

**Sexual Intercourse and Pregnancy among African-American Adolescent Girls in
High-Poverty Neighborhoods:
The Role of Family and Perceived Community Environment***

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Abstract

Data are used from a random sample of African-American families living in poor urban communities to address three questions: 1) How well do socialization, supervision, and marital transition hypotheses explain the relationship between family structure and the probability of sexual debut and pregnancy for black adolescents in disadvantaged neighborhoods? 2) How does the quality of the parent-child relationship relate to the probability of initiating sex and experiencing a pregnancy for girls in these neighborhoods? And 3) given a context of structural disadvantage, to what extent is an individual's ability to participate in the more socially organized aspects of her community correlated with delayed sexual activity? There is limited support for socialization, supervision, and marital transition hypotheses as explanations for the probability of sexual debut and pregnancy. Stronger parent-child relationships are associated with delayed sexual onset, but are not related to pregnancy experience. Adolescents' perceptions of social support and cohesion among neighborhood adults are correlated with a decreased probability of pregnancy, while the odds of pregnancy are higher for teenagers with no working adults in their social networks.

Key Words: African-American, adolescent, sexual activity, family structure, neighborhood environment, parent-child relationship

INTRODUCTION

Previous empirical and theoretical work on the antecedents of teenage and non-marital sexual activity has determined that the probability of early first intercourse and pregnancy is significantly higher for women growing up in single-parent households compared to households with two married parents (McLanahan 1988; Thornton 1991; Wu and Martinson 1993; Chase-Lansdale and Brooks-Gunn 1994; McLanahan and Sandefur 1994; Brooks-Gunn and Chase-Lansdale 1995; McElroy and Moore 1997; Wu, Cherlin and Bumpass 1997; Coley and Chase-Lansdale 1998). The rate of sexual debut and pregnancy in adolescence is also higher for girls living in socially and economically disadvantaged families and neighborhoods, with the risk of non-marital pregnancy being highest among African American adolescents in urban neighborhoods characterized by high rates of poverty, social disorganization and social isolation (Hogan and Kitagawa 1985; Crane 1991; Billy, Brewster and Grady 1994; Brewster 1994a; Sucoff and Upchurch 1998).

The fact that disadvantaged black adolescents have a greater likelihood of early sexual activity is of great interest to social scientists, but few have pursued explanations for the variation in sexual behavior that exists *within* this population of at-risk youth. Therefore, while we know these adolescents have a greater probability of early sexual activity compared to adolescents in more advantaged households, we know little about the risk and protective factors of intercourse and pregnancy for children in a similarly disadvantaged environment. Though ethnographic work has provided descriptive accounts of the importance of social support from parents and other adults in poor communities as a strategy for supervising and controlling youth problem behavior (Stack 1974; Jarrett 1997), few recent quantitative studies have empirically examined how well traditional theories on family structure and community environment explain sexual outcomes for youth in impoverished neighborhoods. While some disadvantaged youth become sexually active during adolescence and eventually experience a pregnancy, a significant number abstain from intercourse. Differences in their familial environments as well as variation in their perceptions of and integration with components of their neighborhood may play an important role in differentiating these youth.

To address this research gap, we use data from a random sample of African-American families living in poor urban communities to address three questions related to familial and community processes: 1) How well do socialization, supervision, and marital transition hypotheses explain the relationship between family structure and the probability of sexual debut and pregnancy for disadvantaged female adolescents? These competing theories have been used to explain variation in nationally representative samples of white middle-class youth, but have not been used to explain variation in sexual behavior specifically for black adolescents in high-risk settings. 2) How does the quality of the parent-child relationship relate to the probability of initiating sex and experiencing a pregnancy for girls living in neighborhoods with high rates of social disorganization? And 3) given a context of concentrated poverty, social isolation, and other structural disadvantage, to what extent is an individual's ability to participate in the more socially organized aspects of her community correlated with a reduced likelihood of sexual activity? While many studies compare rates of teenage sexual activity or other problem behaviors across neighborhoods with different levels of social organization and community cohesion (Hogan and Kitagawa 1985; Crane 1991; Brewster 1994a, Sampson, Raudenbush and

Earls 1997), our study examines how a teenager's perception of social cohesion and non-work among community adults is related to her behavior. Adolescents in impoverished neighborhoods who are able to participate in the more cohesive and supportive aspects of their environment may also be less likely to initiate early sexual activity.

THEORETICAL APPROACHES

Familial influences on adolescent sexuality

Family structure

Investigations in this area have generally supported one or more of three major explanations for the relationship between family structure and adolescent sexual behavior: socialization or modeling hypotheses, supervision and monitoring hypotheses, and/or marital transition hypotheses. *Socialization hypotheses* suggest that parents socialize their children for appropriate sexual behavior through norms they teach and by acting as roles of marital or non-marital sexual behavior (Inazu and Fox 1980; McLanahan 1988; Burton, Obeidallah, and Allison 1996). Researchers contend that adolescents in unmarried households witness their parent's dating or cohabiting relationships at the same time they are learning to deal with their own romantic relationships, and may model their own patterns of sexual activity after that of a parent. Thornton and Camburn (1987) found this socialization process operating through more lenient attitudes towards premarital sexual activity expressed by the children of divorced and remarried mothers. *Supervision and monitoring hypotheses* contend that the ability of adolescents to engage in sexual activity is in large part due to the level of supervision they receive in the home. Because two parents are more able than one parent to monitor the actions of their children, adolescents raised in two-parent families are less likely to become sexually active because they lack the opportunity to do so (Hogan and Kitagawa 1985; Thomson, McLanahan and Curtin 1992; Thompson, Hanson and McLanahan 1994; McLanahan and Sandefur 1994). *Marital transition hypotheses* suggest that the negative effect of single-parent households on early sexual activity is due to the instability brought on by marital disruption (Coleman and Ganong 1992; Wu and Martinson 1993; Moore, Morrison and Gleib 1995). From this perspective, family transitions such as divorce and remarriage adversely affect the psychological and social development of children and can also reduce the extent to which the child deems the parent dependable. The resulting instability in the household can hasten the adolescent's assumption of adult roles, including that of mother (Chase-Lansdale and Hetherington 1990; Hetherington and Clingempeel 1992; Hetherington, Bridges and Isabella 1998).

