

# Characteristics of Adolescents' Sexual Partners and Their Association with Use Of Condoms and Other Contraceptive Methods

By Kathleen Ford, Woosung Sohn and James Lepkowski

**Context:** *While a number of studies have examined the association between individuals' characteristics and their contraceptive use, few studies have examined the influence of partners' characteristics on individuals' contraceptive use.*

**Methods:** *Using nationally representative data from the National Longitudinal Study of Adolescent Health, multiple logistic analyses were conducted to identify associations between the demographic characteristics of adolescents' heterosexual partners and adolescents' use of condoms or other contraceptive methods.*

**Results:** *The partners of white and black adolescents were likely to be similar to them, while the partners of Latino adolescents and of adolescents of "other" race or ethnicity were more likely to be of a different racial or ethnic group. Differences in age between adolescents and their partners were notable in all racial and ethnic groups. As adolescents age, the characteristics of their partners become more heterogeneous. The less similar adolescents and their partners are to one another—whether because of a difference in age, grade or school—the less likely adolescents are to use condoms and other contraceptive methods.*

**Conclusions:** *Many adolescents have relationships with partners whose characteristics differ from theirs and with whom they are less likely to use condoms or other contraceptive methods. This behavior is more common as adolescents grow older. To provide appropriate counseling, sexuality educators and family planning providers need to consider the ways in which adolescents' relationships change as they age and discuss with them the dynamics of relationships involving partners who differ in age or other characteristics.*

Family Planning Perspectives, 2001, 33(3):100–105 & 132

Contraceptive use among adolescents has been measured in several studies that have found recent increases in condom use and concurrent decreases in use of female methods.<sup>1</sup> Latino adolescents were found to be less likely to use condoms than were white and black adolescents. Younger adolescents also were less likely to use condoms or other contraceptive methods.

These studies have described the association between an adolescent's characteristics and condom use, but few have considered how the characteristics of adolescents' partners may be associated with adolescents' use of condoms and other contraceptives. In this article, we examine the demographic characteristics of heterosexual partners of American adolescents, and their association with use of condoms and other contraceptive methods.

Five factors have been identified in the social psychology literature as acting as the bases of interpersonal attraction: propinquity, similarity, complementarity, status and reciprocity.<sup>2</sup> Propinquity and similarity are believed to have the greatest impact on friendship formation. Individuals are more likely to establish ties with those with whom they have more opportunities to interact. Furthermore, given propinquity, individuals are more likely to form relationships with those who are similar to themselves in attitudes, values and behavior. Because of residential segregation of racial and ethnic groups and the existence of shared cultural values within those groups, individuals may be more likely to have relationships with members of their own race or ethnic groups. Thus, we hypothesize that adolescents are likely to select partners of the same race, ethnicity and age (similarity)

who live in the same neighborhood and are in the same grade at the same school (propinquity).

Differences between the characteristics of adolescents and those of their sexual partners, particularly in age, may be associated with sexual behavior and use of condoms and other contraceptives. While demographic factors are unlikely to be causal, differences in age or other characteristics of partners may be associated with differences in adolescents' power to make decisions in a relationship, which may affect the degree to which condoms or other contraceptive methods are used. For example, in a study of young women's degree of control over first intercourse, women whose first sexual partners were significantly older were more likely to report that the intercourse was involuntary and less likely to report that contraceptives were used.<sup>3</sup> Furthermore, persons from different racial and ethnic groups or different social networks may have different expectations about gender roles and communication in relationships, which may affect the likelihood that condom or other contraceptive use will be discussed. Thus, our second hypothesis is that differences in partner characteristics are associated with lower levels of condom and other contraceptive use.

In previous research on condom use and

Kathleen Ford is research scientist, Department of Epidemiology, School of Public Health; Woosung Sohn is assistant research scientist, School of Dentistry; and James Lepkowski is senior research scientist, Institute for Social Research and associate professor of biostatistics; all at the University of Michigan, Ann Arbor, MI. This research was funded by grant 36971 from the U.S. Department of Health and Human Services, National Institute of Child Health and Human Development (NICHD). The Add Health project, which was designed by J. Richard Udry and Peter Bearman of the Carolina Population Center, University of North Carolina at Chapel Hill, was funded by grant P01-HD31921 from the NICHD. An earlier version of this paper was presented at the annual meeting of the Population Association of America, March 23–25, 2000.

sexual partners, researchers have categorized sexual partners as either "regular partners" (romantic partners) or "casual partners" (nonromantic partners). Although the results are inconsistent, the research has demonstrated differences in condom use by partner type. While there is evidence that condoms are less likely to be used with regular partners,<sup>4</sup> other studies have recorded more condom use with regular partners.<sup>5</sup> These differences may be a result of differences in the way research samples were selected, how sexual partner was defined, how questionnaires were constructed and administered, and the age and developmental range of the adolescents. Because we used a sample that includes a large proportion of young adolescents, who may be less experienced and less prepared for sexual relationships than older persons, we also hypothesize that adolescents will be less likely to report condom and other contraceptive use with casual, or nonromantic, partners.

## Data and Methods

We draw our data from the National Longitudinal Study of Adolescent Health (Add Health), which assessed the health status of adolescents and explored the causes of their health-related behaviors, focusing on the effects of the multiple contexts or environments (both social and physical) in which adolescents live.<sup>6</sup> The Add Health investigators used an in-school questionnaire and an in-home interview with a nationally representative sample of adolescents in grades seven through 12.\* In 1994 and 1995, 90,118 adolescents completed the in-school questionnaire. In addition, 18,924 adolescents from 132 schools were interviewed in their homes, 13,570 of whom were interviewed again two years later. We used data from both in-home interviews for our analyses.

