4. Sexual Activity and Pregnancy Among African American Female Adolescents: A Propensity Toward Deviance?

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Research on female deviance has critiqued the social control that the juvenile justice system has exerted over adolescent girls' sexuality and their reproductive functions (Smart, 1976; Bertrand, 1979; Leonard, 1982; Schur, 1983; Naffine, 1987; Daly and Chesney-Lind, 1988; Chesney-Lind and Shelden, 1998). Nevertheless, while the social reaction toward girls' sexual behaviors is well documented, it is less common to evaluate whether girls' precocious sexual conduct, including sexual intercourse and adolescent pregnancy, is in fact part of a general propensity toward nonconformity. As mentioned by Pugh et al., (1990), the relationships between adolescent girls' sexual activities, pregnancy, and other deviant activities are poorly understood: "are we to understand behaviors such as smoking, drinking, precocious sexual debut, and teenage pregnancy simply as interchangeable symptoms of some underlying syndrome (p. 89)"?

The comparison between adolescents' sexual conduct on the one hand, and deviance and delinquency on the other, is somewhat controversial. While delinquency is illegal and can cause harm to others and while substance use can be harmful for individuals, sexual behaviors are a normal part of adolescent development, and intrinsic to adult life (Ensminger, 1987). However, precocious sexual activities share common characteristics with deviant conduct: these activities constitute a departure from social and moral norms and they are a claim for adult status (Ensminger, 1987; Rodgers and Rowe, 1990). In addition, to the extent that teen pregnancy has been associated with negative developmental outcomes such as disruption of schooling, economic problems, and marital instability (Elder and Rockwell, 1976; Furstenberg et al., 1987; Schellenbach et al., 1992), these outcomes could also be related to preexisting maladjustment (Olson and Worobey, 1984). Accordingly, could sexual activity be another way in which adolescent girls express their personal and social maladjustment? Is the same true of pregnancy? These questions guide the present article.

Adolescent Sexual Behaviors: A Tendency Toward Nonconformity?

One set of delinquency theorists asserts that various problem behaviors are linked by underlying and relatively stable tendencies or traits (Gottfredson and Hirschi, 1990). For example, problem-behavior theory asserts that various problem behaviors[1] are linked by a tendency towards nonconformity. Testing this theory with a sample of junior and senior high school students, Jessor et al., (1983) observed that early sexual debut is associated with involvement in drug and alcohol consumption, which suggests that early onset of sexual intercourse is grounded in a general propensity to engage in risky behavior. Elliott and Morse (1989) also reported considerable differences between adolescent girls aged 11 through 17 who are sexually active and those who are not. Their results reveal that more than a third (36%) of the serious female offenders are sexually active as compared with 13% of the nonserious offenders and 4% of the non-offenders. Differences are even more pronounced in regard to drug use. In this same study, more than half (52%) of the adolescent girls who had used illicit drugs had ever had sexual intercourse, in comparison to only 3% of the females who never used drugs.

The literature also suggests that girls who report being pregnant also participate in various forms of problem behavior, including violence (Elster et al., 1990; Serbin et al., 1991; Ketterlinus et al., 1992; Herrenkohl et al., 1998; Rome et al., 1998), school maladjustment (Yamaguchi and Kandel, 1987; Elster et al., 1990; Ketterlinus et al., 1992), alcohol and drug use (Elster et al., 1990; Streetman, 1996; Zoccolillo et al., 1997) and running away (Elster et al., 1990). Risk of adolescent pregnancy seems to increase as engagement in deviance gets more serious. Elster et al., (1990) found that the prevalence of pregnancy among urban adolescent females increases with the amount of deviant activities (including status offenses, drug and alcohol use, minor theft, and fighting) being reported. In fact, among girls with no history of deviance, 12% got pregnant. This proportion increases to 26% when girls report one or two deviant activities, and it jumps to 62% when more than three deviant behaviors are reported.

Furthermore, longitudinal studies indicate that deviant activities are significant precursors of sexual intercourse and pregnancy (Pugh et al., 1990; Kovacs et al., 1994, Smith, 1997; Kasen et al., 1998; Serbin et al., 1998). These findings are consistent with knowledge about the developmental course of offending: Le Blanc and Loeber (1998) observed that the onset of problem behavior in family and school settings, as well as the onset of minor delinquency, generally precedes initiation into sexual activities. In light of those empirical studies, early sexual intercourse and

[1] A problem behavior refers to a "behavior that is socially defined as a problem, a source of concern, or as undesirable by the norms of the society and the institutions of adult authority, and its occurrence usually elicits some kind of social control response" (Jessor and Jessor, 1977, p. 33).

adolescent pregnancy seem to be embedded in a propensity towards nonconforming behavior. However, methodological limitations in previous studies make this conclusion premature.

For example, most studies that have examined the relationship between sexual behaviors and deviance were conducted with overwhelmingly White samples, so it is unclear whether findings apply to African American adolescents. Some studies have found that the link between adolescent intercourse, personal maladjustment, and substance use is present across different ethnic groups (Smith, 1997; Perkins et al., 1998). Other studies found that early transition toward non-virginity for Black adolescents was less associated with unconventionality than for White girls (Rodgers and Rowe, 1990; Costa et al., 1995). However, most empirical studies do not report findings about the relationships between pregnancy and deviance for separate racial groups. Thus, the link between precocious sexual activities, pregnancy, and other deviant activities needs to be clarified for African American adolescent girls.

In addition, studies conducted to date on adolescent pregnancy have other methodological limitations. The relationship between pregnancy and deviance is confounded by the fact that comparisons between pregnant and non-pregnant adolescents include both sexually active and non-active girls in the non-pregnant group. Since sexually active girls seem to be more engaged in deviance than their non-sexually active counterparts, differences observed between pregnant and non-pregnant adolescents might be due to the subgroup of virgin girls in the non-pregnant group. Findings would be clearer if the following question was analyzed: Do differences in deviance between pregnant and non-pregnant adolescents remain when only sexually active girls are compared?

The few studies that address this question offer confusing results. On one hand, Ketterlinus et al., (1992) compared virgins, sexually active girls who never got pregnant, and pregnant girls. Results from this longitudinal study indicated that while virgins reported the lowest prevalence rates for suspension from school, theft, violence, and drug use, the two sexually active groups did not significantly differ from each other. On the other hand, Rome et al., (1998) observed in their cross-sectional study that carrying a weapon and using hard drugs increase the risk of getting pregnant among sexually active girls. Thus, it is not clear whether sexual activity and pregnancy are similar or different in terms of their association with deviance.

Finally, there is controversy about conceptualizing girls' sexual activity and pregnancy as problem behaviors. Stanton et al., (1993) asserted that the definition of problem behavior is dependent on the values and norms of specific cultures. Also, definitions of sexuality as deviant are related in time and space. Sexual experimentation in adolescence can now be considered normative, especially in late adolescence (Ensminger, 1987). In addition, Zoccolillo et al., (1997) recently recalled that conduct problems are not the only pathway to adolescent pregnancy. Even if many adolescents who

become pregnant also have conduct problems, some pregnant adolescents do not. Other contributing factors must then be investigated.