In the context of disadvantaged urban households, there are possible contingencies to supervision and marital transition hypotheses. With respect to supervision and monitoring hypotheses, one would expect to see a lower likelihood of sexual activity for adolescents living in a household with more than one parental figure because of the potential for greater adult supervision. However, we reason that the amount of monitoring provided by household adults may depend on their relationship to the adolescent. Compared to a married partner, a cohabiting partner might not exert the same level of authority and stability in the home and may have a less active role in childrearing, thereby exerting less influence on adolescent behavior (Waite and Gallagher forthcoming). Research has shown that children in married households receive more

supervision than children in single-parent households (Hogan and Kitagawa 1985), and work by Thomson, McLanahan and Curtin (1992) suggests that children in cohabiting households spend less time eating meals with their parents and are more likely than children of married and single-mothers to be left home alone. Despite the presence of two parental figures in the home, teenagers in cohabiting households may not receive the same amount of time and attention as children living with two married parents. Furthermore, as socialization hypotheses suggest, cohabiting households represent models of non-marital sexual behavior, which would eliminate the benefit of the additional adult as a protective factor against unmarried sexual activity.

Within disadvantaged urban households, the effect of marital transitions on female adolescent outcomes may be contingent on the race and socioeconomic status of the adolescent, as well as the nature of the marital transition. First, while the overwhelming body of work examining the effect of marital transitions suggests greater adjustment problems for white children in stepfamilies (e.g. Kiernen 1992; McLanahan and Sandefur 1994; Hetherington, et al 1998), some research examining this relationship separately by race has reported no negative effect on the risk of a premarital birth for African American females in stepfamily households (McLanahan and Bumpass 1988; Wu and Martinson 1993). For example, analyzing the PSID and NSFH, McLanahan and Sandefur find that young black women in stepfamilies have no greater risk of teenage birth than their counterparts living with two married biological parents, and a significantly lower risk compared to adolescents raised in single-mother families (1994: 76-78). Possible explanations for race differences in the sexual outcomes of adolescents in stepfamily households have not yet been fully explored.

Second, the effect of marital transitions on adolescent sexual behavior may be contingent on the nature of the marital transition itself. Arguments regarding the negative effects of marital transitions assume that the evolution of a stepfamily begins with a married biological mother and father present in the household followed by a marital disruption and subsequent remarriage (Mott 1990; Amato 1994; Chase-Lansdale, Cherlin and Kiernan 1995). This trajectory may not be accurate for families in which a marriage between a parent and a stepparent is a *first* marriage rather than a remarriage. The latter type of marital transition is an experience both theoretically and empirically distinct from the transition to a divorced single-parent family or remarried stepfamily, though families formed in this way can be difficult to detect in standard research designs. In stepfamilies where, after a non-marital birth, the first marriage occurs to someone who is not the child's biological father, this new parent may not be replacing a biological parent in the household because the previous household structure may never have included two biological parents, though recent work has found that the level of father involvement in non-marital black households is high when children are infants and toddlers (Coley and Chase-Lansdale forthcoming). Consequently, the instability commonly associated with a divorce may never have occurred and the adult relationship instability associated with non-marital childrearing may involve other processes. If problems associated with marital transitions are not present, as may be the case for some stepfamilies in disadvantaged black communities, many of the assumptions regarding the problematic nature of a stepparent household may not be warranted.

In the case of disadvantaged and African American families, the likelihood is greater that a marriage to a stepparent will be a first marriage rather than a remarriage, since non-marital birth rates tend to be higher for these groups (Bumpass and McLanahan 1989; Moore 1995;

Tucker and Mitchell-Kernan 1996; Taylor, et al. 1997).¹ A principal component of the marital transition hypothesis is that marital instability increases the likelihood of adolescent sexual onset through decreased supervision of children, household economic instability, and socialization towards non-marital sexual activity. What most research has not considered is that for disadvantaged populations, transitioning from a never married to married state may positively influence the behavior of children through *increased* parental supervision, economic stability, and models of marital sexual behavior.

Parent-child relationship

Although the traditional sociological approach to the study of familial influences on adolescent outcomes has focused on the more structural features of the family such as size, parental education and marital status, the importance of family process, expressed through the *quality of the parent-child relationship*, also has a significant influence on children's behavior (Astone and McLanahan 1991; Resnick, et al. 1997; Chase-Lansdale, et al., 1999). The evidence suggests that closer mother-daughter relationships are associated with delayed sexual debut (Jessor and Jessor 1975; Inazu and Fox 1980; Zelnik, Kantner and Ford 1981), but not pregnancy experience (Resnick, et al. 1997). Stronger relationships and high levels of parental support and warmth create stable emotional contexts in the home that may reduce the adolescent's desire to seek alternative intimate relationships. However, the decision to initiate or delay sexual activity comes as a result of a set of processes that are qualitatively different from the processes involved in avoiding a pregnancy once the teen has become sexually experienced. If a parent is initially disapproving of the teenager's decision to initiate sex, the emotional closeness between parent and child may be reduced, resulting in distance, conflict, or lack of communication in that relationship. In the context of disadvantaged neighborhoods, few researchers have examined how the quality of the parent-child relationship might act as a protective factor against negative influences in the community.

Neighborhood context and perceived community environment

Wilson's 1987 and 1996 research regarding the link between the structural constraints of disadvantaged neighborhoods and problem behavior within those communities has resulted in considerable research throughout the 1990s that documents the effect of neighborhood characteristics and contexts on a variety of problem behaviors and family-related events, including adolescent initiation of sexual intercourse and non-marital pregnancy (Crane 1991; Billy, Brewster and Grady 1994; Brooks-Gunn, et al. 1993; Brewster 1994a, 1994b; Brooks-Gunn, Duncan and Aber 1997; Sucoff and Upchurch 1998). Most work in this area has found that differences in the aggregated socioeconomic characteristics of individuals explain a large part of the variation in rates of problem behaviors across communities. Neighborhoods with high levels of concentrated poverty create conditions that isolate residents from mainstream society, are more likely to offer adult models of non-work and behavior such as unmarried

¹ Mott (1990) reports that 32% of black children compared to 87% of non-black children in the NLSY born between 1979 and 1983 were living with two biological parents at the time of birth. Other studies have produced similar findings (Wojtkiewicz 1992; Bumpass and Raley 1995).

childbearing, and provide lower levels of community social organization (Wilson 1987, 1996; Sampson and Groves 1989).

