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Explaining Teen Childbearing and Cohabitation: Community Embeddedness and Primary Ties*

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Abstract: This investigation examines whether access to social capital reduces the chance that teens will cohabit or have a nonmaritally conceived birth. Using data from a nationally representative panel study of eighth-grade girls and their parents, we hypothesize that girls who have (and whose families have) dense community ties as well as greater access to primary ties are less likely to have a nonmarital birth and to cohabit as teens and that community embeddedness has an effect net of the effects of primary ties. Our results support this hypothesis. An important policy implication is to increase social relations between adult networks and children that can serve to encourage stable, multigenerational values and discourage ''off-time'' family formation.

Key Words: adolescent pregnancy, cohabitation, community, family and adolescence, social capital.

The high rate of nonmarital teen births remains one of the most policy-relevant topics of sociological study. From 1970 to 1994, the chance of an unmarried teen girl giving birth doubled from 22.4 to 45.8 births per 1,000 females 15–19 years of age, despite an increased availability of contraception and abortion over much of that period. This trend halted in the 1990s, when both the overall teen birth rate and the nonmarital teen birth rate began to fall. The nonmarital birth rate of teens peaked in 1994 and has continued to decline since then (35.4 births per 1,000 females 15–19 years of age in 2002). Still, the majority of teen births are out of marriage, and unmarried teens today are more likely to bear children than they were 15 years ago (Martin et al., 2003). Even with the recent decline, teen births are still a significant concern.

Cohabitation, like nonmarital childbearing, is an ''off-time'' family formation event for teens in that it occurs before the ages when most people expect and want it to happen (cf. Cherlin, 2005). The likelihood that a 15- to 19-year old would be *currently cohabiting* nearly tripled from 1982 (1.5%) to 1995 (4.1%) (A. Chandra, personal communication, March 6, 1998). Although *ever-cohabited* information was not available for 1982, 8.9% of those 15–19 years of age had cohabited at some time in their lives in 1995 (Bramlett & Mosher, 2002). Despite the increased rate of teen cohabitation, though, strikingly little research has focused on this topic. Studies of cohabitation generally use samples dominated by adults, modeling processes of entry into and exit from cohabitation similarly for all ages. We believe it is valuable to analyze causes of *teen* cohabitation specifically because indirect evidence suggests that cohabitation represents something different for teens than for adults. For example, the chance of separating rather than marrying is greater for teen cohabitors than for those in their 20s (Manning & Smock, 1998).

In contrast to the sparse information on teen cohabitation, the teen birth rate, especially the high level of nonmarital teen births, has motivated extensive research on causes. Perhaps the most common concern has been the effect of primary ties (cf., Wu, 1996), the connections teens have with family and friends. Unlike primary ties, the effect of community embeddedness (ties that teens and their parents

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have with their communities) on teen fertility has received little attention.

Using data from a national panel study of eighth-grade girls, we evaluate the influence of community ties and primary ties on teen cohabitation and nonmaritally conceived childbearing. Using Coleman's (1988) concept of social capital to explain variation in outcomes, we distinguish two types of social capital: primary ties and community embeddedness. We extend past studies that have focused primarily on primary ties as correlates of teen pregnancy. Our objective is to see whether teens' and their parents' ties to the larger community also have effects longitudinally on cohabitation as well as on nonmaritally conceived births and net of the effect of primary ties.

We are interested in teen childbearing and cohabitation because they represent two off-time family formation events. Although our data do not permit us to investigate the connection between these two events in the case of teens, there is evidence of a linkage. The proportion of births to unmarried mothers who are actually living with their partners (often the children's fathers) increased from 29 percent in the mid-1980s to near 40 percent in the mid-1990s (Bumpass & Lu, 2000, p. 35).

Theory

Social capital exists in relations among people and facilitates actions (Coleman, 1988). It consists of the resources inherent in the structure of these relations, which actors can use to achieve their interests. For example, social capital includes encouragement that adults provide children or oversight facilitated by having multiple adults monitor and exchange information about a child's behavior. Thus, social capital exists in primary groups and in relations with the larger community (referred to as community embeddedness in this work).

We will distinguish three dimensions of primary ties: (a) extensiveness, (b) frequency of shared activities, and (c) quality of relationships. Several early descriptions of social capital identify these as central dimensions (Astone, Nathanson, Schoen, & Kim, 1999).

Primary Ties

The social capital intrinsic to primary ties between adults and children—that is, expectations, adults' obligations, trustworthiness, and sanctioning power—should reduce the chances that a teen will have a nonmaritally conceived birth or will cohabit. This is partly because the maintenance of social capital is a major motivator of human behavior (Astone et al., 1999). Teens with stronger primary ties are more likely to internalize expectations or avoid sanctions, and nonmaritally conceived births and cohabitation violate most families' expectations for teenagers. They are off-time because they occur before the ages when most people expect and want pregnancy or cohabitation.

Extensiveness. Of our three dimensions of primary ties, extensiveness has received the most attention, especially in regard to teen fertility. More extensive primary ties should reduce the likelihood of "nonnormative" teen behavior because there are more people to convey expectations, trustworthiness, and sanctioning (cf., McLanahan & Sandefur, 1994). Three conceptualizations of extensiveness discussed in the following paragraphs will be used in our study.

