

Sex, Contraception and Childbearing Among High-Risk Youth: Do Different Factors Influence Males and Females?

By Lori Kowaleski-Jones and Frank L. Mott

Context: *The likelihood that adolescents will engage in sexual activity, use contraceptives or become parents is influenced by a range of attitudes and behaviors. These factors may differ for males and females.*

Methods: *Data on female respondents to the 1979–1992 waves of the National Longitudinal Survey of Youth and the linked 1994 young adult data file on their children provided background information on 959 adolescents who had been born to young mothers. Partial correlation analysis was used to examine the factors related to sexual behavior, contraceptive use and childbirth, controlling for maternal and familial characteristics, in this relatively disadvantaged sample.*

Results: *Youth who are inclined toward risk-taking and those who have run away from home are more likely than others to be sexually active. For young women, having intercourse at an early age, not using contraceptives and having a child are linked with depression, low self-esteem and little sense of control over their lives. The results for young men are less consistent and often in the opposite direction. Young people who have become parents evidence greater maturity than their childless peers; women are less likely to consume alcohol or to spend time with friends who drink, and men are more likely to participate in socially productive work.*

Conclusions: *Although sexual behavior is tied to risk-taking in both adolescent males and females, some noticeable psychological differences are evidenced early. Behaviorally, there is room for optimism, in that young parents appear to adopt more mature traits.*

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During adolescence, many young people begin to experiment with new roles. One important area of exploration is sexual activity, which involves a certain amount of risk-taking. The association of sexual activity and risk-taking is firmly established both in conventional wisdom and in the research literature. Many scholars view adolescent sexual activity as a problem behavior because it often departs from what is socially defined as appropriate for an age or for a stage of the life cycle.¹ Adolescent sexual activity is also viewed as a problem in that teenagers often use contraceptives ineffectively and have early or otherwise mistimed pregnancies.

Sometimes, adolescent sexual behavior is accompanied by other problem behaviors, such as alcohol and drug use, a phenomenon often referred to as the “problem behavior syndrome.”² However, the birth of a child can alter this problem behavior path. Faced with the responsibility of raising a child, many teenagers may change their views toward risk-taking.

Using data on mothers participating in the National Longitudinal Survey of Youth (NLSY) and their young adult children, we previously found that there were significant links between maternal and adolescent sexual debut, that prior risk-

taking behaviors also affected early initiation of sex and that these associations varied somewhat between male and female adolescents.³ In this article, a follow-up to that analysis, we use more recent data for the young adult children of female NLSY respondents to more fully investigate early sexual activity. Additionally, we examine the correlates of ineffective contraceptive use and early childbearing. Our major aim is to explore whether common attitudinal and behavioral covariates are associated with these behaviors, and in particular whether there are gender differences in this area.

The adolescents in our sample represent a relatively disadvantaged group in that they were born to women who were mostly in late adolescence or young adulthood at the time of the birth. Therefore, results from this sample may not represent patterns among adolescents born to a more diverse cross section of mothers. However, this sample is uniquely suited to our research goals—to identify patterns of influence among those at the highest risk of early sexual behavior and early childbearing.

Background

Currently, 76% of young women and 80% of young men in the United States have sexual intercourse by age 20.⁴ Teenage sex-

ual activity varies by gender in several important ways. Typically, male adolescents become sexually active at earlier ages than females. Even though this gender gap is narrowing, males consistently have higher levels of sexual activity at earlier ages.⁵

Rates of sexual activity also vary by race and ethnicity. A larger proportion of black adolescents than of white or Hispanic teenagers have sex at early ages. More than half of non-Hispanic black males have sex by age 15, but Hispanic and non-Hispanic white males do not attain this level of sexual activity until age 17. A similar pattern is seen for females.⁶

A number of important behavioral and attitudinal correlates influence adolescent sexual behavior. Low self-esteem is an important predictor of sexual activity, and it is sensitive to the gender of the adolescent. Early sexual debut is a more negative and problematic phenomenon for women than for men.⁷ Whereas males typically report that their first sexual experience was exciting and satisfying, women are likely to report feelings of fear, guilt, anxiety and embarrassment associated with early sexual activity.⁸ More generally, depressive affect and disorder show marked increases in adolescence, especially for females.⁹ Teenage women’s self-esteem declines as they make the transition into junior high school; adolescent males’ perception of their own well-being and competence declines during college and rises during the following decade.