However, units of socially cohesive neighbors can exert informal social control over residents, which may reduce the opportunity for criminal activity and other problem behaviors to occur (Sampson, Raudenbush and Earls 1997; Sampson, Morenoff and Earls forthcoming). They may also provide what Sampson and colleagues (forthcoming) define as “intergenerational closure,” or the linking of children and community adults. Disadvantaged communities have less intergenerational closure and social support between residents, and fewer organized networks of competent and working adults because of the social isolation, criminal activity, and generally high levels of distrust felt among neighbors (Furstenberg 1991; Sampson and Wilson 1995). Nevertheless, to the extent that smaller cohesive and stable networks do exist throughout larger disadvantaged communities, it follows that the adults who participate in them, as well as the youths who are the recipients of the social control residents exert, may behave in more socially organized ways compared to others in the larger neighborhood who are not part of these locality-based formal and informal groups. As children grow older and spend less time in the home, the level of direct supervision decreases and peers exert an increasing influence on adolescent behavior through their attitudes and behaviors (Whitbeck, Conger and Kao 1993). In this context, indirect monitoring by adults outside of the household becomes increasingly important. Community adults are in a position to participate in this indirect supervision, so the extent and nature of their interactions with youth are especially important, given the higher levels of neighborhood social disorganization. Adolescents who are able to turn to adults outside the family for social support might also be more likely to receive the advice and direction needed to help avoid a pregnancy. Therefore, families who create and participate in more socially organized systems within the larger neighborhood, and who involve their children in these groups, may reduce the occurrence of teenage sexual activity and other problem behavior.

Sampson has hypothesized that community social cohesion and collective efficacy may mediate the effects of concentrated disadvantage on violence and delinquent behaviors in poverty neighborhoods (Sampson 1991; Sampson, et al.1997). However, findings of the association between fertility-related behavior and neighborhood context are often operationalized at the macro-level, using census tracts or standard metropolitan statistical areas as the unit of analysis. This obscures the influence of more proximate community contexts and relationships on individual behavior. Instead, we approach the relationship between neighborhood disadvantage and individual behavior by examining the extent to which differences in an individual’s perception of their neighborhood environment can act as a protective factor against early sexual activity and pregnancy. We argue that adolescents in poverty neighborhoods who perceive greater levels of adult social support and community cohesion, who know and interact with adults acting as models of work, and who generally participate in more socially organized aspects of their communities may be less likely to experience early sexual activity.

In sum, we examine aspects of family and community environment to better understand group variation in sexual outcomes among African American female adolescents in disadvantaged urban communities. Specifically, we test socialization, supervision, and marital transition hypotheses to explain why some adolescents in these communities become sexually active and others refrain from teenage sexual behavior. We also explore how parent-child relationships relate to teenage sexual activity. Moreover, the role of community influences on

adolescent sexual behavior is assessed through perceived neighborhood social support, positive peer influences, and the economic instability of adults in the adolescent's social network.

DATA AND METHODS

The data are drawn from the "Families in Communities Study," a cross-sectional survey study of the well-being of African-American families with adolescent daughters in three high-poverty neighborhoods on the south side of Chicago. The study assesses the role of psychological, economic and community resources in promoting healthy development among African-American adolescent girls facing risks associated with growing up in high-poverty neighborhoods. Respondents were African-American adolescent girls ages 15 to 18 and their primary caregivers. The data were gathered from June through December of 1996, and consist of separate face-to-face 75 minute interviews with the teenager and primary caregiver, (usually the mother), and a self-administered paper-and-pencil questionnaire (SAQ) for the teen, which was completed and mailed back by the adolescent.²

A randomized block quota technique was used for selecting target households. Of the 41 census blocks that comprise the three neighborhoods, 18 were randomly selected for the study with probability proportional to the size of the African-American female population age 15-18 (according to 1990 U.S. Census figures). Although a block quota technique using 1990 Census figures was planned as a guide to ensure a dispersion of sample cases within the study area, it soon became apparent that the 1990 Census data were not reliable for some study areas because many families had moved out of these neighborhoods, and many buildings were vacant. A door-to-door enumeration of households and qualified respondents in the randomly chosen 18 census blocks yielded 491 qualified households. Four percent of families refused to participate, while 62% of teenager/mother pairs completed interviews. Thirty-four percent of cases were not interviewed prior to completion of fielding due to teenager or caregiver unavailability (these included cases in which no one was at home, where an appointment was made but then broken and not rescheduled prior to the completion of the fielding, or where the family was not needed to meet the target of 300 cases). This paper analyzes the responses of the 289 cases with complete information on all of the variables used in the analyses.³

The sample is drawn from the North Kenwood, Oakland, and Woodlawn community-areas in Chicago. The 1990 U.S. Census of Population and Housing indicate that all three are socially and economically disadvantaged and suffer high rates of social disorganization.⁴ The social dislocations experienced by the families in the study sample closely match the community characteristics at the aggregate levels, with similar numbers of female-headed households,

² Caregivers and teenagers were each paid \$20 for the interview, and the teen received an additional \$10 upon receipt of the SAQ.

³ Thirteen cases are omitted because of missing data. No significant differences were found on any background characteristics or patterns of sexual activity between respondents in this sample and respondents with missing data.

⁴ Detailed information on community characteristics can be found in the 1990 *Local Community Fact Book, Chicago Metropolitan Area*.

median incomes,⁵ middle- and upper-income families, and levels of high school completion.⁶ Given the lack of significant differences in the covariates reported by community area, this investigation will focus on the adolescents in this study as one group rather than as separate residents of three low-income community areas.⁷ They will be analyzed as a group of adolescent females from low-income urban neighborhoods who share a continuum of community characteristics.