Another group of researchers gives credence to an alternative life-style perspective in order to explain the phenomenon of adolescents' sexual and fertility behaviors. More specifically, the alternative lifestyle explanation explores the cultural meaning of adolescent pregnancy. This explanation contends that pregnancy represents a means of achieving adulthood, particularly for Black teenage girls who have restricted opportunity to use other routes to adulthood (Burton, 1990; Horwitz et al., 1991; Merrick, 1995). Using this perspective, researchers have demonstrated that a higher value is placed on childbearing among Blacks than among Whites (Thompson, 1980; Merrick, 1995). Moreover, wide racial variations were found in girls' expectations about their life course. Black girls perceive a higher likelihood than White girls of having an out of wedlock pregnancy (Smith and Zabin, 1993; East, 1998). Models to which Black adolescents may be exposed can explain those differences (Merrick, 1995; Manlove, 1997 and East, 1998): more than half of the Black children in the United States are the children of single mothers and more than a third of those mothers are poor adolescents (Merrick, 1995). Racial differences are observed not only in values and expectations, they are also present in the adolescents' behaviors. Independent of girls' family and socioeconomic background characteristics, Black girls experience their first sexual intercourse earlier than their White counterparts (Hayes, 1987; East, 1998; Rome et al., 1998) and a larger proportion have a pregnancy outside of marriage (Hayes, 1987; Kovacs et al., 1994; Streetman, 1996).

In sum, the alternative life-style perspective maintains that normative role timing and role sequencing may differ for African American and White girls. Despite its relevance for understanding initiation into sexual activity and adolescent pregnancy, this perspective faces important challenges. How can an alternative life-style perspective explain within racial group variation in rates of sexual activities? How can this perspective explain why some African American girls will have a pregnancy during their adolescence and others will delay their first pregnancy? Despite the value of this perspective, it seems that sociocultural explanations are not sufficient by themselves to explain initiation into intercourse and adolescent pregnancy from an individual point of view.

The Relevance of a Risk Factor Approach

The two perspectives presented above each contribute to a better understanding of adolescent girls' sexual behaviors. On the one hand, initiation into sexual activity and adolescent pregnancy are frequently associated with nonconformity. On the other hand, cultural values and socioeconomic disadvantage tend to guide African American and White girls toward different normative timetables regarding their initiation into sexual activities. However, as mentioned by Kovacs and colleagues (1994), the

actual state of our knowledge does not shed enough light on the processes that connect race and problem behaviors to sexual conduct.

One way to expand our understanding is by identifying social and personal attributes that increase African American girls' vulnerability to sexual activity and to pregnancy, as well as to other forms of deviance. A risk factor approach is relevant for identifying a variety of factors from different life domains that increase the risk of engaging in problem behaviors. This approach has been applied recently in a number of studies for understanding why some adolescents initiate intercourse at young ages and others do not (Small and Luster, 1994; Smith, 1997; Perkins et al., 1998). Empirical verification of models of this kind are practically absent in the literature on adolescent pregnancy. Models that have been tested usually refer to a limited set of risk factors (see Streetman, 1996; Scaramella et al., 1998). However, Scaramella et al., (1998) suggest that general models explaining adolescent risk-taking behavior should be useful in predicting adolescent pregnancy.

The selection of risk factors is influenced by Lanctôt's (1999) elaborated theoretical model for explaining adolescent females' participation in deviance. This model rests mainly on Thornberry's (1987) and on Le Blanc's (1997) theories which stipulate that deviance is a response of a loosening of personal and social control. These theories also assert that exposure to deviant influences favors participation in deviant activities. In addition to those social control and social learning concepts, Lanctôt (1999) suggested that other components should be integrated into these theoretical frameworks in order to improve the understanding of female deviance. One of these components is the influence of potentially stressful life events. According to general strain theory, strain stimulates negative emotions that may lead to deviant behaviors (Broidy and Agnew, 1997). Integration of this component with others presented above is interesting because Broidy and Agnew (1997) noted that the relationship between strain and deviance is modulated by personal and social control and by exposure to deviant influences.

A number of relevant risk factors are associated with precocious sexual intercourse and adolescent pregnancy in the research literature. First, disadvantaged neighborhood and family environment place adolescent girls at risk for precocious sexual activity and pregnancy through loosened social control (Furstenberg et al., 1987; Schellenbach et al., 1992; Manlove, 1997). Those disadvantages seem to be even more pronounced among pregnant adolescents than among their sexually active but non-pregnant counterparts (Stiffman et al., 1987). Also, from a developmental point of view, family socioeconomic stresses appear to be related to pregnancy in adolescence but not in young adulthood (Robbins et al., 1985). Concerning school adaptation, Robbins et al., (1985) observed that school difficulties increase the odds of sexual activity and pregnancy throughout adolescence. Girls who place little importance on achieving educational goals and who participate less in school activities generally become sexually active and

pregnant earlier in their life course (Hanson et al., 1987; Streetman, 1996; Smith, 1997; East, 1998; Rome et al., 1998). School dropout has been reported as a significant predictor of pregnancy among White adolescents (Serbin et al., 1998) but not among Black adolescents (Manlove, 1997). However, lack of commitment to school generally predicts sexual behaviors for all ethnic groups (Manlove, 1997). Concerning family relationships, having weak parental attachment and little parental support predict early initiation into sexual intercourse (Jessor et al., 1983; Smith, 1997) and adolescent pregnancy (Hanson et al., 1987). Moreover, parents' and friends' approval of deviance places adolescent girls at greater risk for sexual activities (Jessor et al., 1983; Biglan et al., 1990).

Individual characteristics are also related to sexual behaviors. Rates of precocious sexual intercourse are higher among females who hold deviant values (Jessor et al., 1983) and among those who are more depressed (Smith, 1997). In addition, low self-esteem and lack of personality integration tend to characterize pregnant adolescents better than those who delay their first pregnancy (Zongker, 1977; Robbins et al., 1985). However, it is not clear whether differences between pregnant and non-pregnant girls remain when virgin girls are removed from the analysis. Stiffman and colleagues (1987) came to the conclusion that pregnant girls do not have poorer mental health than their sexually active but non-pregnant peers. However, it should be noted that the sampling strategy of this last study might be responsible for the reduced variance between the two groups because the sample was composed of girls who were in treatment in a health clinic.

Finally, there is also some ambiguity about the link between experiences of maltreatment, sexual activity, and pregnancy. Comparing girls who had been abused and those who were not, Widom and Kuhns (1996) found no significant differences in the prevalence of sexual intercourse or in the rate of pregnancy. Other studies reported that pregnancy is more frequent among adolescents who were abused than among those who were not (Roosa et al., 1997; Stock et al., 1997; Perkins et al., 1998). However, this association seems to be more indirect than direct. In fact, Smith (1996) observed that maltreatment tends to affect pregnancy indirectly through school difficulties, substance use, and early initiation into sexual intercourse. Other studies also reported that it is more precocious sexual debut than an experience of abuse that predicts adolescent pregnancy (Roosa et al., 1997; Stock et al., 1997).

In sum, although considerable research has focused on the personal and social characteristics of adolescents who engage in sexual activity and those who are pregnant, the literature in this area still lacks theoretical integration (Schellenbach et al., 1992). In fact, few studies have examined simultaneously risks factors in all domains presented above. Moreover, only one study evaluates whether adolescent pregnancy and other deviant activities are explained by similar risk factors. Streetman's study (1996) indicates that factors predicting nonmarital pregnancy, delinquent behavior,

and substance abuse in early adolescence are more similar than distinct. Common risk factors are peer rejection, peer delinquency, and school stress. Risk factors that are specific to nonmarital pregnancy are being Black and having a weak socioeconomic status. Those results demonstrate the importance of evaluating more closely risk factors predicting pregnancy among Black girls.

Research Questions

The primary goal of this article is to investigate the interrelationship between sexual activity, pregnancy, and deviance among African American adolescent girls, and compare the risk factors that predict these behaviors. Four research questions will guide the analysis:

1. Are rates of deviance higher among African American girls who engage precociously and frequently in sexual intercourse than among those who are less engaged in sexual activity? Are rates of deviance higher among African American female adolescents who had a pregnancy, compared to non-pregnant girls who had intercourse?

