

High-Risk Sexual Behavior Among Young Urban Students

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A substantial number of adolescents, including many as young as 11, engage in high-risk sexual behavior. In a 1992 survey of 2,248 urban students in grades 6, 8 and 10, 45% of respondents, including 28% of sixth graders, were sexually active; the majority of sexually experienced students had had two or more partners. Among sexually active respondents, however, the level of condom use at last intercourse was higher than expected (71%). Results of multivariate analyses indicate that students in grades 8 and 10 were significantly more likely than sixth graders to be sexually experienced; males, blacks and socioeconomically disadvantaged students were significantly more likely than their female, white and better-off counterparts to be sexually active. The effects of gender and race interacted in some cases, and race and socioeconomic status had significant independent effects on rates of sexual intercourse. While males and black students reported high levels of sexual activity, they also were more likely than young women and Hispanics to have used condoms at last intercourse.

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High-risk sexual behavior is a serious problem for adolescents of all ages. In a national study of high school students, 54% reported having had two or more sexual partners in their lifetime, and 19% said they had had four or more partners; only 45% reported that they or their partner had used a condom the last time they had sexual intercourse.¹ Rates of infection with sexually transmitted diseases other than the human immunodeficiency virus among sexually active adolescents are higher than those for any other age-group.² Since 1990, the number of AIDS cases among teenagers has more than tripled; the number of cases among men and women aged 20-24, who were likely infected in adolescence, has shown a similar trend.³

For young adolescents engaging in sexual intercourse, such risks are magnified. Earlier age at initiation of sexual activity has been associated with less frequent condom use, a greater number of sexual partners, and elevated rates of sexually transmitted diseases and unplanned pregnancies.⁴ Fur-

thermore, once established, high-risk sexual behaviors are difficult to modify.⁵

Yet, to date, there has been limited examination of sexual activity and condom use among young adolescents (those not yet in high school). Most data on these young people come from retrospective surveys.⁶ One reason better data are lacking may be the ethical and political problems inherent in surveying young samples.⁷ Another reason may lie in assumptions about the rates of sexual intercourse in very young age-groups: In two recent studies of multiple high-risk behaviors, the investigators did not inquire about the sexual activity of young adolescents because they assumed that rates would be low.⁸

However, existing data indicate that at least in high-poverty, urban areas, a significant proportion of youths engage in early sexual intercourse.⁹ In a study of seventh graders from a predominantly minority, urban school district, nearly 60% of boys and 30% of girls reported having had sexual intercourse.¹⁰ A preliminary study for the research described in this article showed similar results for a sample of urban sixth and seventh graders.¹¹

Some demographic factors have a well-documented association with age at first intercourse and high-risk sexual behavior. For example, teenage men are more likely than women to be sexually active, and they typically have had a greater number of sexual partners.¹² Also, black adolescents are more likely to be sexually experienced than are their white peers.¹³

The picture becomes more complicated, however, when interactions between multiple demographic variables and other indicators of high-risk sexual behavior are involved. For example, white sexually active females have reported engaging in intercourse more frequently and with a greater number of partners than their black peers.¹⁴ While Hispanic males have reported higher rates of sexual intercourse than their white counterparts, Hispanic women have reported rates equal to or slightly lower than those among whites.¹⁵ One study found no difference among whites, blacks and Hispanics in rates of condom use,¹⁶ although others have noted lower rates among Hispanics.¹⁷

Demographic characteristics are not inherently a cause of high-risk sexual behavior; rather, they serve as markers of other, poorly understood social processes.¹⁸ Similarly, the above examples indicate that the effect attributable to one demographic marker (e.g., gender) often varies as a function of another (e.g., race or ethnicity), and that the risk for any particular group depends on the outcome under study.

One demographic variable that has not been systematically examined with regard to high-risk sexual behavior is socioeconomic status. Some authors have suggested that higher rates of sexual activity among minority adolescents may be attributable to the social and economic problems of those in poverty.¹⁹ However, this hypothesis has not been tested.