Measures

A dichotomous variable for sexual debut was created based on the response to the following: “How old were you when you first had sexual intercourse? By intercourse, I mean sex, vaginal intercourse, not just touching or fooling around.” A second dichotomous variable was created based on the answer to the question “Have you ever been pregnant?”⁸ Two indicator variables for mother’s marital status are used to test the supervision and monitoring hypothesis and the socialization hypothesis: currently *married* and currently *cohabiting*. The reference category is single mother.⁹ To test the marital transition hypothesis, two indicator variables replace the single-parent variable by measuring whether a mother has never married or is single through a marital disruption. In addition, two dummy variables indicate the presence of two married biological parents or the presence of a stepparent in a married household. *Quality of parent-child relationship* is assessed by summing and averaging 12 items from the Inventory of Parent and Peer Attachment (Armsden and Greenberg 1987), which measures degree of mutual trust, quality of communication, and extent of anger and alienation felt by the daughter towards

⁵ The reported median family incomes for the sample are similar to the median household incomes reported to the 1990 Census, although the adjusted income measure provides a more conservative estimate of family poverty. The adjusted income measure is calculated by incorporating imputed income for adults in the household for which income data was not known or omitted by the respondents. The adjusted income measure is used throughout the rest of these analyses.

⁶ A multivariate analysis of variance (MANOVA, with the three community areas as independent variables and all background variables as dependent variables) was significant, $F(2,286) = 2.60, p \leq .001$, but revealed the following univariate differences: families from Woodlawn have higher income to needs ratios, North Kenwood contains fewer married households, and Oakland youths report higher levels of neighbor support and more positive peer influences. These variables are controlled for in regression results. Much of the variance between these population and sample characteristics is due to the requirement of this study that the family sampled include at least one adolescent child, while the Census data are gathered for the community populations as a whole, and incorporate all types of household and individuals into its demographic outline.

⁷ Separate multivariate analyses find few differences by community area, and specific community residence is controlled in all models.

⁸ All 289 respondents are included in this measure, including virgins. This investigation is not the first to incorporate the entire sample into a dichotomous measure for pregnancy experience. Previous research on the effects of neighborhood environment on sexual outcomes has examined adolescents living in disadvantaged neighborhoods and their risk for early pregnancy as a group that all faces similar risk. For two other examples, see Crane (1991) and Hogan and Kitagawa (1985). Separate analyses estimating the odds of pregnancy for the non-virgin sample are reported in Appendix A.

⁹ In 14% of the sample the mother interviewed was not the teenager’s biological parent but a mother-figure. The majority of these mother figures were grandmothers, sisters or aunts to the respondents. Whether or not a mother is a surrogate mother is also controlled in the analyses.

her parent. These dimensions are expressed through responses coded 1 to 5 ("never" to "always") to statements like the following:

- "I like to get my mother's point of view on things I'm concerned about."
- "I trust my mother."
- "My mother doesn't understand what I'm going through these days."
- "Talking over my problems with my mother makes me feel ashamed or foolish."

Items like the third and fourth are reverse coded, so that higher scores indicate more positive parent-teen relationships.¹⁰ (Cronbach's alpha = .85.)

Neighbor social support and community cohesion is measured by summing and averaging three items from the perceived quality of neighborhood scale (Korbin and Coulton 1994). Individuals were asked the extent to which they agreed to the following statements: "People in the neighborhood help each other out when there's trouble," "People in the neighborhood watch out for each other's children," and "A lot of people in the neighborhood know each other." Higher scores indicate greater community support. (Cronbach's alpha = .63.) A measure of *positive peer influences* asks respondents about the current and future projected behaviors of their friends by using a five point Likert-type scale that asked how many of their friends had dropped out of school, been involved with drugs or gangs, and were doing well in school (coded 1 "none" to 5 "all"). They were also asked to project how many of their friends will go to college and have good jobs as adults. The first two items were reverse coded, then all items were averaged so that higher scores indicate more positive peer influences. (Cronbach's alpha = .82.) Finally, respondents were asked to identify five adults they knew outside of their household and were asked whether each of these people received welfare. Variation in the quality of adolescent adult social networks is measured through the *proportion of adults in the teen's social network who received welfare*, which assesses the economic instability of adults who can act as agents of socialization, and proxies labor force attachment of these adults.

Age, age at menarche, and academic performance are included as controls for individual differences. To measure academic performance, respondents were asked for the grades received during their most recent full semester or grading period in school, coded from 1 "mostly F's," to 9 "mostly A's".¹¹ Higher scores indicate higher academic functioning. The following family background characteristics are also introduced as control variables: *proportion of respondent's life that her mother received welfare, household income to needs ratio*,¹² and *mother's educational attainment* (measured in years).

¹⁰ One-third of respondents did not identify a father or father-figure, so only the mother-daughter relationship is used in these analyses.

¹¹ Although it can be argued that teens who became pregnant before leaving school suffered lower grades as a result of their pregnancies, no significant differences in grades were reported by pregnancy experience.

¹² The income to needs ratio was computed by dividing the total household yearly income by the government identified poverty line for a given household size. A ratio of one means the family is living at poverty level. An initial ratio was computed based on the caregiver's report of total household income. For a more accurate estimate of household income and a more conservative estimate of family poverty, imputed income equal to the mean value of an individual with similar characteristics was added to the household income for adults listed on the

RESULTS

Despite the fact that all respondents live in highly disadvantaged communities, the sample shows considerable variation in sexual experience. Table 1 presents summary statistics for the variables used in our analyses. Fifty-five percent of the sample have initiated intercourse and 27% have experienced a pregnancy.¹³ The mean age of respondents is 16.2 years, with abstaining youth about one year younger than teenagers who have initiated sex or experienced a pregnancy (data not shown).

household roster with missing income values. On average, the imputed household income raised the reported yearly income estimate by \$2,000, and this measure is used in these analyses.

¹³ The proportion of non-virgin adolescents in our sample is similar to the proportion of sexually active youth in Wave I of the National Longitudinal Study of Adolescent Health. In that sample, 45% of African American female adolescents had initiated intercourse and 24% had experienced a pregnancy.

Table 1. Means and Standard Deviations for Sample (N=289).