2. What risk factors are associated with precocious and frequent participation in sexual intercourse among African American adolescent girls? Which life domains are most influential?

3. What risk factors are associated with pregnancy among African American adolescent girls when only sexual active girls are compared? Which life domains are most influential?

4. Do similar factors predict sexual activity and pregnancy? To what extent are these predictors similar and different from those predicting deviance?

Methods

Sample

The data are drawn from the Rochester Youth Development Study (RYDS), a multiwave panel study designed to examine the causes and correlates of delinquent behavior and drug use among urban adolescents. The target adolescents come from a population of 4 013 seventh and eighth graders attending public schools in Rochester, New York, in the Spring of 1988. Rochester is a midsize city, which has a diverse population and a considerably high crime rate. Of the 4 013 students, 3 372 (84%) were eligible for the sample because they met the following conditions: they were living in Rochester, they spoke English or Spanish at home, they had no siblings in the sample, and they were not older than the expected age for the cohort.

The sample was stratified on two dimensions in order to obtain a sufficient number of youths likely to engage in serious delinquent conduct. First, because males have a higher propensity for serious delinquency than females (Blumstein et al., 1986), the sample overrepresented males (75% vs 25%). Second, based on the 1986 census tract arrest rates, students from high crime areas of the city were oversampled on the assumption that they are at greater risk for delinquency. All students who lived in the census tracts in the highest third of the distribution of resident arrest rates were asked to participate in the study. Students in the remaining tracts were selected in proportion to their tract's contribution to the overall arrest rate in Rochester.

Once the number of students to be selected within each strata was determined, eligible youths within these strata were selected at random. A final sample of 1000 adolescents, including 68% African American, 17% Hispanic, and 15% White adolescents resulted. Adolescents and their primarily caretakers (in 85% of the cases, their natural mother) were interviewed at six-month intervals. Structured interviews were conducted by trained RYDS staff in private settings. Students were interviewed primarily in school settings, while parents were interviewed at home. Those interviews lasted about an hour. Data were also collected from school, police, courts, and social service agencies.

The present study relies on data from the 196 African American girls in the panel. Data come from wave 2, when the target girls were on average 14 years old, to wave 9, when their average age was 17.3 years. Retention rates for this subgroup were 91 percent at wave 9, and it was previously established that data are not biased by differential attrition (Krohn and Thornberry, 1999; Thornberry et al., 1993). Finally, because the true probability of each adolescent female being selected is known, the sample can be weighted to represent the population of all seventh and eighth graders in the Rochester Public Schools. Thus, a weighting strategy was used to adjust the sample back to a random sample of urban public school adolescents and to correct for the overrepresentation of youths from the census tracts with high arrest rates (Thornberry et al., 1993).

Measurement

Outcome Variables

Early sexual activity. Questions about sexuality began in wave 2. At this wave, girls were asked whether they ever had sexual intercourse. From wave 3 to wave 9, girls were asked if they had been sexually active since their last interview and, if yes, frequencies were reported. Because sexual activity is part of the normal lifecycle experience of urban girls at late adolescence (see Ensminger, 1987; Smith, 1997), analysis put emphasis on girls who initiated sexual intercourse as young teenagers, and were quite sexually active during the course of their adolescence. Age 16 was selected as the age cutoff for determining precocious initiation into sexual activity,

based on prior studies (see Smith, 1997). The number of times girls reported having had sexual intercourse, summed across wave 2 through wave 9, was next examined. Girls who are considered to be precocious in sexual activity are those who had sex before age 16 and who scored above the median on frequency, thus eliminating from this variable girls for whom sexual intercourse was a rare event. The median was 25. When adolescents met these two criteria, they had a score of one on the outcome. Results indicate that 68 girls (35%) met these criteria. Four girls have a missing value because they dropped out of the study prior to age 16 and did not report being sexually active in the waves they had completed.

Adolescent pregnancy: Pregnancy was first investigated in wave 4. At this wave, respondents were asked if they had ever been pregnant. At the following waves, girls were asked if they had been pregnant since their last interview. Logically, pregnancy is a variable that only applies to girls who have ever been sexually active. Thus, virgins (n = 41) have missing values on this variable. Missing values were also attributed to eight girls who dropped out prior to wave 9 without having reported a pregnancy in prior waves. The age cutoff applied above to initiation into sexual activity is not applied here because pregnancy is considered to be particularly problematic behavior during the school-age years covered by these data (see Furstenberg et al., 1987; Hayes, 1987). Adolescents are assigned a code of 1 if any pregnancy was reported between waves 4 to 9. Consequently, the value zero corresponds to girls who had sexual intercourse but who never got pregnant. Among the African American girls who were sexually active, 80 (55%) reported a pregnancy.

As specified in the fourth research question, this study will evaluate if risk factors that explain engagement in sexual behaviors are similar to those predicting other forms of deviant activities. Predictors of sexual activity and of pregnancy will be compared to factors predicting status offenses and to those predicting drug and alcohol use. Most studies referred to those behaviors when evaluating if sexual behaviors are grounded in a tendency toward nonconformity (see Jessor et al., 1983; Yamaguchi and Kandel, 1987; Elster et al., 1990; Ketterlinus et al., 1992; Streetman, 1996; Smith, 1997; Zoccolillo et al., 1997). These two outcomes come from a large self-report delinquency index derived in large part from the National Youth Survey (Elliott et al., 1985), and are briefly presented below.

Status offenses: Three items are included in this outcome: running away from home, skipping classes, and lying about age. The number of times girls reported having committed these acts was summed across wave 2 through wave 9. A score of one is attributed to adolescents who are in the top half of the cumulative incidence distribution, that is, who reported more than one status offense. Eleven girls have a missing value on this outcome because they missed more than three waves.

Drug and alcohol use: This dichotomous outcome refers to three behaviors: drinking beer or wine, drinking hard liquor, and using marijuana.

Again, in order to select girls whose behaviors are considered more risky, a score of one was assigned to respondents who are in the top half of the cumulative incidence distribution, which corresponds to those who reported using drugs or alcohol more than three times. Missing values were assigned to 11 respondents who missed more than three waves.

Risk Factors

Table 1 describes risk factors along with the source of data, the range of the values, and their means. Given the large number of variables examined, only a brief description is provided. Where pertinent, Cronbach's alpha is reported.

These risk factors are grouped into seven domains. The first two domains reflect the structural characteristics of the girls' neighborhoods and families. Stressful events and social bonding are presented next, followed by factors related to exposure to deviant influences, individual characteristics, and participation in deviance in early adolescence. Risk factors taken from parent and adolescent interviews were measured at wave 2, except for the internalizing behavior score which was first measured at wave 3. Other measures are based on subjects' census tracts of residence at the start of the study.

Area characteristics: Measures of area characteristics were gathered from different sources at the beginning of the research. The first two variables are census measures denoting the percentage of households living in poverty and the percentage of households headed by a single mother in the census tract where the family lived. The community arrest rate comes from Rochester police data, and indicates the percentage of the residents in the respondents' census tracts arrested in 1986. Neighborhood disorganization (alpha: 0.94) is a 17-item scale measuring parents' perceptions of a variety of problems in their neighborhood such as youth crime, vandalism, and drug dealing. For each item, the higher the score on a 1-3 scale, the more problematic is the area in which the girls are living.