Whether an adolescent attributes success in life to his or her own ability and effort (internal locus of control) or to circumstances and fate (external locus) is related to sexual activity, but the direction of the effect depends on the youth’s age.

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Younger adolescents with an external locus and older adolescents with an internal locus are at increased risk of engaging in coitus.¹⁰ Even though the link between an individual's internal state and sexual intercourse is complicated, prior research indicates the importance of assessing it.¹¹

Traditional attitudes may lower adolescents' propensity to become sexually active. And among sexually experienced adolescents, such attitudes may reduce the likelihood of effective contraceptive use and increase the odds of carrying a pregnancy to term.¹²

Adolescents' attitudes toward risk-taking and their nonsexual risk-taking behavior also are linked with decisions about sexual activity. Often, high-risk behaviors overlap. Teenagers who abuse drugs, for example, are much more likely than others to drink and smoke heavily, drop out of school, have sex at early ages and experience early childbearing.¹³ Teenagers who engage in risky behavior may have more difficulty in, and less support for, handling the stresses and tasks of adolescence, and may be more depressed or may have a greater tolerance or need for risk-taking.¹⁴

The overlap of early sexual activity and other problem behaviors has attracted considerable research attention over the past 25 years.¹⁵ Associations between sexual activity and drinking, drug use, school problems and a wide variety of deviant behaviors have been a consistent research finding.¹⁶ One analysis of NLSY data found that sexually experienced 15–17-year-olds were more likely than their sexually inexperienced peers to have been suspended from school or involved in such behaviors as theft, violence and drug use.¹⁷ Another documented that drug involvement is a risk factor for early onset of sexual activity.¹⁸ Early tobacco and alcohol use have been associated with permissive sexual attitudes and peer relationships that, in turn, predicted sexual behavior.¹⁹

Some evidence indicates that the co-occurrence of problem behaviors is more common among males than among females. The available research suggests that the sequence of these behaviors typically runs from using substances and having deviant peer group associations to engaging in adolescent sexual intercourse, rather than in other directions.²⁰

However, adolescents often learn from experience, and their experiences may affect their subsequent behavior. This process may vary for male and female adolescents, since society often places different meanings on sexual activity, contraceptive use and early childbearing for males and fe-

males. Historically, stronger social and emotional sanctions have been associated with sexual activity and childbearing for females than for males.²¹ Attitudes surrounding the permissibility of sexual behavior for males and females have converged in recent decades, but sharp differences persist.²² Males tend to receive more social support from their peers for premarital sexual activity than do females.

Given that sexual activity and childbearing have different implications for males and females, what young people learn from experience will vary as well. Because females invariably assume the bulk of childrearing responsibilities, parenthood will likely result in more marked behavioral and attitudinal changes among them than among young men.

Methodology

Data and Analysis

Our data are from the 1979–1992 annual waves of the NLSY and the linked 1994 young adult data file. The NLSY is an omnibus national longitudinal sample, which initially included 12,686 men and women who were aged 14–21 on January 1, 1979.²³ In the original sample, military personnel and Hispanic, black and economically disadvantaged white youth were overrepresented to permit statistically meaningful racial, ethnic and socioeconomic comparisons. For funding reasons, the military personnel and economically disadvantaged white respondents have been dropped from the sample.

As of 1994, 90% of the original sample who have remained eligible were still participating. Data on the maternal and familial characteristics we include as controls were for the most part collected from the annual interviews and thus are not as subject to recall errors and biases as information collected retrospectively. Available weights permit one to present valid national statistics for the sample of women and children examined in this study.

Our sample consists of 959 youth, mostly between the ages of 14 and 18 as of the 1994 survey, who are the oldest children of the original female respondents. Our analysis examining the correlates of early sexual activity is based on the entire sample; the analyses of the predictors of contraceptive use and childbearing are limited to the 483 youth known to be sexually active.

The three outcomes of interest are whether the adolescents have ever had sex and, among those who are sexually experienced, whether they used any form of birth control the last time they had intercourse and whether they have had a live birth (or,

for males, fathered a child). We examine the independent associations between these outcomes and a variety of theoretically relevant, temporally proximate explanatory variables, controlling for a range of familial and maternal characteristics that are associated with early sexual activity.²⁴ The explanatory and control variables are defined in the appendix (page 168).