	Mean	Standard Deviation
<i>Sexual Experience</i>		
Initiated Intercourse	.55	
Experienced a Pregnancy	.27	
<i>Individual Background</i>		
Age (years)	16.23	1.10
Age at Menarche (years)	12.26	1.37
Academic Performance (1-9 scale)	6.12	1.59
<i>Family Background</i>		
Mother's Education (years)	11.86	1.98
Income-Needs Ratio	1.01	.81
Family Welfare Receipt (as proportion of teen's life)	.50	.40
<i>Family Structure (proportion of sample)</i>		
Married	.16	
Cohabiting	.20	
Single-Parent	.64	
<i>Elaborated Family Structure Categorizations</i>		
Married Biological Parents	.09	
Stepfamily	.05	
Two Non-Biological Parents	.02	
Cohabiting	.20	
Never Married Single-Parent	.39	
Maritally-Disrupted Single-Parent	.25	
<i>Parental Support and Closeness</i>		
Quality of Mother-Daughter Relationship (1-5 scale)	3.89	.67
<i>Perceived Community Environment</i>		
Perceived Neighbor Social Support (1-4 scale)	2.72	.63
Positive Peer Influences (1-4 scale)	3.31	.80
Proportion of Adult Network Receiving Welfare	.17	.23

Half of the households in this sample are living below poverty level (data not shown), and on average, respondents have lived in welfare households for half of their lives.¹⁴ Only 16% of the sample live in households with two married parents: 9% of families contain both of the respondent's natural parents, 5% are stepfamilies, and 2% are non-biological parents.¹⁵ Half of the stepfamilies are first marriages for the biological parent (data not shown). Twenty percent

¹⁴ The percentage of families living below the poverty line mirrors the sample of families living in underclass black neighborhoods in the 1989 PSID file and geocoded dataset (Sucoff and Upchurch 1998).

¹⁵ Only one of the stepfamilies consists of a biological father and stepmother. Four married households contain no biological parent.

of households consist of a parent and her cohabiting partner,¹⁶ while almost two-thirds of the respondents live in single-mother households. Among single-mother households, approximately 61% consist of never married mothers, and 39% are maritally disrupted through divorce, separation or death.

In Table 2 we examine descriptives by adolescent sexual experience, comparing bivariate associations of girls who abstained with those who initiated sex, as well as never pregnant and ever pregnant respondents. Girls who initiated sex and experienced a pregnancy are significantly less likely to be living in married households, and report more distant, less communicative, and more alienating mother-daughter relationships. In addition, they perceive less social support from neighbors, report less positive peer influences, and name a higher proportion of adults in their social networks on welfare. While there is some variability in parental education and welfare receipt among this population of socioeconomically disadvantaged families, mother's education and welfare use are not significantly associated with either sexual outcome, although family income is lower in households where the adolescent has experienced a pregnancy and marginally lower in households where the adolescent has initiated intercourse.

Table 2. Means and Standard Deviations for Variables in the Analysis by Initiation of Intercourse and Pregnancy Experience.

	Abstained (N=130)	Initiated Sex (N=159)	Never Pregnant (N=213)	Ever Pregnant (N=77)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<i>Individual Factors</i>				
Age	15.72 (.84)	16.64*** (1.10)	16.00 (1.03)	16.84*** (1.06)
Age at Menarche	12.30 (1.28)	12.22 (1.44)	12.20 (1.31)	12.16 (1.54)
Academic Performance	6.48 (1.30)	5.82*** (1.74)	6.15 (1.50)	6.03 (1.82)
<i>Family Background</i>				
Mother's Education	12.05 (2.19)	11.70 (1.79)	11.88 (2.14)	11.79 (1.46)
Income-Needs Ratio	1.11 (.89)	.93 ⁺ (.73)	1.10 (.85)	.77** (.63)
Family Welfare Receipt	.49 (.41)	.51 (.39)	.49 (.40)	.53 (.39)
<i>Family Structure</i>				

¹⁶ One of the cohabiting households consists of a biological father and his female partner.

% Married	23.10	9.40***	19.80	3.90***
% Cohabiting	16.90	22.60	21.70	15.60
% Single	60.00	67.90	58.50	80.50***
<i>Parental Support & Closeness</i>				
Quality of Mother-Daughter Relationship	4.07 (.54)	3.75*** (.73)	3.96 (.63)	3.73* (.74)
<i>Perceived Community Environment</i>				
Perceived Neighbor Social Support	2.81 (.63)	2.65* (.63)	2.77 (.65)	2.58* (.55)
Positive Peer Influences	3.47 (.87)	3.18** (.72)	3.39 (.81)	3.07** (.73)
Proportion of Social Network Receiving Welfare	.13 (.21)	.21** (.24)	.14 (.21)	.25*** (.25)

⁺ p≤.10 * p≤.05 ** p≤.01 *** p≤.001 (two-tailed tests)

To estimate the probability of both sexual outcomes holding constant individual and family background characteristics, we use multivariate logistic regression. The coefficients have been exponentiated to represent effects on odds (odds = $\exp^{(b)}$). These odds-ratios represent the change in odds per unit change in a given independent variable. An odds-ratio less than one indicates a lower risk of the outcome occurring.

Table 3 presents the results of the logistic regression predicting initiation of intercourse. In Model A, the baseline model, we find that the probability of having initiated intercourse increases significantly with age, and decreases with better academic performance. The odds of sexual debut are not significantly related to mother's education, family income, or family welfare receipt. However, the risk of intercourse in this model is significantly lower for girls in married compared to single-parent households, and significantly higher for girls in cohabiting versus married households ($p \leq .01$). In Model B, the parental support and closeness measure is a significant addition to the baseline model (change in $-2LL = 15.528$ with 9 *df*, $p \leq .001$), and shows that more positive mother-daughter relationships are associated with a lower probability of sexual onset. Model C replaces the measure of parental support with three community variables, but only perceived neighbor social support is related to sexual debut at trend level. The final model tests the relative importance of family process and perceived community environment, and finds support for socialization hypotheses, while also suggesting the importance of the parent-child relationship for sexual debut. Controlling for other individual background and socioeconomic conditions, the odds of sexual onset are 62% lower for teenagers living in a married versus single-mother household, and about 51% greater for youth in a cohabiting versus single-mother household.¹⁷ The risk of initiating intercourse is also

¹⁷ When the risk of sexual debut is calculated for respondents living in a married compared to cohabiting household, the odds of initiating sex are 4.3 times greater for girls in cohabiting households.

significantly lower for daughters with close and communicative mother-daughter relationships.^{18,19} However, sexual debut is not significantly related to any of the variables measuring perceived community environment.

Table 3. Odds-Ratios for Logistic Regressions Predicting **Initiation of Intercourse** from Individual, Family and Community Characteristics.