Table 1: Description of Risk Factors

Predictor Variables	Source	Range	Mean	St. Dev.
Area characteristics				
Percentage in poverty	Census	5.65 - 55.70	25.24	13.18
Percentage of female-headed households	Census	4.00 - 62.94	27.14	13.82
Community arrest rate	Police	0.29 - 7.87	3.66	2.31
Neighborhood disorganization	Parent	1 - 3	1.43	0.50
Family structural position				
Parental education	Parent	6 - 13	11.06	1.58
Welfare receipt	Parent	0 - 1	0.23	0.42
Mother's age at first birth	Parent	14 - 41	18.61	3.89
Subject lives with both parents	Parent	0 - 1	0.22	0.42
Family stress				
Parental stress	Parent	1 - 4	2.15	0.50
Report of child maltreatment	Social services	0 - 1	0.14	0.34
Family climate of hostility	Parent	1 - 4	1.60	0.54
Social bonds				
Attachment to parent	Subject	1 - 4	3.34	0.51
Involvement with parent	Subject	1 - 4	3.02	0.48
Parental supervision	Subject	1 - 4	3.26	0.40
School expectations	Subject	0 - 1	0.77	0.42
Attachment to teacher	Subject	1 - 4	2.77	0.44
Commitment to school	Subject	1 - 4	3.08	0.33
Prosocial activities	Subject	1 - 4	1.99	0.74
Deviant influences				
Risky time with friends	Subject	1 - 4	1.90	0.58
Peer deviance	Subject	1 - 4	1.44	0.46
Gang member	Subject	0 - 1	0.21	0.41
Individual characteristics				
Delinquent beliefs	Subject	1 - 4	1.24	0.27
Self esteem	Subject	1 - 4	3.05	0.39
Depression	Subject	1 - 4	2.24	0.47
Internalizing problems	Parent	0 - 2	0.47	0.32
Early participation in deviance				
Sexual intercourse	Subject	0 - 1	0,33	0.47
Status offenses	Subject	0 - 1	0.38	0.49
Drug and alcohol use	Subject	0 - 1	0.33	0.47

Family structural position: Four variables are included here. Parental education comes from the parent interviews and refers to the highest grade they had completed. Welfare receipt also comes from parents' reports; it is a dichotomous variable. A score of one indicates that the family was receiving welfare at wave 2. Mother's age at first birth corresponds to the age of the adolescent's mother at the birth of her first child (which does not necessarily correspond to the mother's age at the adolescent's birth). The last variable in this dimension comes from the adolescent interview. It is a dichotomous variable, with a score of one denoting that the subject lived with both biological parents at the start of the study.

Family stress: Parental stress is an 8-item scale (alpha: 0.71) taken from the wave 2 parent interview. This predictor indicates the extent to which parents feel overwhelmed and have difficulty with everyday life stress. The higher the score, the more overwhelmed parents feel. This scale is related to more objective indicators of family adversity (Stern and Smith, 1999). Report of child abuse comes from an official report of neglect or abuse before the age of 12 on county social service files. A score of one is attributed to a subject who had an official history of maltreatment (see Smith and Thornberry, 1995). Family climate of hostility is a 3-item scale describing the frequency of fighting and discord among family members at wave 2. This predictor was gathered from the parent interview; the higher the score, the more hostile is the family climate.

Social bonds : This domain is the one that includes the greatest number of variables. Each predictor comes from the adolescent interview at wave 2; higher scores indicate greater bonding. The first three variables refer to the bonds between adolescents and their parents. Attachment to parent is an 11-item scale (alpha: 0.88) adapted from Hudson's scale of attitudes toward parents (Hudson, 1982). The amount of time spent with family, involvement with parent, is measured by a 10-item scale (alpha: 0.71) and parental supervision is a four-item scale (alpha: 0.55) that indicates the extent to which youths feel that their parents are aware of their friends and activities. The next three bonding variables refer to school. School expectations is a dichotomous variable that indicates how likely adolescents think they will graduate from college. Attachment to teacher is a five-item scale (alpha: 0.60) that expresses how much adolescents like and respect their teachers. Commitment to school is a 10-item scale (alpha: 0.79) assessing the importance adolescents place on schoolwork. Finally, involvement in prosocial activities is a five-item scale (alpha: 0.63) assessing the time adolescents spend in conventional activities like sports and cultural activities.

Deviant influences: This dimension is composed of four variables gathered from the adolescent interview at wave 2. Risky time with friends refers to three items reporting how often the adolescents are involved with friends in activities that offer illegitimate opportunities, like meeting in places where no adults are present or where someone is using drugs or alcohol, and driving around with no special place to go. The variable peer deviance

(alpha: 0.85) comes from the adolescent's report of the proportion of their friends who engage in delinquent activities and who use drugs and alcohol (alpha: 0.84). For these two predictors, a higher score indicates greater exposure to deviant influences. Finally, gang membership is assessed by a dichotomous variable, a score of one indicates membership in a street gang.

Individual characteristics: The first three variables of this domain are derived from adolescent interviews at wave 2. The first variable, delinquent beliefs, indicates how wrong girls feel it is to engage in each of eight delinquent activities (alpha: 0.78). The higher the score, the more deviant are the beliefs. The second variable, self-esteem, includes nine items (alpha: 0.75) derived from Rosenberg's measure (Rosenberg, 1965). The higher the score, the better adolescents feel about themselves. The third predictor, depression, is composed of fourteen items (alpha: 0.79) suggesting feelings of sadness or hopelessness taken from Radloff's inventory (Radloff, 1977). Having a high score denotes more depressive symptoms. Finally, the last variable, internalizing problems, is derived from the wave 3 parent report -- the first time this information is gathered -- on a short form (21 items) of the Achenbach Child Behavior Checklist, a diagnostic instrument for measuring behavioral domains in children and adolescents (Achenbach and Edelbrock, 1979; Lizotte et al, 1992). Items from this checklist (alpha: 88) reflect the quality of the adolescent's internal psychological state. High scores are suggestive of more internally experienced problems, including withdrawal, anxiety, and sadness.

Early participation in deviance: This dimension denotes whether or not adolescents participated in sexual intercourse, status offenses, and drug and alcohol use at wave 2. A score of one is attributed to each deviant activity reported by the adolescent at this wave.

It should be noted that even though risk factors were gathered from wave 2 and outcomes represent the cumulative incidence in a variety of behaviors from wave 2 to wave 9, the temporal order between predictors and outcomes is not always consistent since some respondents initiated sexual behaviors or other forms of deviance prior to the start of the research.

Results

Before looking at the results, it is interesting to note that the proportion of the sample who ever participated in deviant activities (82%) is comparable to proportions reported in other studies. For example, using similar measures with a representative sample of White adolescents, Frechette and Le Blanc (1979) reported that 83% of the girls had ever engaged in status offenses and in substance use. Rates of pregnancy in the present sample (45%) are also in the region of the national figures for Black teenage pregnancy (see for example, Furstenberg et al., 1989). Since one of the objectives is to compare predictors of each outcome, it is important to note that girls who are considered more deviant on one outcome are not

necessarily those who are considered more deviant on another outcome. For example, among girls who had a pregnancy, a third had a score of zero on the outcome denoting precocious and frequent sexual activity. Apparently girls who become pregnant are not necessarily those who engage in early and frequent sex.