Clearly, better knowledge about the sexual behavior of young adolescents is needed, particularly to guide the timing and scope of preventive interventions. This article presents survey data on high-risk sexual behavior among a sample of inner-city students in grades 6, 8 and 10.

Few studies have comprehensively examined the association between multiple demographic variables and a range of high-risk sexual behaviors. Several features of our research were designed to address this shortcoming: Black, Hispanic and white students were sampled in sufficient numbers to permit detailed examination of racial and ethnic differences; the analyses included a measure to gauge the effects of family income; and the sample

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Table 1. Percentage distribution of students in an urban public school district, by selected characteristics, according to grade, Social and Health Assessment survey, 1992

Characteristic	Grade			
	Total (N=2,248)	6 (N=958)	8 (N=809)	10 (N=481)
Gender				
Male	45.2	48.7	44.5	39.7
Female	54.8	51.3	55.5	60.3
Race/ethnicity				
Black	61.3	59.7	61.4	64.4
Hispanic	22.4	21.4	24.4	21.2
White	16.2	18.9	14.2	14.3
Language spoken at home				
English	76.1	76.6	74.3	78.1
Spanish	4.6	4.3	4.6	5.0
Both	16.9	16.5	18.9	14.2
Other	2.5	2.6	2.2	2.7
No. of grades repeated				
0	63.0	60.5	63.3	67.4
1	32.7	35.0	32.2	28.7
≥2	4.3	4.5	4.4	3.9
Receive free or reduced-price lunch				
Yes	46.3	65.3	59.6	27.0
No	53.7	34.7	40.4	73.0
Total	100.0	100.0	100.0	100.0

was large enough to permit analysis of both univariate and multivariate effects, including interactions. Additionally, the sample included younger adolescents than are typically studied, which should enhance the findings' contribution to knowledge of adolescent sexual behavior.

Methods

The Survey

The Social and Health Assessment survey, a compendium of indices designed to evaluate school and community involvement and high-risk behavior among middle school and high school students,²⁰ was administered to students in grades 6, 8 and 10 in a southern New England public school district in the spring of 1992. The district is

*Fewer than 1% of students did not participate because of their own or their parents' objections. The rate of absenteeism on the day of the survey was significantly higher among male students than among females (26% vs. 22%) and among 10th-grade students than among those in grades 6 and 8 (30% vs. 19-26%); the rate was significantly lower among students receiving free or reduced-price lunch than among those not receiving such assistance (23% vs. 26%). (The overall rate of absenteeism for students in grades 6, 8 and 10 was 22% in 1991-1992.) Students receiving special education services and those with relatively low scores on standardized tests also had comparatively high rates of absenteeism.

†Data were considered unreliable or invalid if information on gender from school records did not agree with the student's survey response (34 students), if respondents indicated they were not always honest in filling out the survey (137) or if responses were inconsistent across items (100). (For the approach used to determine inconsistencies, see: A. D. Farrell, S. J. Danish and C. W. Howard, 1992, reference 9.)

in a city with a population of about 130,000. With 22% of residents living below the poverty line, the city ranks among the 30 poorest nationally. The rate of deaths from AIDS has been among the highest in the nation.²¹

The district's nine middle schools, six high schools and two special schools had a total enrollment of 17,944 students. Overall, 58% were black, 24% Hispanic, 17% white and 1% Asian. The student body was evenly distributed between males and females. Half of the students received free or reduced-price school lunch.

All students in grades 6, 8 and 10 were surveyed unless their par-

ents requested that they not be involved, the students indicated their parents had objections or the students did not wish to participate. Students absent from school on the day of the survey were not included.*

The survey was administered in the classroom during the regular school day by research assistants trained in standardized procedures for administering questionnaires. A member of the research staff read each question aloud, and students followed in survey booklets. One or two additional research staff members were present in each classroom to answer students' questions. Teachers remained in the classroom but were not involved in any aspect of survey administration. Approximately 4% of the sample completed the survey in Spanish with bilingual survey administrators.