Independent Variables	Model A	Model B	Model C	Model D
<i>Individual Factors</i>				
Age	2.81***	2.93***	2.68***	2.83***
Age at Menarche	.79*	.85	.80*	.85
Academic Performance	.68***	.72***	.71***	.74***
<i>Family Background</i>				
Mother's Education	1.00	.98	.99	.98
Income-Needs Ratio	.81	.80	.84	.82
Family Welfare Receipt	1.05	1.03	.93	.92
<i>Family Structure</i>				
Single-Reference				
Married	.42*	.38*	.43*	.38*
Cohabiting	1.55	1.51	1.54	1.51
<i>Parental Support and Closeness</i>				
Quality of Mother-Daughter Relationship	—	.39***	—	.41***
<i>Perceived Community Environment</i>				
Perceived Neighbor Social Support	—	—	.67+	.72

¹⁸When the mother's report of the parent-child relationship is substituted for the daughter's report, it is still significant correlate of sexual debut at $p \leq .01$. This substitution also increases the statistical significance of pubertal age to $p \leq .05$.

¹⁹An interaction between family structure and closeness of the parent-child bond was not statistically significant.

Positive Peer Influences	—	—	.81	.92
Proportion of Adult Social Network Receiving Welfare	—	—	2.61	2.53
Constant	-10.95	-8.95	-8.86	-7.63
-2LL	310.88***	295.35***	304.27***	291.55***
Degrees of Freedom	8	9	11	12
Change in Model Chi-Square		15.53***	6.61+	12.71***
+ p≤ .10	* p≤ .05	**p≤ .01	***p≤ .001	(two-tailed tests)

Table 4 presents four models estimating the odds of having experienced a pregnancy. Older teens are much more likely to have initiated sex and experienced a pregnancy, with conception occurring, on average, about three months after first intercourse. Age at sexual onset is important because it affects the context in which sexual activity occurs, the length of time an adolescent is exposed to sex, and the likelihood of pregnancy, since younger teens are less likely to use contraception and the probability of pregnancy increases with increased sexual exposure (Zelnik, Kantner and Ford 1981). Girls with early pubertal maturation are more likely to have experienced a pregnancy. Early maturers also report more negative mother-daughter relationships (data not shown), a finding consistent with recent work by Graber and Brooks-Gunn (1997) on Caucasian middle- and upper-middle class adolescents.²⁰ Better academic performance was related to sexual debut, but is not significantly associated with pregnancy experience, a finding similar to the Resnick and colleagues' (1997) results using the Add Health Data. Our preliminary findings suggest a need for further research on the interrelationships among pubertal timing, parent-child interactions, and sexual onset for adolescents in general (and for youth in high-risk populations in particular.)

Controlling for individual factors and family background in Model A, adolescents living in married households have a reduced risk of pregnancy. Model B adds to the base model the parent-child relationship, which is only correlated with pregnancy experience at trend level. Model C replaces parental support with the three community variables, all of which are significantly associated with the probability of having experienced a pregnancy. Net of individual and family background, the odds of a pregnancy are reduced as perceived neighbor social support and positive peer influences increase. The risk of pregnancy increases as the proportion of welfare recipients in the adolescent's social network increases.

Model D incorporates all of the individual, family, and perceived community influences. Neither socialization nor supervision hypotheses explain the risk of pregnancy for the adolescents in this sample.²¹ Although the probability of a pregnancy is lower for teenagers in

²⁰ In the Graber and Brooks-Gunn sample, early pubertal development was associated with increased mother-daughter conflict through both the adolescent's and the parent's response to the physical and emotional changes accompanying puberty.

²¹ It is possible that family income is significantly associated with pregnancy experience because of the lower income to needs ratio as a result of the additional person in the household from the teen's birth. When the household income to needs ratio is re-estimated without including the presence of the respondent's child, the income to needs ratio no longer approaches trend level and is not significant.

both married and cohabiting households, the odds of a pregnancy are only significantly lower for respondents whose mothers are married.²² The odds of having experienced a pregnancy are not significantly related to the quality of the mother-daughter relationship, though the probability is significantly lower for girls who perceive high levels of neighbor social support and community cohesion, who have more positive peer friendships, and who report fewer welfare recipients in their social networks. Taken together, these results suggest that the presence of two married parents, an absence of non-working adults,²³ the presence of positive peer influences, and perceptions of cohesion among community adults are associated with a reduced likelihood of pregnancy for the adolescents in this sample.²⁴

Table 4. Odds-Ratios for Logistic Regressions **Predicting Pregnancy** from Individual, Family and Community Characteristics.

Independent Variables	Model A	Model B	Model C	Model D
<i>Individual Factors</i>				
Age	2.19***	2.16***	2.08***	2.07***
Age at Menarche	.83+	.86	.80+	.83+
Academic Performance	.91	.93	.95	.98
<i>Family Background</i>				
Mother's Education	1.12	1.13	1.13	1.14
Income-Needs Ratio	.55*	.55*	.57+	.57+
Family Welfare Receipt	1.25	1.22	1.13	1.00
<i>Family Structure</i>				
Single-Reference				

²²The mother's report of the quality of the parent-child relationship is correlated with pregnancy experience at trend level, and increases the significance of the association between pubertal age and living in a married household on the odds of experiencing a pregnancy.

²³ Only two percent of adults in the adolescent's social network who receive welfare are also working.

²⁴ When attention is restricted to the 159 non-virgins in the sample, similar family and community correlates of pregnancy exist, though the relationships using this reduced sample are not as strong. See Appendix A.

Married	.18*	.19*	.20*	.21*
Cohabiting	.65	.63	.68	.67
<i>Parental Support and Closeness</i>				
Quality of Mother-Daughter Relationship	—	.64+	—	.71
<i>Perceived Community Environment</i>				
Perceived Neighbor Social Support	—	—	.63+	.65+
Positive Peer Influences	—	—	.66+	.69+
Proportion of Adult Social Network Receiving Welfare	—	—	5.00*	4.92*
Constant	-11.65	-10.33	-8.55	-7.86
-2LL	276.29***	272.37***	262.60***	260.50***
Degrees of Freedom	8	9	11	12
Change in Model Chi-Square		3.83+	13.59**	2.11
+ p≤ .10	* p≤ .05	**p≤ .01	***p≤ .001	(two-tailed tests)