Table 2: Proportion of Adolescents who Engaged in Deviant Activities as a Function of Sexual Status

	Sexual activities			Adolescent pregnancy		
	High level of early sex	Low level of early sex	χ^2	Pregnant	Sexually active but not pregnant	χ^2
High level of status offenses	72% (n = 48)	33% (n = 37)	25.34 **	70% (n = 53)	45% (n = 27)	9.20 **
Low level of status offense	28% (n = 19)	67% (n = 76)		30% (n = 23)	55% (n = 34)	
	100% (n = 68)	100% (n = 113)		100% (n = 76)	100% (n = 61)	
High level of drug and alcohol use	84% (n = 57)	41% (n = 46)	32.09 **	74% (n = 56)	60% (n = 37)	2.74 *
Low level of drug and alcohol use	16% (n = 11)	59% (n = 67)		26% (n = 20)	40% (n = 24)	
	100% (n = 68)	100% (n = 113)		100% (n = 76)	100% (n = 61)	

** $p < 0.01$, one-tailed
* $p < 0.05$, one-tailed

Table 2 indicates the proportion of the African American girls who engaged in status offenses and those who consumed drugs and alcohol as a function of their level of sexual activity and of their pregnancy status. As mentioned above, girls who are considered as being the most active on the respective outcome are those scoring above the median on the cumulative distribution of incidence. First, girls who reported precocious and frequent sexual activities (high level of early sex) are compared to girls who were less active sexually (low level of early sex). As predicted, results indicate that rates of status offenses and rates of drug and alcohol use are significantly higher among the former than among the latter. Almost three quarters of the adolescents (72%) with a high level of early sexual activity are among the girls who engaged most often in adolescent status offenses, compared with one-third (33%) of the girls who have a lower level of sexual activity. Similarly, 84% of the most sexually active girls also engaged frequently in drug and alcohol use, compared to less than half (41%) of the girls with a lower level of sexual activity. In other words, there was about half as much substance use and status offending among girls who were less sexually active at young ages.

Table 2 also indicates whether pregnant girls are more engaged in deviance than are their sexually active counterparts who did not have a school-age pregnancy. Only one study has directly compared those two sexually active groups, concluding that they did not significantly differ from one another on deviant activities (Ketterlinus et al, 1992). Our results show that pregnant girls are proportionally more likely to participate in status offenses than sexually active but non-pregnant girls. In fact, 70% of the

pregnant girls are among girls with high participation in status offenses while this is the case for less than half (45%) of the non-pregnant adolescents. Pregnant girls also figure more than non-pregnant adolescents among the frequent drug and alcohol users (74% vs. 60%), although the difference is less accentuated than the one observed for status offenses. In sum, results demonstrate that sexual behaviors among African American girls are associated with more involvement in deviance.

Given the differences observed in rates of deviance, it is interesting to evaluate if girls with a higher level of sexual activity have a social and psychological profile that is different from that of less sexually active girls, and investigate how this risk profile compares to the profile of pregnant adolescents, and to the profile of those involved in other deviance. Table 3 presents bivariate relationships between risk factors and the four outcome variables of interest: sexual activity, pregnancy, status offending, and drug and alcohol use. Bivariate logistic regressions were performed. Since a specific direction was predicted for each risk factor, significance was calculated on the basis of one-tailed tests. Values of the coefficients are reported. We begin by examining factors that predict early sexual activity (first column of table 3).

Table 3: Bivariate Relationships Between Risk Factors and Outcomes

	Early sexual activity	Adolescent pregnancy	Status offenses	Drug and alcohol use
Area characteristics				
Percentage in poverty	1.02 *	1.02 *	1.00	1.01
Percentage of female-headed households	1.01	1.01	1.00	1.00
Community arrest rate	1.13 *	1.25 **	1.00	0.97
Neighborhood disorganization	2.34 **	1.64	1.08	0.94
Family structural position				
Parental education	1.06	0.96	0.87	1.19
Welfare receipt	1.19	1.32	1.28	0.92
Mother's age at first birth	1.04	0.87 **	0.95	1.04
Subject lives with both parents	0.67	0.76	1.12	0.77
Family stress				
Parental stress	0.96	1.33	1.50	0.65
Report of child maltreatment	2.35 *	5.73 **	1.43	1.27
Family climate of hostility	1.10	1.76 *	2.32 **	1.10
Social bonds				
Attachment to parent	0.47 **	0.81	0.36 **	0.38 **
Involvement with parents	0.67	0.78	0.37 **	0.38 **
Parental supervision	0.74	2.34	0.40 **	0.24 *
School expectations	0.31 **	0.36 **	0.34 **	0.43 *
Attachment to teacher	0.73	0.50 *	0.63	0.69
Commitment to school	0.88	0.59	0.37 *	0.25 **
Prosocial activities	1.24	0.81	1.00	1.41
Deviant influences				
Risky time with friends	1.26	0.84	2.51 **	2.71 **
Peer deviance	2.00 *	0.74	12.80 **	13.86 **
Gang member	2.76 **	1.50	2.67 **	2.87 **
Individual characteristics				
Delinquent beliefs	3.31 **	1.94	9.88 **	12.29 **
Self esteem	0.86	0.92	0.44 *	0.70
Depression	3.33 **	1.55	3.97 **	3.98 **
Internalizing problems	3.92 **	5.72 **	12.43 **	3.73 **
Early participation in deviance				
Sexual intercourse	--	--	5.89 **	7.48 **
Status offenses	2.60 **	1.13	--	2.90 *
Drug and alcohol use	1.87 *	1.08	3.20 **	--

* $p < 0.05$ one-tail

** $p < 0.01$ one-tail

There are significant differences in most domains presented in table 3 between African American girls who are more and less sexually active at young ages. First, girls who are more sexually active tend to come from communities where the poverty and arrest rates are higher. Also, these girls develop in neighborhoods that their parents evaluate more negatively in comparison to the neighborhoods lived in by girls who were less active. In spite of these differences, family structural position does not distinguish groups significantly: level of parental education, level of welfare receipt, and mothers' age at first birth are similar across groups. The proportion of adolescents who are living with both parents is also equivalent in both groups, and parental stress and family climate of hostility are not associated with sexual activities. However, sexually active girls are more likely to have been maltreated than their less sexually active counterparts.

Regarding social bonds, results reveal that girls who participate more in sexual activities have weaker relationships with their parents, although involvement and supervision are similar across groups. Concerning school, attachment to teachers and commitment to education are unrelated to sexual activities but school expectation is significantly associated with these activities. Girls who are sexually active are more likely than their less active counterparts to perceive that their educational opportunities are limited.

Early adolescent sexual activity is also related to greater exposure to deviant influences including association with deviant peers and gang membership. Furthermore, many individual characteristics distinguish the most sexually active adolescents. First, delinquent beliefs, which represent lowered barriers against deviance, are higher among adolescents who had precocious and frequent sexual intercourse than among girls who are less active sexually. The most sexually active girls also tend to be more depressed and to manifest more internalized problems like anxiety and withdrawal as compared to girls who are less active. However, level of self-esteem is similar for both groups. Finally, participation in status offenses and drug and alcohol use in early adolescence are significantly associated with early sexual activity.

The second column of table VI compares girls who ever had a pregnancy during adolescence to girls who were sexually active but who did not report a pregnancy. Results suggest similarities and dissimilarities between the profile of the sexually active girls and the one of the pregnant girls. First, girls who reported a pregnancy come from communities where the poverty and arrest rates are higher, these factors were also associated with precocious sexual activity. A significant negative relationship is observed between mothers' age at first birth and adolescents' pregnancy: The younger the adolescent's mother at her first birth, the more likely her adolescent girl is to have a school-age pregnancy. Other structural factors do not predict risk of pregnancy among African American females.