Before beginning the survey, the research staff fully explained to the students the measures being taken to protect privacy and confidentiality. The students were instructed not to put their names on the survey form, and the students were spaced sufficiently throughout the room so that they could not see each others'

forms. All questions required an answer, so the act of marking the form did not indicate an affirmative response to a survey question.

A total of 2,536 students completed the survey. Of these, 271 were excluded because their responses were considered potentially unreliable or invalid.† Furthermore, because the students were predominantly black, Hispanic and white, the 19 students who belonged to other racial or ethnic groups were also excluded.

Selected background characteristics of the final sample of 2,248 students are presented in Table 1. These students account for 68% of the total school district enrollment for these grades. The sample is racially diverse and is more than one-half female. Respondents ranged in age from 11 to 19; on average, they were 13.3 years old (not shown). Nearly half received free or reduced-price school lunch, indicating a fairly high level of socioeconomic disadvantage.

In terms of racial and ethnic composition, the sample was representative of the district enrollment (within 1-3 percentage points). For students in grades 6 and 10, the distribution by gender also was representative of the district population; however, eighth-grade males were underrepresented. (The disproportion of females in the 10th-grade sample accurately reflects enrollment; this imbalance may be due to higher drop-out rates among males.)

Measures

Five of the survey items²² addressed students' sexual activity and their use of condoms and other birth control methods: "Have you ever had sexual intercourse ('gone all the way')?" (possible responses: no, yes); "During your lifetime, with how many people have you had sexual inter-

Table 2. Number and percentage of students who have ever had intercourse, by gender, according to grade and race or ethnicity

Grade and race/ethnicity	Total		Male		Female	
	No.	%	No.	%	No.	%
All (N=2,059)	917	44.5	579	62.7	338	29.8
Grade 6 (N=860)	243	28.3	187	46.1	56	12.3
Black	199	39.0	153	61.9	46	17.5
Hispanic	28	15.8	24	31.2	4	4.0
White	16	9.2	10	12.2	6	6.6
Grade 8 (N=751)	376	50.1	242	71.8	134	32.4
Black	288	62.6	169	84.5	119	45.8
Hispanic	73	40.3	63	70.8	10	10.9
White	15	13.6	10	20.8	5	8.1
Grade 10 (N=448)	298	66.5	150	82.9	148	55.4
Black	221	76.2	105	92.9	116	65.5
Hispanic	47	52.2	27	77.1	20	36.4
White	30	44.1	18	54.5	12	34.3

Note: The total N excludes 189 students who did not respond to this question.

course ("gone all the way")? (possible responses: I have not had sexual intercourse, 1, 2, 3, 4, 5, 6 or more); "The last time you had sexual intercourse, did you or your partner use a condom?" (possible responses: I have not had sexual intercourse, no, yes); "The last time you had sexual intercourse, what method did you or your partner use to prevent pregnancy?" (possible responses: I have not had sexual intercourse, no method, birth control pills, condoms, withdrawal, some other method, not sure); and "How many times have you been pregnant or gotten someone pregnant?" (possible responses: 0, 1, 2 or more, not sure).

To determine the number of students below the grade appropriate for their age, the survey asked whether respondents ever had "stayed back or repeated a grade in school" (possible responses: no; yes, once; yes, more than once). (School records did not contain these data in an easily accessible form.)

The self-reported survey data were supplemented by data from school system records on absenteeism, achievement test scores and receipt of free or reduced-price school lunch. This information made it possible to describe the representativeness of the sample relative to the school district population and to assess students' socioeconomic status.

Eligibility for free or reduced-price school lunch is determined by federal guidelines on family income. In 1991, all children from a family of four with an income of less than \$16,510 were eligible for free lunch; those with a family income of less than \$23,495 were eligible for reduced-price lunch. Enrollment in the school lunch program was used as a proxy variable to indicate some degree of family economic disadvantage. This variable was scored dichotomously (i.e., all those receiving free or reduced-price lunch were compared with those receiving no such assistance).