Current family structure is the most commonly examined index of primary ties' extensiveness. Living with two biological/adoptive parents often means that there are more extensive primary ties than if a child were living with a single parent or one parent and a stepparent. Customary ties to parents' kin are often absent in the case of nonresident parents' or stepparents' kin, and teens may have less access to nonresident parents' and stepparents' social resources than to those of the resident parents. For example, Astone and McLanahan (1991) found, in comparison to living in single-parent/stepparent families, living with both biological/adoptive parents had positive consequences on high school completion. They concluded that children who live with both biological/adoptive parents have access to more social capital. They further noted that strength of attachment and, most importantly for this discussion of extensiveness, the number of relationships indicate greater social capital.

Research on the link between family structure and teen fertility has yielded mixed results. Some find that family structure in adolescence is not associated with nonmarital births (Wu, 1996). Others do find such links (McLanahan & Sandefur, 1994). One possible reason that has been proposed for these inconsistent findings regarding teen childbearing are differences among mother-only families, for example, the extent of marital instability (Wu &

Martinson, 1993). There is evidence, too, that parental divorce increases nonmarital cohabitation (Thornton, 1991). It is our expectation that more extensive primary ties in the form of living in a two-parent family will be associated with less teen cohabitation and childbearing.

Another indicator of extensiveness used here is the child/adult ratio in the household. The presence of more adults per child can give the child greater access to resources and oversight and reduce the risk of nonmaritally conceived birth and cohabitation. Coleman (1988) considered this ratio a measure of social capital but assessed its effect on educational outcomes.

In addition to ties to adults, our third indicator of extensiveness, primary ties with peers, may influence teen cohabitation and childbearing. Peers play a powerful role during adolescence. These ties may rival parents and other adult ties if their interests and attitudes more closely reflect those of the adolescent. Although "a substantial majority of teens agreed in 1987 that teenage parenthood is one of the worst things that could happen to a 16 year old" (Moore & Stief, 1991, p. 376), 51% of females and 59% of males in a 1992 study of high school seniors agreed that "cohabiting before marriage is good to find out if you are really getting along" (Chadwick & Heaton, 1996). Whitehead and Popenoe (2000) noted that the seniors in this survey were very unwilling to condemn their *peers*' choices of cohabitation. Thus, ties to both adults and peers likely reduce the chance of a birth, but ties to peers may not necessarily discourage cohabitation.

Adults would seem to share teens' relatively positive orientation toward cohabitation, judging from the high numbers that cohabit (Casper and Bianchi, 2002). However, a tolerant attitude among adults does not mean that parents think it is all right for their teenage children to cohabit. Teen cohabitation is likely to be viewed by parents as problematic because it, like teen births, is an event that occurs off-time. Gecas and Seff (1990), referring to a study by Burton (1985), noted that off-time events can interrupt teens' developmental tasks, for example, schooling. Also, it seems that parents would feel that there is a greater risk of pregnancy if their teenage child is cohabiting and would want to avoid this outcome.

Frequency of shared activities. Adults' *human* capital is distinct from the *social* capital available to the child (Coleman, 1988). It may mean little that a parent has a great deal of human capital if (s)he spends little time with the child. Even if parents are present physically, there can be a lack of social capital if they are preoccupied with other people or things and give little attention to the child. Studies show that, when parents participate in activities with their children (second dimension of primary ties explored in this study), the children are less likely to exhibit disfavored behaviors—including ones related to teen pregnancy (Resnick et al., 1997)—and more likely to achieve educationally (Astone & McLanahan, 1991). Regular access to parents' social resources helps children attain goals, and children's attitudes are more likely to reflect their parents' attitudes when they have more opportunity to observe them (Chodorow, 1978). So when parents and children participate more often in shared activities, the result may be a reduced chance of both teen birth and cohabitation.

Quality of relationships. Coleman (1988) did not distinguish subjective and objective forms of social capital. His empirical analysis focused on the latter. But, how the child perceives the quality of the relationship with her parents is almost certainly associated with the relationship's strength, and strength of parent-child relations was a core issue for Coleman (1998). Further support for the positive connection between teen's perception of relationship quality and strength of parent-child relations is provided by Almeida and Galambos (1991). Their findings indicate that, in general, higher father involvement is associated with father and adolescent perceptions of higher acceptance. This third dimension of primary ties, relationship quality, will be considered in the present study because it may reduce the chance of teen cohabitation or birth. Teens who are emotionally closer to their parents may be more likely to do parents' bidding and share parents' preferences, and parental goals for children typically do not include early pregnancy or cohabitation (Jaccard, Dittus, & Gordon, 1996). Children who feel close to their parents also may be more concerned that parents will levy emotional sanctions or that they will embarrass their parents (Axinn & Thornton, 1993). Finally, there is evidence that young people who feel stronger bonds with their parents are less likely to engage in deviant behavior (Resnick et al., 1997).