Pregnant adolescents experience higher family stress than non-pregnant girls: adolescent pregnancy is associated with a climate of hostility within the family and with an official history of child maltreatment, a factor that was also linked to precocious sexual activity. Parental involvement, supervision, and attachment do not predict adolescent pregnancy, although the latter factor was significantly related to early sexual activity. In the educational arena, pregnant adolescents have weak school expectations, as was observed above for girls who engaged in early sexual activity. Ever-pregnant girls also have significantly weak affective bonds to school, via attachment to teachers. While schooling seems to be an important life domain for predicting risk of pregnancy, the same can not be said about exposure to deviant influences, none of which are related to risk of pregnancy although two of the three were associated with precocious sexual activity. Fewer individual risk factors predict pregnancy, as compared with the number of those characteristics that predict early sexual activity. In fact, internalizing problems is the only individual factor that distinguishes pregnant and non-pregnant adolescents. Finally, early participation in deviance is not associated with risk of pregnancy, although it was related to early sexual activity.

In sum, the risk-factor approach seems to be a useful tool in shedding light on African American adolescents' early sexual activity and pregnancy. A variety of factors across different life domains are significantly related to early sexual activity and to pregnancy. Only family structural position is unrelated to early sexual activity, and only deviant influences are unrelated to pregnancy. However, more factors are associated with the risk of having precocious and frequent sexual activity than with the risk of being pregnant (13 vs. 7). Further analysis not presented here indicates that when virgins are included in the analysis predicting pregnancy, predictors become almost identical to those associated with precocious and frequent sexual intercourse. This highlights the importance of not considering virgin girls when evaluating risk of pregnancy in order not to confuse risk of having a pregnancy with risk of having a high level of sexual activity during adolescence.

We applied the same factors used to predict early sexual activity and pregnancy to other forms of deviant conduct. If factors that are related to deviance are similar to those associated with early sexual activity and pregnancy, this would support the argument that African American adolescents' sexual activity and pregnancy are grounded in a tendency toward nonconformity. The last two columns of table VI present risk factors predicting status offenses and drug and alcohol use.

A first look at the results indicates that similarities among risk factors for sexual behavior and those for other forms of deviance are related more to proximal domains than to distal domains. Area characteristics and family structural position do not explain girls' participation in status offenses nor drug and alcohol use, although some of these factors were significantly associated with sexual activity and with adolescent pregnancy. Furthermore,

only pregnancy is related to family structural position through its association with parents' early childbearing. Concerning family stress, report of child maltreatment predicts early sexual activity and pregnancy, but it does not predict engagement in other forms of deviance. However, as for pregnant girls, adolescents who participated more in status offenses develop in families experiencing a more hostile climate.

Similarities in proximal risk factors are mostly observed between early sexual activity, status offenses, and drug and alcohol use, whereas the pattern of risks for pregnancy is somewhat different. In fact, while early sexual activity, status offenses, and drug and alcohol use are all predicted by weak parent-child relationships, association with deviant peers, gang membership, delinquent beliefs, depression, and early participation in deviance, those factors do not significantly predict risk of pregnancy among African American girls who were sexually active. Although pregnancy shares few common risk factors with other outcomes, there are nevertheless two interesting similarities to note. First, rates of all forms of behaviors, including pregnancy, are higher among adolescents who have low school expectations. Moreover, risk of pregnancy, like engagement in all other forms of conduct, is associated with internalizing problems.

To clarify the similarities and differences between risk factors and domains associated with early sexual activity, pregnancy, and deviance, multivariate analysis is used to control for spurious relationships. Since all dependent variables are dichotomous, logistic regression analysis was used to examine which risk factors identified in table 3 have the greatest impact on each type of conduct. Table 4 presents the logistic regression coefficients for variables entered in the equation. For each outcome, variables that had a significant bivariate relationship were entered into the equation, except when variables selected in an equation were highly correlated one with another, only one was kept. This happened for variables relating to area characteristics and to those related to peers. Changes in probability are also listed for significant variables. These changes in probabilities, calculated at the mean of each dependent variable, are based on one unit of change in the independent variable. The total number of respondents in each equation differs due to listwise deletion of missing values.

Table 4: Logistic Regression Coefficients for Multivariate Relationships Between Risk Factors and Outcomes

Predictors	Early sexual activity	Adolescent pregnancy	Status offenses	Drug and alcohol use
Area characteristics				
Community arrest rate	0.07	0.17 (0.04) *		
Neighborhood disorganization	0.73 (0.18) *			
Family structural position				
Mother's age at first birth		-0.13 (-0.03) *		
Family stress				
Report of child maltreatment	0.82	2.62 (0.38) **		
Family climate of hostility		-0.14	-0.03	
Social bonds				
Attachment to parents	-0.01		-0.17	-0.39
Involvement with parents			-0.42	0.78
Parental supervision			0.17	-0.56
School expectations	-0.98 (-0.18) **	-0.83 (-0.20) *	-0.31	-0.94 (-0.23) *
Attachment to teacher		-0.72		
Commitment to school			-0.22	0.45
Deviant influences				
Risky time with friends			1.41 (0.31) **	0.50
Gang member	0.79 (0.19) *		0.43	1.13(0.24) *
Individual characteristics				
Delinquent beliefs	1.35 (0.33) *		1.20	2.41(0.37) **
Self esteem			-0.60	
Depression	0.37		0.22	0.82 (0.18) *
Internalizing problems	0.42	1.59 (0.30) *	3.32 (0.49) **	0.93
Early participation in deviance				
Sexual intercourse			1.19 (0.27) **	1.01 (0.22) **
Status offenses	0.78 (0.19) *			-0.58
Drug and alcohol use	-0.11		0.26	
-2 log likelihood	194.75	133.08	167.77	165.84
Goodness of fit	184.33	126.75	243.85	161.17
Model chi-square	44.43 **	39.29 **	77.80 **	76.49 **
n	183	127	177	173

Note: The change in probability evaluated at the mean of each outcome is indicated in parentheses.

* $p < 0.05$ one-tail

** $p < 0.01$ one-tail

Looking first at the two logistic models predicting sexual behaviors, they fit the data well, demonstrating that a risk-factor approach can significantly explain early sexual activity and pregnancy among African American adolescent girls. Chi-square improvement in prediction over chance is 44.43 ($p < 0.001$) for risk of engaging in early sexual activity and 39.02 ($p < 0.001$) for risk of being pregnant. Model 1 is first examined. When every predictor is held constant, five factors explain precocious sexual activity. First, girls who had early sex develop in more disorganized neighborhoods as compared to the neighborhoods lived in by girls who are less active. The standardized change in probability indicates that, at the mean of the dependent variable, a unit increase in neighborhood disorganization increases risk of early sexual activity by 18%, going from 35% to 53%. This finding is consistent with data of the National Survey of Family Growth (Brewster et al., 1993) which found that neighborhood characteristics play an influential role in rates of sexual activity.

High levels of sexual activity are also predicted by weak school expectations. Girls who engaged early and frequently in sexual activity tend to perceive that they will not graduate from college. When educational opportunities are not perceived as being so limited, the probability of high sexual activity diminishes by 18%. This finding is consistent with the alternative life-style perspective which contends that sexuality represents a means of achieving adulthood, particularly for African American girls with restricted opportunities (Burton, 1990; Horwitz et al., 1991; Merrick, 1995). Moreover, rates of sexual activities are higher among adolescents who were members of a street gang at a young age than among non-gang members. At the mean of the dependent variable, joining a gang increases girls' probability of having a high level of sexual activity by 19%. This result is not surprising since sexual promiscuity, or perhaps sexual availability, is frequently a role that is assigned to female gang members (Lanctôt and Le Blanc, 1997).