We must be cautious in making causal inferences, because data for many of the explanatory variables are available only for 1994, the same year for which we are evaluating the outcomes, and because some of the variables may be either a cause or a function of the outcomes. (For example, depression may result from early sex and childbearing, but it may also predispose an adolescent to seek intimacy by engaging in sex.) Therefore, we conducted correlation analyses to examine the relationships between the explanatory variables and the outcomes. We present zero-order correlations and, to show the effects of controlling for familial and maternal characteristics, partial correlations.

Hypotheses

For the most part, we anticipate that our key attitude and behavior variables will be predictive of having early sex and not using contraceptives. However, we anticipate different patterns of association between the inputs and becoming a parent.

Consistent with our views regarding the learning of new behaviors, we expect that having an early birth may alter prior attitudes and some types of socially nonproductive behaviors. We expect different associations for females than for males. This is because of the differential impact of childbearing on the mother and the father, but also because empirical evidence confirms that the teenage female's immediate family—which here typically includes her parents—is more directly affected than the teenage male's. Parents' awareness of a young person's involvement in a pregnancy is likely to be much greater than their awareness of the youth's sexual activity or contraceptive behavior. Males' and females' attitudes and behaviors will probably at least partly reflect their concern about how their parents will respond to the birth.

In preliminary analyses, we examined the independent associations of interest by entering the control variables in a sequential manner, beginning with demographic characteristics. We first added just the child's age. This typically altered the associations for variables that are known to be very age-sensitive (such as the items on substance use). We then added all of the

Table 1. Mean characteristics of adolescents aged 14 and older in 1994 who had been born to teenage mothers, by sexual experience and gender, National Longitudinal Survey of Youth

Characteristic	All			Sexually inexperienced			Sexually experienced		
	Total (N=959)	Male (N=496)	Female (N=463)	Total (N=413)	Male (N=218)	Female (N=195)	Total (N=483)	Male (N=236)	Female (N=247)
Sexual outcomes									
% ever had sex	54	52	56	na	na	na	na	na	na
% ever used birth control	69	66	72	na	na	na	69	66	72
% ever had a child	7	3	11	na	na	na	13	6	20
Demographic characteristics									
% male	52	na	na	53	na	na	49	na	na
Mean age	16.26	16.23	16.30	15.39	15.34	15.44	16.93	16.98	16.88
% black	32	32	32	24	20	28	39	42	35
% Hispanic	10	10	10	12	10	13	9	10	8
Attitudes									
Planning takes the fun out of things	2.20	2.30	2.11	2.20	2.25	2.16	2.20	2.33	2.08
Have to use self-control to stay out of trouble	2.54	2.65	2.44	2.51	2.62	2.39	2.56	2.65	2.47
Life without danger is dull	2.48	2.57	2.39	2.52	2.62	2.41	2.47	2.57	2.37
Enjoy taking risks	2.51	2.61	2.41	2.50	2.61	2.39	2.54	2.66	2.41
Feel depressed at times	0.55	0.33	0.79	0.47	0.32	0.63	0.64	0.32	0.95
Depression score	0.73	0.66	0.79	0.65	0.64	0.67	0.80	0.69	0.90
Feel that I am a failure	1.58	1.60	1.54	1.57	1.64	1.49	1.59	1.56	1.61
Self-esteem	3.19	3.22	3.16	3.17	3.17	3.17	3.21	3.29	3.13
Locus of control	3.09	3.10	3.08	3.10	3.06	3.14	3.10	3.15	3.04
Traditional roles scale	2.00	2.08	1.91	2.03	2.12	1.93	1.97	2.06	1.89
Behaviors									
Frequency of drinking	3.01	3.28	2.76	1.95	1.97	1.94	3.69	4.12	3.26
Peers drink	1.99	2.02	1.96	1.56	1.67	1.45	2.36	2.40	2.33
Ever used marijuana	1.86	1.97	1.75	1.19	1.26	1.12	2.41	2.56	2.26
Problems because of substance use	6.39	6.49	6.28	6.17	6.27	6.06	6.59	6.72	6.45
No. of times ran away	0.23	0.20	0.26	0.11	0.10	0.12	0.34	0.30	0.38
% who got help for emotional problems	9	10	9	7	8	5	11	11	12
% who volunteered	34	30	37	42	35	48	27	25	29
Current maternal and family characteristics									
Mother's mean years of schooling†	11.13	11.20	11.06	11.51	11.53	11.50	10.88	10.98	10.77
No. of children in home†	2.55	2.52	2.57	2.54	2.56	2.52	2.55	2.50	2.61
% urban†	74	75	74	71	69	73	77	78	76
Mother's mean no. of weeks worked per year‡	24.35	24.67	23.99	24.11	24.54	23.62	24.94	25.50	24.32
% of surveys in which mother's partner was present‡	72	69	74	79	79	79	66	61	71
% of surveys in which grandparents were present‡	10	9	10	7	6	8	11	11	11
Mean family income-to-needs ratio‡	1.91	1.87	1.95	2.06	2.07	2.05	1.79	1.68	1.89
Maternal characteristics									
Mean age at first sex	15.96	16.03	15.89	16.55	16.62	16.47	15.45	15.42	15.48
Mean age at first menarche	12.53	12.59	12.46	12.68	12.65	12.71	12.41	12.50	12.31
Early substance use	0.60	0.59	0.62	0.47	0.47	0.47	0.71	0.68	0.73
Early deviant behavior score	0.90	0.96	0.84	0.87	0.87	0.85	0.93	1.02	0.85