A closer look at family structure

In a more detailed analysis of the association between household structure and adolescent sexual behavior, we test the hypothesis that the negative association between living in a single-parent household and early sexual activity is due to a marital transition first by distinguishing between never married and maritally-disrupted single-parent families. We would expect the risk of sexual activity to be highest for teenagers living in maritally disrupted households, and the first panel in Table 5 supports this hypothesis. Respondents in maritally-disrupted single-parent households have a probability of initiating sex that is 2.8 times greater than the probability for females in married households, and a probability of pregnancy that is almost 6 times greater. The probability of a pregnancy is also significantly higher for teenagers living in maritally-disrupted homes compared to teenagers in never-married single parent households ($p < .05$).²⁵

²⁵ When attention is restricted to non-virgins in the sample, the association between pregnancy and these same household structures operates in a similar way as it does with the full sample. Compared to adolescents in married households, the odds of pregnancy for sexually experienced youth are two times greater for respondents in never married households and five times greater for teenagers in maritally-disrupted homes. In analyses not presented, it was shown that the odds of a pregnancy are also significantly higher for teenagers in maritally disrupted homes compared to youth in cohabiting households, and marginally higher compared to adolescents in never-married households. See Appendix B.

The second panel in Table 5 tests the hypothesis that living in a stepfamily household is associated with increased adolescent problem behavior by dividing married households into those with two biological parents and those that are stepfamilies. The odds of initiating intercourse are 92% lower for daughters in a stepfamily compared to daughters of a single-parent, and also significantly lower compared to teenagers in all other household structures. While not statistically significant, the odds of pregnancy are 81% and 71% lower when in a home with a stepfamily and two biological parents, respectively, indicating the protective influence of living in any married household, including a stepfamily household, on female adolescent sexual behavior.

Table 5. Odds-Ratios for Two Full Model Logistic Regressions Predicting Initiation of Intercourse and Pregnancy Experience using Alternative Household Structure Measures.^a

Family Structure	Full Model Initiation of Intercourse	Full Model Predicting a Pregnancy
<i>Test of Marital Disruption Hypothesis</i>		
Married - Reference		
Cohabiting	3.29*	2.40
Single-Parent Never Married	1.89	2.78+
Single-Parent Maritally-Disrupted	2.84*	5.80**
<i>Test of Stepfamily Hypothesis</i>		
Single - Reference		
Married Biological Parents	.75	.29
Stepfamily	.08**	.179
Cohabiting	1.36	.70
Other	1.79	.00
+p≤.10	* p≤ .05	**p≤ .01 (two-tailed tests)

^a These models control for age, age at menarche, academic performance, mother's education, income-needs ratio, family welfare receipt, quality of mother-daughter relationship, perceived neighbor social support, peer influences, and proportion of adult social network receiving welfare.

SUMMARY AND DISCUSSION

An important goal of this study was to examine the relationship between the family environment and adolescent sexual activity within a context of structural disadvantage. Our first question asked how well socialization, supervision, and marital transition hypotheses explain the relationship between family structure and the probability of sexual debut and pregnancy for disadvantaged female adolescents. In general, we found limited support for each of the three hypotheses, with support contingent on the particular sexual outcome defined.

In order for the socialization hypothesis to work well for both outcomes, we would expect to see a significant increase in the odds of sexual debut and pregnancy among adolescents in single-parent and cohabiting households, as these households represent models of non-marital

sexual behavior. While we found that teenagers in single-parent families have a higher odds of experiencing both sexual outcomes compared to those in married families, adolescents in cohabiting households were not found to have a significantly higher odds of pregnancy, and among the sexually experienced sample, the odds of pregnancy were lower for adolescents in cohabiting compared to single-parent households. Thus, while socialization is one explanation for early sexual debut, other forces in addition to socialization may be at work in predicting pregnancy experience.

For the supervision hypothesis to work well, we would expect to see evidence that the probability of both sexual outcomes is significantly lower for girls living in a household with more than one parental figure. However, our findings suggest that the relationship of the household adult to the child plays a definitive role in how adult supervision operates. Among the restricted sample of non-virgins, the likelihood of pregnancy was significantly lower for teenagers in both married and cohabiting households (see Appendix A). In the full sample, however, the presence of a cohabiting partner did not significantly affect the likelihood of intercourse or pregnancy, suggesting that it is the marital union rather than the added household adult that acts as a protective factor against early sexual intercourse for adolescents in two-parent households. That cohabiting households are associated with an increased likelihood of sexual onset while married households are correlated with delayed sexual debut suggests a distinction in the role of the male partner towards the adolescent when he is married to the biological mother. The important cohabiting partner may not carry the same level of authority in the home and may not act as a parental figure in the same way as a married partner, thus acting less as a protective factor against adolescent sexual behavior. An alternative hypothesis is that the cohabiting and married household structures both include biological fathers (62% and 26% of households in this study, respectively). The presence of the biological father in the home may proxy for family processes that facilitate girls' participation in safer sex. While the presence of the biological father in the household was not significantly related to the probability of intercourse and pregnancy in the full models of this study (data not shown), future research should address this issue.

Finally, the effect of a marital transition on adolescent sexual outcomes was contingent on the type of transition that occurred. The transition hypothesis contends that any type of marital transition increases the likelihood of adolescent problem behavior. We found support for this hypothesis as it related to children in single-mother households. Teenagers living in households with single mothers as a result of a marital disruption were more likely to experience both sexual outcomes compared to girls living in a married household, and had a greater risk of pregnancy compared to teenagers in single-mother, never married households. However, this hypothesis was not supported for adolescents living in stepfamilies. Girls in this family type were less likely to have initiated intercourse and to have experienced a pregnancy, findings that are consistent with McLanahan and Sandefur's work separating the effects of family structure on adolescent problem behavior by race (1994). While McLanahan and Sandefur argue that the positive influence of remarriage in African-American families is due to their economic advantage, we do not find significant income differences between black two-biological parent families and black stepfamilies, although we do find that biological mothers living in stepfamilies have higher levels of education and higher income-to-needs ratios compared to mothers in other household structures.

Given the lower rates of marriage and remarriage among black women (Smock 1990; Tucker and Mitchell-Kernan 1996), as well as their lower rates of divorce (Coleman and Ganong 1992), the positive outcomes for black adolescents in stepfamilies could suggest that black women who remarry are qualitatively different or more advantaged than women in other households in disadvantaged neighborhoods, and that this is what accounts for their children's higher rates of success. These findings could also mean that men who choose to marry into pre-existing single-parent families only do so if they perceive higher levels of competence already established in those families. Future research should address these issues.