Community Embeddedness

Coleman (1988) stressed the importance of social capital outside the family, in particular, that which

exists at the community level. Parents' and teens' embeddedness in the community supplies social capital and should reduce the chance of teen cohabitation and births. Community objections to teen behavior of this sort reinforce those of parents. Ties to the community also provide channels through which parents can exchange information about children's behavior.

Such information channels facilitate parents to know what their children are doing and increase opportunities for intervention. This situation is facilitated by "intergenerational closure" (Coleman, 1988, p. S106). When parents know others who know their children and can combine forces to uphold shared norms for children's behavior, the possibilities for effective norm enforcement are greater. Further, a teen may have greater access to the various resources of adults when they are connected to her parents.

Some past work examines community effects on teen fertility (but not on teen cohabitation). Most looked at neighborhood characteristics, usually socioeconomic and racial composition (e.g., Ginther, Haveman, & Wolfe, 2000). This approach is valuable, but it is equally important to consider the presence or absence of specific ties that teens and parents may have with their communities. Community characteristics such as socioeconomic and racial composition do not indicate social capital in the sense of "social ties" (see Portes & Landolt, 1996).

Of the few studies that have examined community ties, one looked at their impact on nonmarital teen births. Furstenberg and Hughes (1995) investigated several measures of family/community linkage, two of which dealt with friends and so would tap what we call primary ties. Of their other measures (mother's religious involvement, strong help network as indicated by extended family, child ever changed school because of move, and child's perception of school quality and of the neighborhood as a place in which to grow up), only perception of school quality had an effect (positive). However, it is possible that their results are sample-related biases. Furstenberg and Hughes studied a sample of mostly low-income African American teens who were themselves born to teen mothers in Baltimore. In contrast, Coleman (1988) found that teens with stronger family/community connections were less likely to have problems. Although this researcher was exploring an educational outcome, his theory would suggest a similar impact in the case of births and cohabitation.

Coleman's (1988) discussion of social capital outside the family suggested several indicators of closure across parent/child networks, schools, and other community organizations. Among them were long-time residence in the same neighborhood, enrollment in religious schools, and frequency of religious attendance. Each confers social capital. When families move frequently, the social relations that constitute social capital are broken at each move. There may be negative consequences for children as the facilitating and constraining forces of intergenerational closure are reduced. Conversely, living in the same neighborhood for a long time can increase children's social capital.

Coleman (1988) noted that religious high school attendance could enrich children's social capital because a religion-based high school is surrounded by a community that is based on a religious organization. He stressed that such "families have intergenerational closure that is based on a multiplex relation: whatever other relations they have, the adults are members of the same religious body and parents of children in the same school" (p. S114). Teachman, Paasch, and Carver (1996) showed that Catholic school students have access to more social capital. Religious school enrollment should thus decrease the chance of teen cohabitation and births.

Frequency of attendance at religious services also indexes social capital through intergenerational closure (Coleman, 1988). It indicates that parents and children interact with others in a larger setting that has some features of small primary groups. Expectations and norms for the behavior of teens are part of this structure. Frequent attendance at religious services facilitates oversight, too, because adults can exchange information about teenagers' activities. Like Coleman (1998), we intend attendance at religious services and religious school enrollment not as measures of *religious belief or ritual* but rather as indicators of social capital through religious community and network closure (McGuire, 1997).

The conditions mentioned so far—long-time residence, religious school enrollment, and religious attendance—are indirect indices of ties between teens' families and communities and will be used in our work. In addition, we will utilize the next two conditions to tap such ties directly, given that they reflect community contexts beyond religious ones that also foster intergenerational closure. The first is whether parents know the parents of children with whom their own children interact. In such

a community, "... parents can discuss their children's activities and come to some consensus about standards and about sanctions" (Coleman, 1988, p. S107). They can also offer reinforcement and aid to each other's children.

Parental participation at school is the second condition that directly taps family/community links (cf., Furstenberg & Hughes, 1995). It enhances the possibilities of intergenerational closure, although Coleman (1988) did not cite it as a source of social capital. If a teen's parents actively participate at her school, they can share information with her teachers and agree on standards and sanctions for their teen's behavior. Such institutional ties increase the social capital available to the child and the family.

Hypotheses

We hypothesize that teenage girls will be less likely to have a nonmaritally conceived pregnancy and less likely to cohabit by 1994 if, in 1990, they and their parents have dense links with the community, especially links that involve network closure. Likewise, consistent with studies cited above, strong primary ties should reduce the chances of nonmaritally conceived pregnancy and cohabitation. We expect that community ties and primary ties will have independent effects and that community ties will have an effect net of its correlation with primary ties and background characteristics (age, ethnicity, parental education, family income, region, grade point average (GPA), and school suspension history).

Methods

Data Source

Our data come from the first four waves of the National Education Longitudinal Study (NELS), first collected in 1988 by the National Center for Education Statistics. In 1988 the NELS selected a sample of schools, and within schools, eighth-grade students, who were interviewed biennially to 1994. In 1988 and 1992, parents or guardians of the NELS respondents were interviewed. The current study utilizes school, parent, and student data. Independent variables are from the 1988 and 1990 surveys and dependent variables from 1992 and 1994 when most of the teens were either high school seniors or graduates. Most variables central to our analysis were measured once or twice.