†1988. ‡1979–1988. Notes: For definition of all variables and scores, see appendix (page 168). na=not applicable.

other characteristics except the maternal characteristics, and finally included those items. Typically, the addition of each set of variables modestly reduced the coefficients.

Results

Sample Characteristics

The adolescents' characteristics show clearly that many of these young people and their families are disadvantaged (Table 1). For example, two-fifths of these adolescents are members of racial or ethnic minority groups. On average, their mothers had had only about 11 years of schooling and had become sexually active by their 16th birthday. And their income-to-needs ratio (1.9) suggests that the average income for these families is not quite twice the poverty level.

Because the young men and women are drawn from similar backgrounds, their family and maternal attributes are very similar. However, some gender distinctions are evident in attitudes and behaviors that we expect to be associated with the outcomes. For example, the data suggest that males are more likely than females to feel that "planning takes the fun out of things" or that they need to "use self-control to stay out of trouble," and they are more likely to be risk-takers and are less likely to be depressed. They also are more likely to use various substances. Thus, everything else being equal, one might anticipate gender differences in the three outcomes strictly on the basis of these factors.

The sexually active adolescents were markedly more disadvantaged than their

sexually inexperienced counterparts. On average, their mothers had less education, and their family economic well-being (as measured by the long-term ratio of income to needs) was lower. Perhaps even more important, the mothers of the sexually active youth had become sexually active at a substantially younger age than the mothers of the sexually inexperienced teenagers (15.5 vs. 16.6 years) and were substantially more likely to have been involved in troublesome adolescent behaviors. Additionally, the sexually active adolescents have used substances to a greater extent and have evidenced more problem behaviors.

In virtually all instances, the differences between the sexually active and sexually inexperienced youth appear for both males and females, although the level of

negative adolescent behaviors is systematically higher for males. The only clear instance of a significant gender differential by sexual activity is for depression: Sexually active young women appear substantially more depressed than their sexually inexperienced counterparts, a pattern not evidenced for the young men.

Attitude Variables

•*Risk-taking.* The variables regarding planning, staying out of trouble, danger and enjoying risks are intended to tap dimensions of risk-taking behavior. While they could be combined into a scale, we feel that the individual items reflect distinct dimensions. For example, the first of these items is likely linked to notions of delayed gratification, and the second might reflect an adolescent's impulsiveness. The last two items are directly related to risk-taking likelihoods.

In the uncontrolled analysis, for the overall sample, none of these items are associated with either being sexually active or using contraceptives; when the analysis is controlled for background characteristics, however, young people who enjoy taking risks also are likely to be sexually experienced (Table 2). We were surprised to find no overall association between an unwillingness to plan and the use of contraceptives.

Our hypothesis regarding associations between these attitude items and childbearing is supported: Sexually active youth who have had a child are marginally less likely than their childless peers to express a willingness to take risks ($p < .10$) and are less likely to agree that planning takes the fun out of things. The contrast between these results and the signs (if not always the significance) of the coefficients for sexual activity suggests that young people's experiences can alter their attitudes.

Do the overall associations mask important gender differences? With respect to sexual activity, the answer clearly is no. The coefficients are typically not significant for either young men or young women. The only exception is that in the controlled analysis, the "enjoy taking risks" item is significant for females and marginally significant for males.