Analysis

Logistic regression for the two dichotomous dependent variables, initiation of sexual activity and condom use at last intercourse, was used to examine the main effects of grade, gender, race and school lunch status and all two-way interactions. (The sample size within certain subgroups was not sufficient to permit examination of higher order interactions.) Only the final models are presented in this article. Chi-square analyses were used to assess the polychotomous categorical dependent variable, number of sexual partners. (The sparseness of the data precluded use of logistic regression analyses.) Data on contraceptive use and pregnancy were too

sparse to permit inferential analyses, but descriptive data on these topics are presented.

Results

Sexual Activity

Overall, 45% of the students in the sample reported having ever engaged in sexual intercourse (see Table 2).^{*} Perhaps the most notable result shown in the table is that 28% of sixth graders were sexually active. This proportion increased with grade, to 50% and 67% among young people in grades 8 and 10, respectively.[†]

To assess the extent to which these data may have been skewed by the responses of overage students (i.e., those who had been retained), we conducted analyses comparing students at and below a grade appropriate for their age.

Among the 1,296 students at an appropriate grade level, rates of sexual intercourse at grades 6, 8 and 10 were 19%, 45%, and 60%, respectively; comparable figures for the 759 respondents below appropriate grade level were 44%, 60% and 80%, respectively. (Data on retention were missing for four students.) The differences between the two groups at each grade level were statistically significant. Thus, retention, which may be a proxy for other risk factors, may be an important predictor of sexual activity; however, analysis of this issue is beyond the scope of the present article.

The results of the logistic regression analyses estimating the simultaneous effects of grade, gender, school lunch status and race on the likelihood of sexual intercourse are summarized in Table 3. All main effects, as well as the interaction between gender and race or ethnicity, were statistically significant. The overall model provided a significant improvement in fit over the null (constant-only) model and a reasonably good fit to the observed data.

Compared with sixth graders, students in grades 8 and 10 were 3.6 and 10.2 times as likely, respectively, to be sexually experienced. Males were 2.4 times as likely as females to be sexually active. Blacks were 4.6 times as likely as whites to have initiated sexual activity. Participants receiving free or reduced-price lunch were 1.3 times as likely to have had sex as those not receiving such assistance.

The interaction between sex and gender was driven largely by the interactive effects of being male and Hispanic. Hispanic and white females reported comparable levels of sexual activity, which were much lower than those reported among blacks. By contrast, the proportion of Hispanic males who were sexually active consistently fell between those of blacks and whites.

Number of Partners

Given the interaction between gender and race or ethnicity found for rates of intercourse, we stratified the number of sexual partners by grade and, for each gender, by race or ethnicity (see Table 4, page 72).

^{*}In all, 189 students did not answer this question. Sixth-grade students were significantly more likely than those in other grades not to answer (10% vs. 7%), and the rate of nonresponse was higher among Hispanics than among blacks and whites (11% vs. 4-9%). Males and females responded at similar rates.

[†]Grade was used in all statistical analyses because sampling was done according to grade level and results are intended to inform the timing of preventive interventions, which are usually administered according to grade rather than age. Within each grade, age was not a significant predictor of sexual activity once students below the appropriate grade level were omitted.

Table 3. Results of logistic regression analysis estimating the odds that a student has ever had sexual intercourse, by background characteristics

Characteristic	Coeff.	S.E.	Wald	Odds ratio (and 95% C.I.)
Grade			217.06***	
6 (reference)	1.00	na	na	na
8	1.27	0.13	99.17***	3.57 (2.78-4.58)
10	2.32	0.16	205.61***	10.23 (7.44-14.10)
Gender				
Male	0.87	0.30	193.04**	2.38 (1.30-4.35)
Female (reference)	1.00	na	na	na
Free lunch				
Yes	0.23	0.12	3.96*	1.27 (1.00-1.60)
No (reference)	1.00	na	na	na
Race/ethnicity			83.96***	
Black	1.51	0.25	36.67***	4.55 (2.79-7.43)
Hispanic	-0.10	0.31	0.10	0.91 (0.50-1.66)
White (reference)	1.00	na	na	na
Interaction of sex and gender			16.43**	

