Asian children. However, our findings indicate that Asian families have less intergenerational closure than other families do. The relatively strong academic performance of Asian children is partly attributable to the constructive normative orientations of these children. Although intergenerational closure is positively related to school performance, infrequent interactions between Asian parents and children and low levels of parental involvement in the social networks of Asian children tend to statistically suppress school

performance. Put simply, Asian children do well in school in spite of their relatively weak ties to their parents.

The relatively low school performance of both Black and Latino children can be partly attributed to weak intergenerational closure. Although Black families do show high levels of parent–neighbor oversight, this is not a form of intergenerational closure that is empirically connected to school performance. The prevalence of single-parent families among Black students does statistically explain part of the negative association between being Black and school outcomes, a finding that is consistent with the idea of the social capital process.

Socioeconomic status is associated with the academic achievement of all three racial groups. Asian students benefit from relatively high family socioeconomic positions, while the comparatively weak school performance of Black and Latino students can be statistically attributed to disadvantages in parental education and occupation and family income. However, the evidence suggests that the contribution of family socioeconomic position to school performance is as much a matter of social relations as of human and financial capital. Although it is difficult to identify any particular stage in the social capital process that accounts for the superior performance of children from socioeconomically advantaged families, the entire process accounts for about half the relationship between academic achievement and family socioeconomic background.

Our investigation enables us to make several observations regarding the concept of social capital. First, it does make sense to talk about constructive, goal-oriented outcomes as the product of social relations. Organizational involvement and intergenerational network closure, in particular, are connected with desirable outcomes for young people. Thus, there is some basis for the concept of social capital. Second, we have seen that this concept can be misleading because it suggests a quantity when the social production of desirable behavior is more accurately seen as a process. Third, the process is inherently problematic. We can only judge a posteriori whether a given arrangement contributes to the process. Social arrangements, such as the presence of nonworking mothers, that may be expected to generate constructive outcomes on theoretical grounds can empirically turn out to be liabilities. The process is problematic, further, because the process may differ from one group to another. Black students enjoy high involvement in religious organizations, but many of them live in single-parent families. Asian students show value orientations consistent with upward mobility, but have little intergenerational closure. While many social processes may be variable and contingent, this is troubling when we are attempting to represent a process as a specific and definable quantity (i.e., a certain amount of available “capital”).

We believe that our observations and findings can contribute to a greater understanding of the heavily used idea of social capital. While we do not advocate

discarding the idea, we do think researchers need to pay much more attention to its character as a process and to the complications entailed by this character.

ENDNOTES

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