With regard to contraceptive use, the controlled results indicate that young women have a significant likelihood of disagreeing with the statement that they need to exercise self-control to stay out of trouble; for young men, there is no statistically significant association between the self-control item and contraceptive use. One plausible implication of these find-

Table 2. Correlations between the likelihood of having had sex, having used birth control or having had a child and selected attitudes and behaviors, by gender, among adolescents aged 14–18 in 1994 who had been born to teenage mothers

Attitude or behavior	Uncontrolled			Controlled		
	Total	Male	Female	Total	Male	Female
HAD SEX						
Attitudes						
Planning takes the fun out of things	-.00	.05	-.05	-.00	.04	-.03
Have to use self-control to stay out of trouble	.03	.02	.04	.01	-.01	.05
Life without danger is dull	-.03	-.02	-.02	.03	.04	.03
Enjoy taking risks	.02	.03	.02	.08***	.07*	.11**
Feel depressed at times	.10***	-.01	.16***	.03	-.08**	.07*
Depression score	.11***	.04	.16***	.06**	-.01	.12***
Feel that I am a failure	.01	-.07	.10**	.00	-.07*	.07*
Self-esteem	.04	.13***	-.04	.00	.05	-.02
Locus of control	.00	.10**	-.09	.01	.07*	-.03
Traditional roles scale	-.06	-.07	-.05	-.03	-.02	-.03
Behaviors						
Frequency of drinking	.38***	.44***	.33***	.28***	.32***	.23***
Peers drink	.29***	.26***	.32***	.20***	.17***	.24***
Ever used marijuana	.36***	.36***	.36***	.30***	.29***	.31***
Problems because of substance use	.14***	.12**	.21***	.11***	.09**	.17***
No. of times ran away	.19***	.16***	.21***	.17***	.17***	.17***
% who got help for emotional problems	.07**	.04	.11**	.08***	.06	.11**
% who volunteered	-.15***	-.10**	-.20***	-.06**	-.03	-.11**
USED BIRTH CONTROL						
Attitudes						
Planning takes the fun out of things	-.04	-.06	.00	-.04	-.06	-.01
Have to use self-control to stay out of trouble	-.07	-.01	-.11	-.05	-.00	-.10**
Life without danger is dull	.01	.07	-.03	.01	.08	-.06
Enjoy taking risks	.05	-.01	.11	.03	-.00	.05
Feel depressed at times	-.12***	-.11	-.19***	-.09**	-.10*	-.14**
Depression score	-.05	-.06	-.06	-.03	-.07	-.04
Feel that I am a failure	-.12***	-.07	-.18***	-.09**	-.04	-.13**
Self-esteem	.06	.04	.11	.04	-.02	.08
Locus of control	.07	.07	.09	.05	.03	.08
Traditional roles scale	-.16***	-.29***	-.03	-.11**	-.25***	.04
Behaviors						
Frequency of drinking	-.04	.07	-.15**	-.06	.02	-.14**
Peers drink	-.09	.01	-.19***	-.10**	-.03	-.17***
Ever used marijuana	-.06	-.05	-.05	-.08*	-.08	-.07
Problems because of substance use	-.04	-.07	.03	-.03	-.06	.03
No. of times ran away	.03	-.02	.07	.04	.01	.08
% who got help for emotional problems	.02	.05	-.00	.02	.05	.01
% who volunteered	.08	.07	.08	.06*	.08	.04
HAD A CHILD						
Attitudes						
Planning takes the fun out of things	-.10**	-.13	-.04	-.09**	-.08	-.01
Have to use self-control to stay out of trouble	.05	.00	.10	.00	-.02	.05
Life without danger is dull	-.17***	-.14**	-.16**	-.11**	-.09*	-.05
Enjoy taking risks	-.13***	-.12	-.10	-.07*	-.07	-.00
Feel depressed at times	.18***	.12	.13**	.17**	.10*	.08
Depression score	.08	-.04	.10	.09**	-.01	.08
Feel that I am a failure	.09**	-.02	.15**	.08*	-.02	.13**
Self-esteem	-.08	.05	-.11	-.11**	.01	-.10*
Locus of control	-.05	.08	-.09	-.07*	.10*	-.12**
Traditional roles scale	.03	.00	.10	.00	.00	.10*
Behaviors						
Frequency of drinking	-.07	.07	-.12	-.11*	.07	-.16**
Peers drink	-.00	.08	-.05	-.05	.07	-.12**
Ever used marijuana	-.02	.09	-.06	-.03	.09	-.07
Problems because of substance use	-.05	-.02	-.06	-.05	.03	-.05
No. of times ran away	.06	-.06	.12	.13***	.03	.13**
% who got help for emotional problems	.02	-.03	.05	.07*	.06	.07
% who volunteered	-.10**	.13	-.23***	-.06	.18***	-.19***

* $p < .10$. ** $p < .05$. *** $p < .01$. Note: Controlled analyses adjust for adolescent demographic, current maternal and family, and maternal characteristics. For definition of all explanatory variables and scores, see appendix, page 168.

ings is that women might be less likely than men to be impulsive when deciding whether to use contraceptives because the consequences of not using a method can have more direct and immediate repercussions for them.