The NELS data are useful because they include a number of measures of primary ties and community embeddedness. Our sample includes complete data for approximately 4,900 girls interviewed in all four data collection waves. We analyze only births to girls, not those fathered by boys, because, unfortunately, data on boys' fertility are lacking. The data follow dropouts as well as students and graduates. This is particularly important for our analysis because childbearing may prompt a teen to drop out of school. Sample attrition was low: 94% of sampled individuals were interviewed up through 1994 (National Center for Education Statistics, 1996, p. 42).

Measures

Table 1 lists the variables and gives means and standard deviations (adjusted for sample design effects to estimate population values).

Dependent variables. The two dependent variables are nonmaritally conceived teen births and cohabitation. Nonmaritally conceived births are pregnancies conceived nonmaritally that result in births, either before or after marriage. We ignore conceptions that do not result in births because this sample lacks data on terminated pregnancies, and pregnancies that eventuate in births have more pronounced effects on teens' lives than terminated pregnancies do (Freeman & Rickels, 1993). We do not distinguish nonmarital pregnancies resulting in nonmarital births from those "legitimated" by marriage prior to the birth because we are interested in teen fertility, not whether that fertility triggers marriage. The decision to marry, even in response to a pregnancy, is distinct from decisions that lead up to pregnancy. Indeed, teenagers' parents may not uniformly and unambiguously disfavor early marriage, so we should not necessarily expect factors that discourage teen cohabitation and births to discourage teen marriage.

The births in our analytic sample occur by the 1994 interview, resulting from conceptions that occur before marriage but after the 1990 interview. Although this excludes most births among 14- and 15-year olds from the analysis, less than 1% of all NELS respondents (or 7% of those who have a first birth by 1994) bore a child before 1990. We exclude conceptions that occur before 1990 to preclude reciprocal effects between existing pregnancies and

Table 1. *Variables, Means, and Standard Deviations*[a]

Variable[b]	Mean	*SD*
Dependent variables		
Premarital birth	0.14	0.34
Cohabiting	0.10	0.29
Controls		
Age	16.07	0.57
Parents' education	3.07	1.18
Family income[c]	9.75	2.48
Ethnicity		
Asian	0.04	0.19
Black	0.11	0.31
Hispanic	0.09	0.28
Region[d] (Midwest is reference category)		
Northeast	0.19	0.39
South	0.34	0.48
West	0.18	0.39
GPA	0.10	0.98
Suspensions	0.12	0.32
Primary ties		
Extensiveness		
Family structure		
Stepparent	0.16	0.37
Single parent	0.24	0.41
Ratio of children/adults	1.36	0.84
Same-sex friends	5.42	0.99
Activities		
Activities with parents	2.93	0.99
Quality		
Relationship with parents	23.80	5.60
Community embeddedness		
Long-time resident[c]	0.60	0.49
Religious school[d]	0.07	0.26
Parent knows parents	0.31	0.46
Parent active at school[c]	0.49	0.50
Religious attendance	3.70	1.76

[a]Means, standard deviations, and regressions here and in the following tables are based on 4,989 cases with valid values on all variables. [b]Derived from teen questionnaire unless otherwise specified. [c]From parent questionnaire. [d]From school questionnaire.

the independent variables. However, although we do not count those births, we keep the girls who conceived them in the sample because they remain at risk of having another birth later.

Cohabitors are those who report living with a partner in a marriage-like relationship at the 1992 or 1994 interview. Respondents living with a parent or parents, as well as a partner, are included in this count. Although cohabitation and childbearing may be mutually endogenous (i.e., nonmarital pregnancies may prompt teens to cohabit, and cohabitation may increase the chance of pregnancy), it is not feasible to model that endogeneity with these data: The NELS measures cohabitation status only twice, and 34% of the first births that occur during the survey period have already occurred before the first of these two measurements.

Independent variables. We measure extensiveness and quality of primary ties and also have a behavioral indicator of those ties in the form of shared activities as reported by teens. We use three indices of extensiveness. First, family structure contrasts teens who live with (a) two married biological or adoptive parents (the reference category); (b) a parent and a stepparent, guardian, or other opposite-sex cohabiting partner; and (c) a single parent with no opposite-sex cohabiting partner, or no parent. (The 6% who have no resident biological/adoptive parent are combined with single-parent teens because they are few and empirically similar.) The second measure of extensiveness is the ratio of children to adults in the household. This measure is based on the teen's report of how many siblings and others under 18 years live with her versus the number of parents, stepparents, grandparents, and nonsiblings over 18 years. The third measure of extensiveness uses the teen's report of whether she has close friends of the same sex, with ordinal responses 1 (*false*), 2 (*mostly false*), 3 (*more false than true*), and so on, to 6 (*true*). Although this measure cannot capture peers' attitudes or behaviors, it provides an index of extensiveness of ties to friends, which are often overlooked as sources of social capital.