Girls who are the most sexually active also have more delinquent values than their less active counterparts. For each unit increase, this lack of internal constraint increases the probability of sexual activity by 33%, going from 35% to 68%. Jessor and his colleagues (1983) also observed that adolescent females who hold delinquent values were more sexually active than adolescents who adhere to a more prosocial set of values. The last significant predictor of precocious sexual activity is early participation in status offenses. Results demonstrate that girls who report having committed status offenses in wave 2 have a 19% increase in their risk of early sexual activity. These adolescents might be conveying a search for adult status through their early involvement in activities that are acceptable for adults (Rodgers and Rowe, 1990). Finally, it is interesting to note that the influence of several factors that were significant in the bivariate analysis disappears when the possible interactions between all significant risk factors were controlled. Thus, arrest rates, official experience of child maltreatment, attachment to parents, depression, internalizing problems, and early drug

and alcohol use seem to influence sexual activity more indirectly than directly.

Multivariate analyses were next conducted to better evaluate risks for adolescent pregnancy. Once variables are held constant, five predictors are significantly related to pregnancy. Analysis first indicates that for each unit increase in neighborhood arrest rate, risk of pregnancy increases by 4%. Relationship between neighborhood context and pregnancy among young African American girls was previously observed by Hogan and Kitagawa (1985). These authors asserted that parents living in problematic neighborhoods may have "reduced control over the sexual lives of their teenage daughters, exposing them to an increased risk of unintended pregnancy (p.851)". Next, results illustrate that risk of pregnancy increases as the age at first birth of the adolescent's mother decreases. At the mean of the dependent variable, a one-year decrease in mother's age at first birth increases adolescents' risk of pregnancy by 3%. A number of studies had formerly highlighted this predictor (Hayes, 1987; Kovacs et al., 1994; Manlove, 1997; Hardy et al., 1998). Manlove (1997) suggested different factors that might explain the intergenerational continuity of precocious pregnancy. First, daughters of young mothers tend to grow up in more disadvantaged family environments. Secondly, young mothers may have fewer resources to support their children's education. Finally, daughters of young mothers may develop a set of attitudes favoring early childbearing. Moreover, and from a socio-psychological perspective, Hayes (1987) maintained that socioeconomic conditions in which children of teenage mothers grow up often place them at greater risk of school and socioemotional problems.

An official report of child maltreatment also figures among the significant predictors of adolescent pregnancy. While literature suggested an indirect link via early initiation into sexual activity (Roosa et al., 1997; Smith, 1996; Stock et al., 1997), our results indicate that having a history of abuse or neglect in childhood has a noteworthy impact on risk of being pregnant. The probability of pregnancy is enhanced by 38% for girls having an official history of maltreatment. This result should however be interpreted with caution because of the low prevalence (13%) of official child maltreatment in the target sample. The fourth significant factor predicting adolescent pregnancy is low school expectations. Among sexually active African American adolescents, those who evaluate that they will not graduate from college had a 20% increase in their probability of having a school-age pregnancy. At the mean of the dependent variable, this signifies that girls who expect not to graduate from college have a 74% chance of reporting a pregnancy. This finding is in accordance with the alternative life-style perspective, which considers pregnancy as a legitimate trajectory for African American girls who perceive that their educational and occupational opportunities for achieving adulthood are limited (Horwitz et al., 1991; Merrick, 1995).

Finally, the last predictor demonstrates the relevance of psychological issues in the study of adolescent pregnancy. Parents of African American pregnant adolescents are more likely than parents of non-pregnant girls to report that their daughters tend to internalize problems, like anxiety, somaticization, and withdrawal. This propensity to internalization is strongly related to risk of pregnancy. For each unit increase in this predictor, risk of pregnancy increases by 30%. This result is similar to those observed by Robbins and colleagues (1985) who reported that psychological difficulties are more characteristic of young pregnant adolescents than of those who delay their first pregnancy.

Interestingly, in a multivariate context, differences in the predictors of precocious and frequent sexual activities and those predicting school-age pregnancy are more accentuated. Common predictors are living in a problematic neighborhood and having low school expectations. Other factors predicting early sexual activity were more proximal and oriented towards deviance: being a gang member, holding delinquent beliefs, and engaging in status offenses in early adolescence. Conversely, and with the exception of internalizing problems, distal factors, as mother's age at first birth and child maltreatment, were more evident in the prediction of pregnancy.

To this point, it seems that early sexual activity has a greater link to deviance than does adolescent pregnancy. Comparisons of the predictors of these two outcomes with factors predicting engagement in status offenses and drug and alcohol use will clarify this observation. Columns three and four present multivariate models predicting participation in status offenses and drug and alcohol use.

Both logistic models are significant. Chi-square improvement in prediction over chance is 77.80 ($p < 0.001$) for status offenses and 76.49 ($p < 0.001$) for drug and alcohol use; the predictive power for these is stronger than that of the models explaining sexual behavior. Once every factor is held constant, engagement in status offenses is predicted by three substantive factors: risky time spent with friends, internalizing problems, and early initiation in sexual activity. Concerning girls who are frequent consumers of drug and alcohol, they tend to have low school expectations, to be gang members, to have more delinquent beliefs, to have depressive symptoms, and to initiate sexual activity early, as compared with girls who use drugs and alcohol less often. For both outcomes, attachment and involvement with parents, parental supervision, and commitment to school become non-significant at the multivariate level.

Comparison of all multivariate models suggests that the influence of area characteristics and of family structural position is limited to sexual behaviors, especially to adolescent pregnancy. Moreover, and as observed in the bivariate analysis, there are more similarities between proximal factors and outcomes, and these similarities are mostly observed between early sexual activity, status offenses, and drug and alcohol use. This confirms that

predictors of pregnancy are somewhat different than predictors of other outcomes. In fact, exposure to deviant influences and participation in deviance in early adolescence are powerful predictors of all outcomes with the exception of adolescent pregnancy. However, this is not to say that adolescent pregnancy shares no common risk factors with other deviant outcomes, since internalizing problems are a strong predictor of adolescent pregnancy and of participation in status offenses. Drug and alcohol use is also strongly related to internal mental health symptoms, via depressive symptoms. Likewise, having low school expectations is a predictor related to both sexual behaviors and to drug and alcohol use.

Discussion

This study evaluated four issues. The first examined if African American girls engaging in early sexual activity are more engaged in deviant activities than their less active counterparts, and if adolescents who had a pregnancy have higher rates of deviance than non-pregnant sexually active adolescents. Results indicated that adolescent girls who engage in early sexual activity and those who have a pregnancy are much more likely to be involved in substance use and status offenses than other girls.

The second issue was the investigation of risk factors for early sexual activity. Results clearly indicated that adolescent girls who are more sexually active are facing more social and personal difficulties than their less active counterparts. Living in a disorganized neighborhood, having low school expectations, holding deviant values, being a gang member, and engaging in status offenses in early adolescence are the most influential predictors of sexual activity. Risk factor analysis suggests that early sexual activity is associated with a tendency toward nonconformity.

The third research question was the investigation of risk factors explaining pregnancy. Results support our hypothesis predicting that for African American adolescents, pregnancy is explained by the juncture of sociocultural factors and individual characteristics. Rates of pregnancy are higher where neighborhood contexts are more problematic. Also, having a mother who had her first birth at a relatively young age seems to increase the acceptability of adolescent motherhood as a legitimate route to adulthood. Moreover, pregnancy may represent a source of gratification and a means of gaining independence for girls who perceived that their educational opportunities are limited. Other factors indicate that pregnancy is also influenced by individual characteristics. Results indicate that African American females who reported a pregnancy tend to internalize problems. From Broidy and Agnew (1997) standpoint, this coping strategy may compromise girls' emotional well being. In addition, experiences of maltreatment with which many pregnant girls were confronted, may also hinder the development of adequate coping strategies.