Finally, with respect to childbirth, we find no important associations related to risk-taking for either gender in the partial correlation analysis. The significant associations noted for the total sample apparently are due to its size and smaller standard error.

• *Depression.* We use two measures of depression: an individual item (“feel depressed at times”) and a composite score. Without any controls, being sexually active is strongly correlated with being depressed for the sample as a whole, regardless of which measure is used. However, this is largely a female phenomenon, as may be seen by comparing the coefficients for males and females. When controls are added, depression continues to be associated with above-average levels of sexual activity for women. However, according to the individual item, sexually active young men are less likely than their sexually inexperienced peers to be depressed. Thus, we find some evidence of differential psychological manifestations for young men and women who become sexually active.

With respect to birth control use, we find significant associations, albeit only for the individual depression item. Even with all controls, depressed youth are significantly less likely than other young people to be using contraceptives. While depression could arise from not having used a method appropriately, it is much more likely that ineffective contraceptive use is a result of depression. The magnitude of the associations is similar for both genders, but the coefficient for males achieves only marginal significance.

Finally, for both genders, depression is moderately associated with having had a child. The overall partial coefficient is strong and significant. The separate gender coefficients are somewhat smaller, and only among males is one of the measures marginally significant. Given that the linkage between depression and childbearing is similar for males and females, the association may reflect more than just a postpartum physiological-psychological connection.

• *Self-esteem.* We explore three partially related factors: an individual item that asks the youth whether they “feel they are a failure,” as well as well-validated scales of self-esteem and locus of control. It is difficult to predict the nature of the associations between these variables and our outcomes, because of the differing male and female norms relating to the appropriateness of the outcomes. Depending on a youth’s other personal values, these explanatory measures could be associated with either higher or lower levels of sexual activity.

Overall, in both the uncontrolled and the controlled analyses, these measures are not associated with early sexual activity. However, in the uncontrolled associations, sexually active young men have higher self-esteem and a stronger locus of control than their sexually inexperienced peers, while

sexually active young women are more likely than others to perceive themselves as failures. For the partial correlations, the results are similar, but much less robust. More control and less feeling of failure are marginally linked with sexual activity for males, whereas feeling a failure is marginally associated with sexual experience for females. These results, although modest in strength, suggest that these young men and women may be viewing sex quite differently.

Regarding contraceptive use, only one association is significant, but it is quite robust and is consistent with our findings regarding sexual activity. For young women, nonuse of birth control is strongly and independently associated with personal feelings of failure.

With regard to a history of childbearing, our results are generally consistent with prevailing norms within traditional adolescent culture. For the total sample, we find marginally significant associations that are consistent with the female results. That is, young mothers are more likely to feel they are a failure, have lower self-esteem and feel they have less control over their environment than their childless counterparts. For young men, the only result even approaching significance suggests that becoming a father is associated with a stronger locus of control.

• *Women’s roles.* The traditional roles scale consists of a well-established series of items regarding youth’s ideas of the appropriate roles for women. When the relationships are controlled, only limited associations are evident. Adolescent males with more traditional values are much less likely to use contraceptives than are those with less-traditional views. Teenage women with traditional values are marginally more likely than others to have had a child. A traditional view of gender roles was not independently associated with sexual activity for either gender.

Behavior Variables

• *Substance use.* For both genders, sexual activity is strongly associated with drinking alcohol, using marijuana, having peers who drink and having substance use problems. These associations remain statistically significant in the controlled analysis.

However, the results for using birth control and for having had a child tell a different story. For females, drinking alcohol and spending time with peers who drink are independently linked with not using birth control. For males, there are no associations. Thus, teenage women may be more susceptible than young men to negative peer influences. On the other hand,

young mothers drink less than their childless peers and are less likely to spend time with friends who drink.

• *Other negative behaviors.* One obvious manifestation of a difficult adolescence is a tendency for youth to run away from home. The motivations for leaving home can be inextricably linked with other attitudes and behaviors that are associated with our outcomes. They can also be a consequence of the outcomes, and one would expect this to be particularly true with respect to giving birth.