The fourth and fifth primary ties variables focus on the teen's relationship with her parents. One captures a behavioral component: the degree to which she and her parents engage in activities together. It is her report of how often she talks or does things with a parent. Ordinal responses are 1 (*rarely/never*), 2 (*less than once a week*), 3 (*1–2 times a week*), and 4 (*daily*). The fifth and last primary ties variable is a scale measuring the teen's perception of the quality of her relationship with her parents. It consists of five items that ask whether she agrees that (a) her parents treat her fairly, (b) she does not like them very much, (c) she gets along well with them, (d) they are usually disappointed with what she does, and (e) they understand her. Responses are coded from *least favorable* (1) to *most favorable* (6). All items load on a single factor (details available upon

request). Thus, we weight the five items by their factor scores and sum them.

Five variables reflect how embedded a teenager and her family are in a dense network of community ties. The first is how long the teen's family has lived in the same neighborhood as of 1990. This is only asked once, in the 1992 parent questionnaire. Because of the year the question was asked and the construction of the response categories, the responses must be dichotomized into long-time residents (those who had lived in their neighborhoods 8 or more years as of 1990) and short-time residents. Ten percent of the sample cannot be assigned unambiguously to one of these two categories. These respondents are allocated to the long-time category if they report never, or only once, having changed schools since they began first grade for reasons other than grade promotion; or allocated to the short-time category if they report having changed schools two or more times (about 2% of cases are allocated to the short-time category on this basis).

The second community embeddedness measure is whether the teen's 1990 school (or last school, for dropouts) is affiliated religiously. This reflects integration between different institutions—school, religion, and family. (As such, enrollment in religious school indicates network closure but enrollment in private non-religious school does not. In analyses not reported, the few students in private nonreligious schools did not differ significantly from public school students, in keeping with theory.) Enrollment in a religious school should affect behavior independent of participation in religious activities. We also measure the latter with a question on how often during the past year the teen has attended religious services, on a 6-point scale from *never* to *more than weekly*. As noted above, these two variables are meant to index community ties, not religiosity. To examine whether they might influence cohabitation and births only because they are correlated with beliefs, we added a rough index of religiosity to the models reported below: whether the teen considers herself very, somewhat, or not at all religious (of these three categories, respectively, 12%, 10%, and 5% are enrolled in religious school, indicating that there is overlap, but far from perfect correlation between religiosity and religious school enrollment). In no case did religiosity alter the effects of religious enrollment or religious attendance. Thus, we report the simpler models without the religiosity measure.

The fourth community embeddedness measure directly taps intergenerational closure. It is a dummy variable indicating whether the teen's parents know many of the parents of her closest school friends (vs. knowing some or no parents of her closest school friends).

The last community tie is between the teen's family and school. It is a dummy variable indicating whether the interviewed parent (usually the mother) participates actively at the teen's school. We define the parent as an active participant if he/she volunteers at the school, he/she is an officer in the Parent Teacher Association (PTA) or similar organization, or attends meetings of the PTA or similar organization.

Control variables. We control for student and family characteristics. Age is continuous, calculated from the student's birth date. Parents' education is highest degree completed by either parent (1 = *did not finish high school*, 6 = *doctoral degree*). Parents in the NELS survey were asked to report family income for the 1987 calendar year using 15 categories, and these categories comprise our measure. (Our measure does not reflect the actual income range within each of the 15 income categories.) Although there is extensive evidence that growing up in an impoverished background leads to early fertility (Stewart, 2003), the 15 income categories do not allow us to develop a sound poverty measure. However, there is some empirical justification for using broader family income categories (Hordon, 1999).

Further justification for our family income measurement approach is that the connection that has been found to exist between socioeconomic conditions and cohabitation is not based on economic disadvantage (Cancian & Reed, 2001). Race/ethnicity is recognized widely as being related to cohabitation (Ellwood & Jencks, 2004) and childbearing outside of marriage (Cherlin, 2005). In this study, student's self-report is used, coded as three dummies: Asian, Black, and Hispanic, with non-Hispanic Whites as the reference category and Native Americans excluded because of their small number. Finally, fertility is known to vary by region (Poston & Hong, 1996), and regional location has been shown to be a predictor of cohabitation attitudes (Bayer & McDonald, 1981). Region is measured here with three dummies: Northeast, South, and West, with Midwest as the reference category.

We include two indices of the teen's school performance, measured contemporaneously with primary ties and community embeddedness. GPA in

eighth grade (in standard deviations) is the value reported by her current or most recent high school. A dummy variable indicates whether she was suspended in the semester before the 1990 interview or, for dropouts, in the semester before her last enrollment. (Few teens had dropped out of school by 1990, and identifying those who had with a dummy variable in the models below had no effect on results.) Girls with little access to social capital may have difficulty in school and in turn have little incentive to avoid choices that may harm their academic performance and much incentive to make choices that could remove them from school (like having a baby—see Moore & Sugland, 1999). If primary ties, community embeddedness, or both still influence later births and cohabitations, even with potential mediating variables like grades and suspensions held constant, then we will have strong evidence for direct social capital effects.