D=2.084.43
 χ^2 (Pearson)=2,094.12
df=2,050

Goodness of fit indices
 $\chi^2=38.59$, df=27, p=.07
 χ^2 (C.C. Brown)=1.28, df=2, p=.53

*p<.05. **p<.01. ***p<.001. Notes: In this table and in Table 6, S.E.=standard error; C.I.=confidence interval; na=not applicable. Deviance (D) and χ^2 (Pearson) statistics were derived through an SPSS (version 4.0) logistic regression analysis; the χ^2 and χ^2 (C.C. Brown) statistics were taken from a BMDP (version 90) logistic regression analysis of the same model.

Table 4. Percentage distribution of students by number of sexual partners, according to selected characteristics

Characteristic	0	1	2-3	4-5	≥6	Total
Grade						
6 (N=875)	71.7	7.0	8.3	3.8	9.2	100.0
8 (N=753)	50.2	12.4	13.9	8.1	15.5	100.0
10 (N=437)	34.2	16.2	20.5	10.8	18.2	100.0
Gender						
Male (N=929)	37.7	10.4	15.8	10.1	25.8	100.0
Black	24.0	10.7	18.5	13.3	33.6	100.0
White	77.1	10.5	5.6	3.7	3.1	100.0
Hispanic	44.6	9.8	16.7	6.4	22.6	100.0
Female (N=1,136)	70.4	11.5	10.5	4.1	3.4	100.0
Black	60.3	14.2	14.2	6.0	5.3	100.0
White	86.9	6.8	5.2	1.0	0.0	100.0
Hispanic	86.2	7.7	4.0	1.2	0.8	100.0

Note: The total N excludes 183 students who did not respond to this question.

Most of the sexually experienced respondents had had multiple partners. Among sixth graders, 28% of whom were sexually experienced, 8% had had 2-3 partners, and 13% had had four or more. For eighth graders, 50% of whom had ever had intercourse, these proportions were 14% and 24%, respectively; among students in grade 10, of whom 66% were sexually active, the comparable figures were 21% and 29%.

So as not to confound number of partners with engaging in sexual intercourse per se, we conducted chi-square analyses only on data for sexually active students. The results showed no significant effect for grade. Grade effects were also not significant within gender or racial groups.* Thus, once students become sexually active, they are likely to have similar numbers of sexual partners regardless of grade.

Males were more likely than females to report having had several sexual partners, and this difference was statistically significant. The results for males showed no clear pattern across response categories; 10-16% of the young men had had 1-5 partners, and 26% had had six or more. Among females, on the other hand, 12% had had one partner, and the proportion declined steadily as the number of partners rose; only 3% had had four or more sexual partners.

Race and ethnicity also had a significant main effect on number of partners. Blacks were the most likely to report having had many partners, Hispanics the next most likely and whites the least likely. Chi-

*Because the chi-square analyses involve a smaller sample, the power of these analyses is reduced.

†A matrix of grade by gender by race indicates that four subgroups reported rates of condom use lower than 60%: Hispanic females at grades 6, 8, and 10 (45-50%) and 10th-grade white females (33%). These results should be interpreted with caution, given that cell sizes are about 10 in each case.

square analyses conducted separately for males and females indicated that the effect persisted only for males.

School lunch status had a modest, statistically significant effect on number of partners. However, family income and race or ethnicity were correlated (blacks and Hispanics were more likely than whites to receive meal assistance); therefore, we also examined the effect of school lunch status on number of partners within each racial or ethnic group. School lunch status was not related to number of partners within any racial or ethnic group. (All other results remained significant with alphas adjusted through a Bonferroni correction.)

Condom Use at Last Intercourse

Overall, 71% of sexually active students reported having used a condom at last intercourse (Table 5). In nearly all of the subgroups analyzed, condom use at last intercourse exceeded 60%.†

The multivariate model estimated the simultaneous effects of grade, gender and race on condom use at last intercourse; the effect for family income was not statistically significant and was dropped from the analysis. The final model, the results of which are presented in Table 6, provided a significant improvement in fit over the null (constant-only) model and a modest fit to the observed data.