The pattern that emerges is reasonably consistent with our expectations. The partial correlations between running away and being sexually active are quite strong for teenagers of both genders. This is consistent with the notion that youth who are encountering a difficult adolescence are more likely than other young people to leave home. It may also suggest that youth who wish to form sexual relationships find it easier to do so outside their parents’ home.

We had no theoretical rationale for expecting a relationship between running away from home and using contraceptives, and no associations were found.

However, the linkage between running away and being a parent shows an important gender distinction that is consistent with many of our other findings. Adolescent mothers are significantly more likely than their childless peers to have run away from home. This likely reflects that the presence of an infant may result in an awkward, if not impossible, residential situation for some young women. As is well documented, a substantial proportion of young fathers have never resided with the mother and child.²⁵ Thus, the child often becomes the responsibility solely of the mother. In many instances, her parents may wish no involvement, or she may avoid family conflict by leaving home. This highlights once again how female and male behavior paths may fundamentally differ, reflecting physiological variations and, perhaps more importantly, differences in perceived societal norms regarding adolescent sexual behavior.

Finally, sexually active females were more likely than their sexually inexperienced peers to have received help for emotional problems within the past year.

• *Socially productive behavior.* In addition to asking these youth about “problem” behaviors, we queried them about their involvement in positive activities, such as volunteering in their community. Teenage women who are more involved in positive activities are less likely to be sexually active. In the controlled results, adolescent

mothers are less likely than their childless peers to volunteer, whereas young fathers are much more likely than childless young men to volunteer. Not surprisingly, teenage women with a young child have more time constraints than others, and they surely have less time for outside involvement. For fathers, the results may suggest the beginning of a move toward maturity, or they may indicate that young men who acknowledge fatherhood are the more responsible of the young fathers, and thus are more likely than other fathers to be involved in positive activities. However, our methods do not permit us to draw conclusions about the direction of causation.

Discussion

Our findings suggest that in certain respects, the factors associated with adolescent sexual behavior are the same for males and females. The young people in our sample who considered themselves risk-takers and who used or were involved with substances were somewhat more likely than others to become sexually active at an early age. Additionally, those who became sexually active early were more likely than other youth to have run away from home.

More typically, however, the linkages between the explanatory variables and the outcomes differed by gender. Some variables had significant associations with an outcome for adolescents of both genders, but the associations were in opposite directions. For example, above-average levels of depression were associated with engaging in sexual activity, not using birth control and having an early birth for the sample overall. However, whereas sexually active females had elevated levels of depression, sexually active males had reduced depression levels. Other variables had a significant relationship with an outcome for men or women but not both. (Additionally, however, in a number of instances, the relationship between explanatory items and the outcomes was not significant for either gender.)

Thus, a number of gender distinctions may apply to this population, although we cannot claim strong statistical support for any single association. Consistent with traditional notions regarding gender behavior, youth who are inclined toward risk-taking appear more likely than others to be sexually active. However, among sexually active young women, those who use contraceptives can be differentiated from nonusers by their acknowledgment that they do not need to use self-control to stay out of trouble. Additionally, it may well be

that the implications of not using contraceptives are so transparent and the consequences so immediate that for at least some of these young women, little conscious thought is required. However, this supposition is applicable only to the subset of young women who are sexually active.

We found fairly persuasive and systematic evidence that for teenage women, having intercourse early, not using contraceptives and having a child are linked with being depressed, feeling a failure and (with respect to having a child) having low self-esteem and little sense of control over one's life. For young men, the results are much more erratic. Males are similar to females in showing associations between evidence of depression and both ineffective contraceptive use and early childbirth. However, more typically, the correlation coefficients show either no relevant associations or weak associations in the opposite directions.

Behaviorally, gender distinctions are modest. The most pronounced differences are evidenced early: Teenage men who are sexually active express low levels of depression and feel in control of their environment. Furthermore, this feeling of control does not appear to be transient, as those who go on to become young fathers maintain this belief. By contrast, young women show significant associations between having sex and feeling depressed. Additionally, young women who have had a child report feeling less control over their life.

After young people become parents, tentative evidence of maturity begins to appear for both genders; again, however, our methods do not disentangle causality. Young mothers' below-average level of alcohol consumption and reduced tendency to spend time with peers who drink may suggest that widespread media messages publicizing the potential dangers of alcohol abuse have had an effect, or that new mothers have different lifestyles than they had before they gave birth. Additional analyses using methods that more directly test for causality might shed light on whether some of their other psychological traits—feelings of failure and lack of control over their world—could alter their likelihood of quickly having another birth.