Data Analysis

To test our hypotheses, we constructed two sets of logistic regressions, one predicting nonmaritally conceived births and the other predicting cohabitation. For each of these two dependent variables, we considered three models. The first included control variables. The second added the measures of primary ties. Finally, the third model added measures of community embeddedness to establish whether, as expected, they independently influenced the dependent variables, net of their correlations with control variables and primary ties. We used an estimator designed to account for stratification, oversampling and clustering in the sample design, and comparisons between models are based on adjusted Wald tests rather than log-likelihood ratios, as required with that estimator (see StataCorp, 1997, p. 429).

Results

Table 1 gives estimated population means and standard deviations for all variables. Of the teen girls represented by this sample, 13% gave birth as a result of a nonmarital pregnancy between 1990 and 1994. Just over 9% cohabited with a partner—close to the 8.9% reported elsewhere (Bramlett & Mosher, 2002). As Tables 2 and 3 show, the occurrence of these events depends on access to some of the measured primary ties and community supports.

Nonmaritally Conceived Births

Table 2 reports logistic regressions predicting whether the teen had a nonmaritally conceived birth between 1990 and 1994. The results support the idea that teens with greater access to at least some primary ties and community ties were less likely to have a birth than were their peers without those ties. The first model includes only the control variables. The second model, which adds primary ties, significantly improves on the fit of the first ($p < .001$). The third model, which in turn adds community embeddedness, further improves the fit ($p < .01$). Thus, primary ties and community embeddedness each independently affects the occurrence of births.

Two primary ties significantly affect births: family structure and having good same-sex friends. Compared to teens in two-parent families, those who lived with stepparents were 72% more likely to later have a nonmaritally conceived birth. Teens in single-parent families were twice as likely to have a birth as two-parent teens. Also, each unit increase in the teen's agreement with the statement that she has good same-sex friends is associated with a 13% smaller chance of later having a birth. Of the community embeddedness variables, only attending a religious school reduces the chance of a birth, and it does so by 55%.

Cohabitation

Strong ties to the family, and especially to the community, were associated with lower chances that a teen girl will cohabit. Table 3 reports the results of logistic regressions predicting whether the teen was cohabiting at either the 1992 or 1994 interview. Sequentially adding primary ties then community ties each significantly improves the fit of the simpler model without those variables ($p < .001$ for each of the two sets of variables). Of primary ties, only family structure affects the chance of cohabitation, with teens from stepparent and single-parent households each being 64% more likely to cohabit than teens from two-parent households. Three forms of community embeddedness reduce the chance of a subsequent teen cohabitation. Long-time residents were about three fourths as likely to later cohabit as short-time residents (odds of .77, $p < .05$). Students enrolled in religious schools in 1990 were 40% as likely to later cohabit as those not enrolled in religious schools ($p < .01$), and each unit increase in frequency of religious attendance reduces the chance of cohabitation by a further 13% ($p < .001$).

Table 2. *Odds Ratios for Logistic Regressions Predicting Premaritally Conceived Birth*

Variable	Model 1	Model 2	Model 3
Controls			
Age	1.42***	1.50***	1.49***
Parents' education	0.82**	0.84**	0.87*
Family income	0.92**	0.96	0.96
Ethnicity			
Asian	0.43**	0.45**	0.49*
Black	2.02***	1.77***	1.94***
Hispanic	1.41*	1.51*	1.73**
Region			
Northeast	0.47***	0.52***	0.58**
South	0.73*	0.76	0.82
West	0.88	0.86	0.88
GPA	0.60***	0.63***	0.62***
Suspension	1.78***	1.85***	1.75***
Primary ties			
Extensiveness			
Family structure			
Stepparent		2.03***	1.72**
Single parent		2.01***	2.01***
Ratio of children/adults		1.00	0.97
Same-sex friends		0.88*	0.87**
Activities			
Activities with parents		1.00	1.03
Quality			
Relationship with parents		0.99	0.99
Community embeddedness			
Long-time resident			0.90
Religious school			0.45**
Parent knows parents			0.90
Parent active at school			0.82
Religious attendance			0.97
N	4,837	4,837	4,837
F(22, 4814)			18.98

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

Although religious school enrollment and religious attendance are correlated with religiosity, they are clearly not proxies for it. When we control for religiosity, the effects of these other two variables remain unchanged. The same is true for the effect of religious school enrollment on nonmarital births.

The Influence of Community Embeddedness and Primary Ties

To illustrate the unique impacts of primary and community ties on teen births and cohabitation, Table 4 uses the third regression for each of these variables from Tables 2 and 3 to project the percent of young women expected to give birth or cohabit by 1994, given differing levels of primary ties and community ties in 1990. For each projection, we substitute "dense" or "sparse" ties for individuals' actual values of the community ties or primary ties that have significant effects on the outcome in question. All other variables remain at the observed values. For nonmarital births, sparse primary ties means living in a single-parent household and saying it is "mostly false" that you have good same-sex