Also noteworthy, about half of the stepfamilies in this study resulted from a mother's first marriage. Previous research has generally assumed this to be a remarriage, and has demonstrated negative outcomes associated with this transition. However, among socioeconomically disadvantaged families, the introduction of a marital union to a single-mother household might increase family economic and social stability, support, and household maintenance. Contrary to the assumption that any type of marital transition decreases family stability, it may be the case that this type of transition brings a measure of stability to families headed by never married mothers in this high-poverty context.

Our second question addressed the association between better mother-daughter relationships and early sexual activity for adolescents in a disadvantaged population. Higher levels of parental support, as perceived by either the adolescent or the parent, are associated with delayed sexual onset but are not significantly associated with pregnancy experience, a finding that is consistent with other work using nationally representative samples of youth (Resnick, et al. 1997), and suggests the importance of this relationship in the context of poor neighborhoods. Intimate, trusting, and supportive relationships with parents may shield the child against some of the more negative elements of high-poverty communities. However, the temporal ordering of our data is a limitation in explaining the relationship of parental support to sex and pregnancy experience, since poorer parent-child relationships might have occurred as a result of adolescent sexual onset. Ethnographic research on non-marital childbearing in African American communities has found that some mother-daughter bonds worsened when the teenager first became sexually active, but improved after pregnancy and childbearing because of the adolescent's increased reliance on her mother for social support (Burton 1990). Future work should examine the quality of the parent-child relationship using prospective studies, which can report evidence of a change in the parent-child relationship before first intercourse, after sexual debut and before pregnancy, and after pregnancy and/or birth.

Our third question asked how adolescents in communities with similar rates of social disorganization, poverty concentration, and racial composition perceived and experienced various aspects of their neighborhood environment, and whether these differences in perception correlated with their sexual outcomes. Girls who perceived higher levels of social support from adults and associated with better functioning friends were less likely to experience a pregnancy. Higher levels of social support from adults outside of the household may be representative of an additional source of stability, which is especially useful for teenagers in socially disorganized communities. Alternatively, adolescents who delay sexual activity may also select to involve themselves with more socially organized aspects of their community.

Our measure of non-working adults in the teenager's social networks tapped into an estimate of the economic stability of individuals who can act as agents of socialization, as well as

models of non-marital childrearing. These adults were economically disadvantaged and weakly attached to the labor force, since only two percent received welfare and held a job; therefore, welfare receipt is a proxy for weak or no labor force participation, and a sign of social disorganization. Given that mothers receiving welfare are also more likely to be unmarried, the finding of a greater likelihood of pregnancy for teenagers who named more welfare recipients in their social network also suggests the work of collective socialization forces influencing adolescent fertility decisions. Since the majority of teenagers who have experienced a pregnancy have also experienced a birth, this relationship could also be explained by greater contact with adult welfare recipients as a result of participation in the welfare system due to a pregnancy and birth. Future research could further address this relationship using panel data.

The quality of the family unit seems to have an important influence on adolescent sexual behavior and may act as a buffer in impoverished communities. Families that function well in socially disorganized neighborhoods may be better able to protect children from what they perceive to be negative influences by drawing on resources in the home environment. Overall, the findings described here suggest that environmental characteristics within similarly disadvantaged communities are correlated with fertility decisions once the teen has initiated sexual activity. Alternatively, youth that are capable of avoiding early sexual activity and pregnancy may also be in families that are more socially competent and provide more effective, consistently employed networks of adults. Additional work is needed to examine the direction of effects underlying these results, but in disorganized communities where parents have a more difficult time controlling the behavior of their adolescents, the presence of trusted community adults acting as models of labor force participation can increase the likelihood of successful adolescent outcomes (Wilson 1987; 1996).

This study's individual-level analyses explore the roles of social networks in disadvantaged neighborhoods from the perspective of young residents. Future work should further explore the finding that participation in positive community social networks can mediate negative aspects of the environment by offering social cohesion among residents and dependability of local community adults, thereby providing a mechanism for informal social control of adolescent behavior. The results of this study indicate a need to recognize the diversity in outcomes within disadvantaged populations and search for explanations for this variance. A narrow perspective on the risk of adolescent sexual debut and pregnancy that does not consider the complexities of the family and neighborhood environments of at-risk youth misses much of the dynamic story about the reasons behind the variation in early sexual behavior among disadvantaged adolescents.

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 Appendix A. Odds-Ratios for Logistic Regression Predicting Pregnancy for Non-Virgins.

Independent Variables	Odds Ratio
<i>Individual Factors</i>	
Age	1.43*
Age at Menarche	.87
Academic Performance	1.14
<i>Family Background</i>	
Mother's Education	1.19
Income-Needs Ratio	.84
Family Welfare Receipt	1.21
<i>Family Structure</i>	
Single -Reference	
Married	.30+
Cohabiting	.42*
<i>Parental Support and Closeness</i>	
Quality of Mother-Daughter Relationship	.95
<i>Perceived Community Environment</i>	
Perceived Neighbor Social Support	.79
Positive Peer Influences	.62+
Proportion of Social Network Receiving Welfare	5.59*
Constant	-4.69
-2LL	191.03***
Degrees of Freedom	12
N	159
+ p≤.10 *p≤.05 **p≤.01 ***p≤.001 (two-tailed tests)	

Appendix B. Odds-Ratios for Full Model Logistic Regressions Predicting Pregnancy Experience for Non-Virgins by Alternative Household Structure Measures.^a

Family Structure	Full Model Predicting Pregnancy Experience for Non-Virgins
<i>Alternative 1</i>	
Married - Reference	
Cohabiting	1.27
Single-Parent Never Married	2.18
Single-Parent Marital Disruption	5.04*
<i>Alternative 2</i>	
Single-Parent Household - Reference	
Married Biological Parents	.32
Stepfamily Household	.94
Cohabiting Household	.48
Other	.00
N	159

* $p \leq .05$ (two-tailed tests)

^a These models control for age, age at menarche, academic performance, income-needs ratio, family welfare receipt, mother's education, proportion of adolescent's life mother received welfare, quality of mother-daughter relationship, perceived neighbor social support, positive peer influences, and proportion of adult network receiving welfare.