Sixth and eighth graders were more likely than students in grade 10 to have used a condom at last intercourse (odds ratios of 1.8 and 1.5, respectively), and male students were more likely than females to have done so (1.4). Both blacks and whites were about 1.6 times as likely to use condoms as were Hispanic students. There were no significant interactions among any of the variables.

Contraceptive Use and Pregnancy

Condoms were the most commonly used contraceptive method among respondents. Overall, 65% of the students reported having used this method specifically for pregnancy prevention at last intercourse, 5-6% said they had used the pill or withdrawal, and 1% had used some other method. In addition, 16% said they had used no method, and 7% were unsure.

A total of 4% of male students said they had

gotten someone pregnant at least once (3% once and 1% more than once); 5% were not sure. Similarly, 4% of females said they had been pregnant (3.6% once, 0.5% more than once); another 1% said they were not sure.

Discussion

Our findings have implications for research and the development of preventive interventions. The level of sexual activity in our study population was high, and a substantial number of adolescents, including those as young as 11 or 12, engaged in high-risk sexual behavior.

On the other hand, the level of condom use at last intercourse (71% among sexually active respondents) was relatively high. While some studies have found an increase in condom use among adolescents in recent years,²³ to our knowledge this is the highest rate ever reported in a survey of adolescents. On the basis of a 1988 study in which only 19% of sexually active, unmarried women aged 15-44 reported that their partners had used a condom at last intercourse, the Public Health Service, in its Healthy People 2000 initiative, set goals for condom use at last intercourse of 60% for young women and 75% for young men.²⁴

While the analysis suggests that sexual behavior is multiply determined, race and other demographic variables do not explain behavior per se and must be examined for association with underlying social factors.²⁵ The results presented here suggest a complicated web of influences among age, gender, race, socioeconomic status and high-risk sexual behavior. For instance, older students in this sample were more likely to have had sexual intercourse than younger students; males and black adolescents were significantly more likely than females and whites or

Table 5. Percentage of sexually active students who report having used a condom at last intercourse, by selected characteristics (N=925)

Characteristic	No.	%
Total	652	70.5
Gender		
Male	432	73.6
Female	220	65.2
Grade		
6	273	76.8
8	192	72.4
10	187	62.8
Race/ethnicity		
Black	513	72.2
White	43	70.5
Hispanic	96	62.7

Note: The total N excludes 1,146 students who were not sexually active and 177 who did not respond to the question.

Hispanics to be sexually experienced and were likely to have had a greater number of partners. These results are straightforward, and the effects are additive: Older, male, black adolescents had the highest rates of sexual intercourse and the greatest number of partners.

However, other findings modify these results. For example, gender and race interacted significantly in predicting sexual intercourse: Hispanic females reported rates lower than those among black females and similar to those for whites, while Hispanic males had rates between those of black and white males.

Furthermore, factors that predicted certain low-risk behaviors did not necessarily predict others. For example, while whites and Hispanics were less likely than blacks to be sexually active, they also were less likely to use condoms. The 34 sexually active Hispanic females in the sample were the least likely to be sexually experienced, and their level of condom use at last intercourse was markedly below that of other groups.

In contrast to the results for sexual intercourse and number of partners, males and blacks had slightly higher rates of condom use than females and either whites or Hispanics, respectively. Thus, the risk associated with each demographic factor differed across outcome variables. No group is risk-free, and an overall assessment of risk for any group should entail a profile of multiple high-risk behaviors.²⁶

Study Limitations

A number of limitations of the study should be addressed. First, social desirability may have influenced responses. Males may overreport sexual activity, whereas females may underreport it.²⁷ The high level of awareness about AIDS and early childbearing may influence some adolescents to overreport condom use. We took special care to maximize privacy and confidentiality, to convey this to students and to exclude data from participants whose responses might be unreliable or invalid. Nevertheless, while independent verification of sexual activity is virtually impossible, use of other research methods (e.g., focus groups or social desirability studies) would represent valuable steps forward in gauging the validity of self-reported data.