Table 3. *Odds Ratios for Logistic Regressions Predicting Cohabitation*

Variable	Model 1	Model 2	Model 3
Controls			
Age	1.09	1.10	1.02
Parents' education	0.76***	0.73***	0.75***
Family income	0.93**	0.97	0.98
Ethnicity			
Asian	0.40**	0.31***	0.32***
Black	0.39***	0.39***	0.49*
Hispanic	0.80	0.87	0.99
Region			
Northeast	0.55**	0.58***	0.60*
South	0.65**	0.67**	0.74
West	1.38	1.43*	1.37
GPA	0.74***	0.79***	0.79***
Suspension	1.66**	1.69**	1.54*
Primary ties			
Extensiveness			
Family structure			
Stepparent		2.07***	1.64**
Single parent		1.97***	1.64**
Ratio of children/adults		0.93	0.90
Same-sex friends		1.02	1.03
Activities			
Activities with parents		0.88	0.89
Quality			
Relationship with parents		0.98	0.98
Community embeddedness			
Long-time resident			0.77*
Religious school			0.40**
Parent knows parents			0.79
Parent active at school			0.89
Religious attendance			0.87***
N	4,837	4,837	4,837
F(22, 4814)			11.58

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

friends (9% of girls). Dense primary ties means living in a two-parent household and saying it is "true" that you have good same-sex friends (38%). Sparse community ties means not attending religious school (93% are in this group). Dense community ties means attending religious school (7%). For cohabitation, sparse primary ties means living in a single-parent household (24%). Dense primary ties means living in a two-parent household (60%). Sparse community ties means not attending religious school, being a short-time resident of your community, and attending religious services only several times a year (14%). Dense community ties means attending religious school, long-time residence, and attending religious services once a week (3%).

The results indicate that both primary ties and community ties have some independent impacts on the chance that a teenage girl will have a nonmaritally conceived birth or cohabit. Broadly speaking, when teenage girls and their families have many ties to their communities and to each other, they are less likely to have a nonmarital birth than when they have few ties. Further, when teenage girls

Table 4. *Percent Expected to Cohabit or Give Birth Because of Premarital Conception, Assuming Differing Levels of Community Embededdness, Primary Ties, or Both*[a]

	Premarital Birth (%)	Cohabitation (%)
All variables distributed as in sample	13.2	9.2
Sparse primary ties	18.2	11.5
Dense primary ties	9.6	7.6
Sparse community ties	13.6	12.4
Dense community ties	7.3	3.0
Sparse primary and community ties	18.8	15.7
Dense primary and community ties	5.0	2.4

[a]Estimates are derived from the regressions presented in Table 2. All variables other than those indicated are distributed as in the sample. See the text for an explanation of the specific assumptions used to derive these estimates.

and their families have sparse ties to their communities and to each other, they are more likely to cohabit than are girls with dense ties. Overall, community ties appear to have a more marked affect on cohabitation than on nonmaritally conceived births.

Discussion

Consistent with Coleman's (1988) finding that adolescents with dense links to their families and communities experience fewer negative outcomes, our results indicate that some measures of community embeddedness and primary ties are associated with lower incidences of subsequent teen cohabitation and nonmaritally conceived births. They add to the previous literature in several ways. First, where past research suggests that social capital residing in primary ties affects teen births, we find that social capital drawn from community ties also matters and that primary ties and community ties each make at least some unique contributions. Second, we explore the influence of community embeddedness and primary ties on teen cohabitation as well as births. Third, our longitudinal analysis demonstrates relationships between social capital and behavioral outcomes over time. This strategy strengthens the case that these relationships are causal.

Although community and primary ties influence teen cohabitation and births overall, the results on specific variables are not uniform. A primary tie (living in a two-parent family) and a community tie (attending religious school) each reduces the chances of both teen cohabitation and teen births. There are three primary ties (ratio of children to adults, activities with parents, and quality of relationship with parents) and two community ties (parent knows friends' parents and parent active at school); however, these do not significantly affect either outcome. Future research, especially on those two community ties, might consider whether unmeasured interactions between community composition and community ties may be masking the effects of the latter.

The fact that several forms of social capital affect cohabitation and births differently is also intriguing. Again, we will only suggest avenues for further research on the causes of these differences. Having good same-sex friends reduces the chance of a birth but not cohabitation. These seemingly inconsistent findings are consistent with the predictions we set forth earlier. As noted, most teens have negative attitudes toward teen parenthood (Moore & Stief, 1991), but about half view teen cohabitation positively (Chadwick & Heaton, 1996). The work to date, including our study, suggests that many teens distinguish between these two nontraditional patterns, nonmarital teen childbearing, and teen cohabitation, and accord them differing levels of tolerance most likely because of the consequences that they associate with them. Tolerance of cohabitation appears less likely to translate into encouragement than intolerance of childbearing to translate into discouragement probably because the strength of teen attitudes toward these two phenomena is not the same. Unfortunately, we have no measure of friends' attitudes about teen cohabitation or births. This lacunae means that we also cannot determine whether the impact of same-sex friendship on childbearing might be confounded with shared religious beliefs stemming from religious school attendance. Future models might examine interactions of these variables.

Two forms of community embeddedness—long-term residence and religious attendance—reduce the chance of cohabiting, but not births. Consider two possible explanations for this. One is that the processes leading to cohabitations and births differ. Entering cohabitation is a unitary process, but giving birth as a result of a nonmarital conception is a two-stage process—the result of first having unprotected sex and, once a pregnancy occurs,

carrying it to term. Dense community ties confer social capital that may decrease the chance a teen will have unprotected sex. Once she is pregnant, though, such ties may increase the chance she will continue the pregnancy (e.g., if community censure for terminating it would be great, or if community ties offer support during a pregnancy). These countervailing effects on the two stages of the process might yield, on balance, the observed null effects on births.