Young fathers exhibit noticeably lower levels of willingness to take risks than their peers, higher levels of depression and, particularly, greater involvement in socially productive activities. These young men may have learned something, although they paid a high price, and one is left with a feeling that they may act more responsibly in the future.

In summary, we have found that on average, the adolescent males in our sample approached sexual behavior in a more casual manner, and from a different perspective, than the young women. One might conclude that sexually active youth are following behavior paths for the wrong reasons, although those reasons are not easy to remedy.

To some extent, the essential problem could perhaps be mediated if the value-laden baggage that many young men and women carry with them toward adulthood could be dropped. In many instances, personalized counseling may be required. The strong and independent association between conservative notions regarding appropriate roles for women and men's unwillingness to use contraceptives may partly reflect that young men rationalize their behavior. It surely is an important symptom of the problem.

This life-event perspective leaves some room for optimism, given the various ways in which the young fathers and mothers may have altered their attitudes and behaviors in association with their new roles as parents. This may be predictive of changes in their likelihood of continuing early childbearing. Subsequent waves of data from this same sample may shed light on this outcome.

Appendix: Coding of Variables Sexual Outcomes

All variables are coded 1 if the characteristic is present.

Demographic Characteristics

All variables are coded 1 if the characteristic is present, except age, which is continuous.

Attitudes

Planning takes the fun out of things, have to use self-control, life without danger is dull, enjoy taking risks, feel a failure and feel depressed at times are coded on a four-point scale indicating strength of agreement (1=strongly disagree, 4=strongly agree).

Self-esteem is measured by the nine-item Rosenberg index (Cronbach's alpha=.85). Each Likert-scaled item has a range of 1–4, with higher scores representing greater self-esteem.

Locus of control is measured by a seven-item mean index (Cronbach's alpha=.72). Each Likert-scaled item has a range of 1–4, with higher scores indicating that adolescents feel they have greater control over their actions and environment.

The depression score is an abbreviated version of the Centers for Epidemiologic Studies Depression Inventory. (The full scale is a self-report measure of adult depressive symptoms. It has high internal consistency and adequate test-retest reliability.²⁶) The score used here is a seven-item mean index (Cronbach's alpha=.71) that ascertains how often mood has affected an adolescent's energy level, sleeping habits and ability to concentrate. Each item has a range of 1–3, with higher scores representing greater depression.

The traditional roles scale is measured by an eight-item mean index (Cronbach's alpha=.70). Each Likert-scaled item has a range of 1-4, with higher scores indicating more traditional attitudes toward women's roles in the home and workplace.

Behaviors

Frequency of drinking is coded on a nine-point scale (1=never in last year, 9=daily). Having peers who drink is a measure of how many of the respondent's friends drink at least sometimes (0=none, 4=all). Marijuana use indicates how many times the respondent has ever used it (1=never, 7=100 times or more). Problems because of substance abuse is a summed index of six items (Cronbach's alpha=.84) about whether the adolescent has experienced difficulties as a result of using drugs, such as having had grades suffer, driven a car while high or done things unintentionally; each item has a four-point range, with higher scores representing more problems.

Number of times ran away is coded on a four-point scale (0=never, 3=six or more). Got help for emotional problems is coded 1 if the respondent had received help for an emotional, behavioral or family problem in the past 12 months. Volunteered is coded 1 if the respondent had performed any volunteer or community work in the past two years.

Current Maternal and Family Characteristics

Urban residence is coded 1. All other measures are continuous variables. Average ratio of family income to needs is based on the income level that the federal government uses to define minimum acceptable living standards, taking into account such factors as the state of residence and family size.

Maternal Characteristics

Age at first sex and at menarche are continuous variables. Early substance use is a composite of scores on cigarette and alcohol items asked in 1984. Alcohol use was coded 1 if the mother had had six or more drinks on at least two occasions in the previous month; cigarette use was coded 1 if she had had one or more cigarettes per day in the previous month.

The deviant behavior score ranges from 0 to 8, reflecting how many of the following behaviors the mother reported engaging in during the year prior to the 1980 interview: taking a car without the owner's permission; breaking into a building to steal or just look around; destroying property more than once; shoplifting; smoking marijuana more

than once; using force to obtain money or items; attacking someone with the intent to injure; and trying to get something from someone by lying.

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