Second, attrition analyses indicate that the sample underrepresents higher risk students. This is especially true at 10th grade, where we did not account for school dropouts. The levels of risk indicated by our results, like others drawn from school-based

populations, may be attenuated by the omission of higher risk students.

Third, rates of sexual activity should be interpreted in light of the fact that approximately one-third of respondents were one or more years behind the grade level appropriate for their age.

Fourth, the school lunch variable used here is problematic, in that its dichotomous nature blurs finer gradations in socioeconomic status. In addition, it may not correspond exactly to actual family socioeconomic status, given that some families may choose not to enroll in such programs despite their low income, while others with generally higher socioeconomic status (e.g., graduate students) may enroll during temporary periods of artificially low income. Another measure of socioeconomic status could yield different results. Still, the presence of distinct effects for school lunch eligibility suggests that the role of socioeconomic status in high-risk sexual behavior warrants further inquiry.

Future Research Questions

Our results raise several questions to be addressed by future studies. For example, males were significantly more likely than females to be sexually active, and were likely to have had more partners. One important question is with whom these young men are engaging in intercourse. It does not appear to be their classmates or younger girls within their cohort, unless a very small proportion of female adolescents are accounting for the sexual experiences of a large proportion of the males. Inquiry into the nature of these sexual liaisons would help clarify the level of risk in terms of paths of transmission from partner to partner.

Another question revolves around issues of race, ethnicity and socioeconomic status. While both race and school lunch status accounted for significant degrees of variance in levels of sexual activity, our results do not support the hypothesis that socioeconomic status accounts for the racial differences. These results bear further exploration.

Other hypotheses regarding race and ethnicity also should be explored. For ex-

Table 6. Results of logistic regression analysis estimating the odds of condom use at last intercourse, by selected characteristics

Characteristic	Coeff.	S.E.	Wald	Odds ratio (and 95% C.I.)
Gender				
Male	0.36	0.15	5.49*	1.43 (1.06–1.94)
Female (reference)	1.00	na	na	na
Grade				
6	0.57	0.20	9.78**	1.76 (1.20–2.60)
8	0.41	0.17	5.85*	1.51 (1.08–2.10)
10 (reference)	1.00	na	na	na
Race/ethnicity				
Black	0.49	0.19	6.62*	1.63 (1.12–2.38)
White	0.48	0.33	2.08	1.62 (0.84–3.12)
Hispanic (reference)	1.00	na	na	na
<i>D=1,098.12</i>				
<i>χ² (Pearson)=926.23</i>				
<i>df=919</i>				
<i>Goodness of fit indices</i>				
<i>χ²=12.98, df=12, p=.37</i>				
<i>χ² (C.C. Brown)=.60, df=2, p=.74</i>				
*p<.05. **p<.01.				

ample, some authors have posited that early sexual activity is more "normative" for inner-city adolescents than for those in other settings because there are weaker prohibitions against this behavior in their environment.²⁸ Other cultural assumptions about intercourse and condom use should also be considered. Overall, our results suggest that future research should focus on the interaction between race, culture, poverty and gender across a variety of outcomes.

Additionally, several factors may explain the unusually high rates of condom use among students in this sample. These rates may reflect a cohort effect, in that younger students have grown up in an era with greater awareness of AIDS and greater exposure to its impact. Longitudinal study could help to separate cohort effects from developmental effects, and to identify any relationship between the impact of AIDS and changes in sexual practices. Similarly, since younger students may have had more recent education on safer sex practices, studies are needed to monitor the long-term impact of intervention programs.

Finally, this sample included some of the youngest students ever surveyed about sexual behavior in a large-scale study. While political controversy has sometimes constrained research and intervention on sexual activity among adolescents,²⁹ our findings indicate that at least with regard to urban and minority adolescents, data on sexual activity should be an integral part of any study of high-risk behavior. The results also argue strongly for more effective and sustained intervention, and indicate

that if such interventions are to be truly preventive, they will need to be targeted to younger individuals.

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