Another reason cohabitation may be sensitive to more kinds of community ties than births is that the contexts of the actions leading to these outcomes differ. Although both *outcomes* are public, and the actions that *initiate* cohabitation are public, the actions that *initiate* pregnancy leading to birth are not. Moving in with a partner is visible to the community, but having sex and deciding to continue a pregnancy are not publicly visible acts. It is also the case that the two events differ in the certainty and immediacy with which the initial actions lead to the outcomes. A teen knows the results of moving in together will be immediately visible; thus, community resources and censure may prevent her from doing so. In contrast, because public sanctions for having sex (or even continuing a pregnancy) are uncertain or remote, her decisions about them may be less subject to influence by community ties. In addition, disapproval of teen actions may be greater for cohabitation than childbearing in some communities. In such settings, negative public sanctions may apply to the *occurrence* of a nonmarital teen pregnancy but not to its *continuation.* Positive support for the latter may be forthcoming as, for example, when a church congregant offers to provide a good job with upward mobility potential to the male partner.

We do not test either possibility, but both have interesting implications for theory and policy, and thus could yield valuable insights with further research. The first possibility suggests that it may be useful to conceptualize social capital as operating not on outcomes like births but on the discrete choices that lead to those outcomes. The second possibility suggests that community embeddedness may have greater influence on actions that are more public and outcomes that are more certain. In policy terms, this could mean that community-based efforts to alter teens' choices may be most effective when they emphasize choices like cohabitation and dropping out of school that are immediate and visible, or when they successfully link ''hidden'' choices like sexual activity to visible symbols or consequences.

Implications for Policy and Practice

The major overarching conclusion of this paper is that social capital reduces teen births and cohabitation. To reduce the likelihood of these experiences, it is essential to strengthen teens' access to social capital. Perhaps the best way to begin this process is to consider what family structure and religious school attendance, two variables that had significant effects on teen births and cohabitation, have in common. The key appears to be interlocking networks of adults that include parents and can provide resources to young people. As noted earlier, living with two biological/adoptive parents means more extensive primary ties to parents' kin and their associated resources than when a teen is living with a single parent or one parent and a stepparent.

Like extended families, religious schools link teens to adult networks that include parents and emphasize stable, multigenerational values. Being connected to these adult networks gives values teeth in that the networks administer rewards for upholding values and penalties for going against them. The range of resources that can be made available through these social relations is extensive. Both extended families and religious schools set a pattern of overall social control that supports dominant values. The values are carried along by these interlocking social relations.

The important implication for program planning, then, is to do whatever can be done to increase intergenerational closure, that is, social relations among multiple adults and children that can serve to encourage stable, multigenerational values and discourage off-time family formation. Ultimately, the effectiveness of values derives from the network of intergenerational relations that can provide resources to young people. So, to the extent that young people are isolated into what is almost exclusively an age-graded teen subculture, the more vulnerable they are to the problematic behaviors of teen cohabitation and nonmarital pregnancy.

Although our findings support the inclusion of parents, extended family, and the larger community in programs designed to prevent teen births and cohabitation, little attention has been directed in

these ways. For example, a review of 19 adolescent sexuality programs found that only one attempted to include the community in its prevention efforts (Meschke, Bartholomae, & Zentall, 2000). It is clear that there is a great gap to fill in this regard.

There are two examples of specific things that might be done to augment social relations among multiple adults and children. One way is through enhancing the role of the extended family by improving the legal status of grandparents so that they might maintain relations with their grandchildren. Although grandparent visitation rights have been expanded in recent decades (all states in the United States have passed laws giving grandparents the right to petition the courts for the privilege of visiting their grandchildren [Purnell & Bagby, 1993]), it is not uncommon for courts to rule in favor of parental rights over those of grandparents (Henderson & Moran, 2001).

Related to our finding that religious school attendance significantly reduced the likelihood of teen births and cohabitation, a second possibility is that greater financial support be provided for these schools so as to make it easier for young people to attend them. Religious schools are often founded and operated by parent-controlled "school societies" and supported by groups of people who hold similar social and cultural views (Vryhof, 2003). Intergenerational social capital also might be developed in charter schools. They are deregulated public schools that allow more authority at the local level, but they, too, are in need of greater financial support (Koppich, 1997).

In conclusion, this research clearly demonstrates the important role that a strong link between families and communities plays in the lives of young people. Families must not be isolated from their community context when carrying out the childrearing function. Increasing social relations between adult networks and children can enhance the likelihood of positive outcomes for teens, including a reduction in the likelihood of nonmarital births and cohabitation. We have seen that connections between multiple adults within the family, on the one hand, and children, on the other, are relevant. However, the community embeddedness of families and teens has an effect net of these primary ties. Family participation in a rich and vibrant community culture can provide extensive social capital for teens and serve to greatly expand the possibilities for their well-being.

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