The final goal was to compare predictors of early sexual activity and pregnancy, and to investigate the extent to which risk factors for these outcomes parallel those predicting deviance. Similarities and differences observed across outcomes illuminate precursors of sexual activity and pregnancy among African American adolescent girls. First, results suggested that social disadvantage has an impact on adolescents' sexual behaviors. In fact, the two sexual outcomes were the only ones being influenced by neighborhood characteristics. Engaging in status offenses and drug and alcohol use are not significantly associated with these predictors.

However, and as hypothesized above, socioeconomic disadvantages are not sufficient by themselves to explain African American girls' sexual behaviors; more proximal factors are also important. Interestingly, proximal factors predicting precocious sexual activity and those predicting adolescent pregnancy differ considerably. In their tendency to be gang members and to refer to a delinquent set of values, girls who have high levels of early sexual activity tend to have similar risk profile to those girls who frequently consume drug and alcohol. These results are consistent with the notion that adolescent sexual activity, like other deviance, is associated with an underlying trait or tendency to nonconformity (Jessor et al., 1983; Gottfredson and Hirschi, 1990). This conclusion is less true for pregnancy because most factors that predict this outcome do not predict other deviant behaviors. Nevertheless, as it was observed for risk of pregnancy, a perception of limited educational opportunities is related to drug and alcohol use. In addition, one of the most powerful predictors of pregnancy, internalizing problems, is also a strong predictor of engagement in status offenses. Another indicator of psychological distress, depressive symptoms, also predicts drug and alcohol use.

In their presentation of an updated general strain theory, Broidy and Agnew (1997) advanced theoretical assumptions which are helpful to the understanding of the influence of well being on girls' deviant conduct. Broidy and Agnew (1997) suggested that strain stimulates negative emotions which may lead to deviant behavior. These authors noted that girls' emotional response to strain would tend to be more conductive to self-destructive forms of illegitimate behavior than to behavior that causes harm to others. In fact, stress literature in social psychology indicates that females' coping strategies tend to rely mostly on guilt, sadness, and self-hostility, suggesting internalization of anger. Moreover, other factors like types of strain to which females are exposed, social control and gender role identification would favor intrapersonal distress rather than interpersonal hostility. Thus, Broidy and Agnew (1997) asserted that escape attempts, like running away, and self-destructive behaviors like drug use, would help to manage girls' negative emotions without directly harming others. Although Broidy and Agnew (1997) did not investigate adolescent pregnancy, it seems relevant to compare this conduct to self-destructive forms of behavior and to escape attempts. In her qualitative study examining the emotional logic behind adolescents' desire for a child, Musick (1993) compared adolescent pregnancy to a form of escape attempt: "For the younger adolescent

especially, having a baby may be a way to extricate herself from an intolerable life situation she feels powerless to change, a way of running away from home, even if it is only a symbolic or psychological leave-taking (p. 128)". In this same study, adolescent pregnancy is also considered as a behavior that could be self-destructive, especially when adolescents avoid or delay prenatal care. From this point of view, adolescent pregnancy may be a means to escape from personal difficulties, as it might be for status offenses and for alcohol and drug use.

In the light of those results, we conclude that a general theory of deviance, which considers a variety of risk factors, is useful to the understanding of sexual activity and pregnancy among African American females. The present study demonstrated that, in order to understand pathways that lead to early sexual activity and to pregnancy among African American adolescents, an approach that evaluates the impact of both distal and proximal factors must be considered. As asserted by Kovacs and colleagues (1994), social and contextual factors as well as personal characteristics contribute to the risk of adolescents' sexual behaviors.

Finally, the analytic strategy illustrated the importance of evaluating separately risk of being sexually active and risk of being pregnant in order not to overestimate the later risk. Nevertheless, we note some limitations in the present study. First, since some adolescents were sexually active or had their first pregnancy before we began to investigate sexual activity and reproductive behavior, temporal order between risk factors and sexual behaviors is not always clearly established. Secondly, in order to better demonstrate that high rates of sexual behaviors among African American adolescents are not only a matter of a sociocultural context which tolerates adolescents' sexual activity and early childbearing, more specific factors (such as reactions of parents toward girls' sexual behaviors), would need to be evaluated. In addition, a number of issues deserve more attention. For example, it would be interesting to add a biological component into the theoretical model; the influence of sexual maturity has been underestimated in the literature (Rowe and Rogers, 1994). Also, and according to the life-course perspective, the timing of initiation into sexual behaviors must be evaluated more closely. Elder and Rockwell (1976) suggest that having a pregnancy at the beginning of adolescence might denote more personal and social difficulties than having a pregnancy by the late teenage years. Finally, adolescents' contraceptive habits should be examined.

Practical Implications

Adolescents' sexual behaviors represent an accelerated role transition that can affect social and psychological development (Elder and Rockwell, 1976; Jessor and Jessor, 1977; Yamaguchi and Kandel, 1987). Although it has been noted in studies referring to the life-course perspective that adolescent mothers are at risk for a variety of negative developmental outcomes, as Olson and Worobey (1984) point out, it is not clear whether

those difficulties are a direct consequence of early childbearing. Social and personal maladjustment prior to conception might also be the cause. The present study sheds further light on this question. Results suggest that, given the factors associated with early sexual activity and with adolescent pregnancy, part of the difficulties which follow early childbearing represent a process of continuity.

This process of continuity highlights the importance of preventive programs directed towards adolescents who are at risk of early sexual activity and of pregnancy. Identification of risk factors associated with adolescents' sexual behaviors opens a door to a range of preventive strategies. Strategies directed at more distal social contextual factors are important since they do have an impact that is likely to be mediated through more proximal experiences such as school bonding. Other strategies rely on the possibility of individual change, since factors explaining this phenomenon are not only distal factors on which target girls have little control. Contrary to the alternative life-style perspective, we do not consider that pregnancy among African American adolescents is uniquely a result of socioeconomic disadvantages and cultural values that lead to precocious role transitions. We believe that adolescent pregnancy is also a consequence of personal characteristics. By intervening with more proximal factors, including family and individual characteristics of African American disadvantaged girls who are at risk of precocious sexual behavior, transition towards adulthood may be postponed. As suggested by numerous studies that elaborated on prevention of deviance, preventive efforts should be directed towards a variety of risk factors rather than focussing on a specific aspect of the individual (Hawkins and Weis, 1985; Kazdin, 1987; Coie et al., 1993; Yoshikawa 1994; Thornberry et al., 1995; Tremblay and Craig, 1995).

Finally, results of this study add to the evidence pointed out by problem-behavior theory (Jessor et al., 1977) and other latent trait perspectives (Gottfredson and Hirschi, 1990) that there is an association between various forms of deviant activities, and particularly early frequent sexual intercourse, status offenses, and substance use. Thus, considering that many deviant activities share common risk factors, it should be more beneficial to evaluate a range of deviant activities simultaneously, and to focus on a subgroup of youths who are more at-risk than to focus on one particular behavior (Biglan et al., 1990; Coie et al., 1993; Thornberry et al., 1995). It appears that comorbidity of adolescent problems and disorders is pervasive, and that adolescents who have multiple problems are more likely to have continuing problems (Nottelman and Jensen, 1995). Given the probability of early childbearing among young girls who are sexually active and involved in multiple problems, preventing the continuity of problems into future generations is also a significant goal.

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