During the in-home interviews, researchers asked adolescents about their relationships, whether the relationships were romantic or nonromantic and whether they had ever had sexual intercourse. In the first interview, they were asked about relationships that began after January 1994; in the second interview, they were asked about relationships that occurred during the last 18 months. In the first in-home interviews, 7,508 adolescents reported ever having had sexual intercourse. In the second wave of in-home interviews, 5,989 adolescents reported having experienced sexual intercourse. By merging the two sets of data, we identified 9,303 distinct adolescents who reported ever having had

sexual intercourse. Our analysis focuses on these adolescents.

Because our units of analysis are sexual relationships, rather than individual adolescents, we used data that were converted from the respondent level to the relationship level. The 9,303 adolescents who reported that they were sexually active reported having had 26,657 partners. It is possible that there was overlap of the relationships reported in the first and second in-home interviews. For example, a relationship reported by an adolescent in the second interview could have existed at the time of the first interview. Duplication of relationships also could exist because survey respondents sometimes remember dates of events as having occurred more recently than they actually did. Thus, we compared adolescents' responses in both interviews and identified 724 relationships that were possible duplicates and eliminated them from the data.

We also compared adolescents' responses to a question about sexual intercourse with their responses to a later question regarding romantic and nonromantic partners and found that although some adolescents responded that they had never had sexual intercourse, when they were asked about a specific partner they reported sexual activity with that partner. Through this process, we identified 363 additional sexual relationships and added them to the data. The final data set for our analysis included 17,266 heterosexual relationships, which were reported by 8,024 adolescents.<sup>†</sup>

## Statistical Analysis

We developed crosstabulations to examine adolescent and partner agreement on variables such as age and ethnicity. Chi-square statistics were used to test the significance of differences between distributions. In examining the associations between partner characteristics and risk behaviors, we used generalized estimating equation (GEE) models to account for the correlation among multiple relationships reported by the same person. The GEE model is a repeated measures analysis of correlated outcomes and predictors.<sup>7</sup> It can be applied to multiple logistic types of analyses in which the dichotomous or polytomous outcomes are predicted. We used this procedure because adolescents in the Add Health sample reported on experiences with several partners and it is possible that adolescents could appear in the analysis more than once. The SUDAAN statistical package was used to generate GEE models using sampling

clusters to group observations.<sup>8</sup> We report results for which the p value of a test statistic was smaller than .05.

Add Health data include weights designed to compensate for unequal probabilities of selection and nonresponse. Each relationship was assigned a weight corresponding to the first or second in-home interview. Weights are used in all analyses to provide national estimates of adolescents' relationship characteristics.

## Measures

•*Type of partner.* During the in-home interview, adolescents were asked about "romantic" and "nonromantic" partners. Interviewers identified romantic partners by asking adolescents "Have you had a romantic relationship with anyone?" Interviewers also identified a partner as romantic if adolescents said that they had held hands, kissed on the mouth and told their partner that they loved him or her. Initially, adolescents could identify up to three romantic partners. Interviewers then asked adolescents detailed questions about the characteristics of each partner, the timing of the relationship and activities within the relationship. If the adolescent reported sexual intercourse with the romantic partner, we included the relationship in our analysis.

Interviewers also asked adolescents about persons with whom they had had sexual intercourse, but whom they did not

\*A description of the sampling procedures for the Add Health study and other details about how the study was conducted are available at the Add Health Website, at <http://www.cpc.unc.edu/addhealth>, accessed Mar. 30, 2001. To obtain Add Health data files, contact the Carolina Population Center, 123 West Franklin St., Chapel Hill, NC 27516-3997. In addition to support from the U.S. Department of Health and Human Services (DHHS), National Institute of Child Health and Human Development, the Carolina Population Center receives cooperative funding for the Add Health project from several additional DHHS offices and agencies, including DHHS's Office of Population Affairs, Office of the Assistant Secretary for Planning and Evaluation, and Office of Minority Health, Office of Public Health and Science. Within DHHS's National Institutes of Health (NIH), funding is provided by the National Cancer Institute, the National Institute on Alcohol Use and Alcoholism, the National Institute on Deafness and Other Communication Disorders, the National Institute on Drug Abuse, the National Institute of General Medical Sciences, the National Institute of Mental Health, the National Institute of Nursing Research and, within the Office of the Director of NIH, the Office of AIDS Research, the Office of Behavior and Social Science Research and the Office of Research on Women's Health. Within the DHHS's Centers for Disease Control and Prevention, funding is provided by the National Center for Health Statistics and the Office of Minority Health. Funding also is provided by the National Science Foundation.

†Adolescents reported only 20 homosexual relationships. These relationships were removed from the data file because they were too few to include in our analyses.

**Table 1. Percentage distribution of sexually active adolescents, by selected characteristics, United States, 1994–1995**

	N	%	SE
<b>Age</b>			
≤14	683	10.8	1.64
15–16	2,761	35.7	0.88
≥17	4,579	54.5	2.05
<b>Race/ethnicity</b>			
White	3,895	62.0	3.29
Black	1,921	19.3	2.76
Latino	1,421	11.7	1.78
Other	782	7.1	0.74
<b>Sex</b>			
Male	3,973	50.5	0.80
Female	4,051	49.5	0.80
Total	8,024	100.0	na

Notes: All Ns shown are unweighted; all percentages shown are weighted. SE=standard error, which is adjusted for clustering. na=not applicable.

consider romantic partners. They were asked to identify up to three nonromantic partners. If they had held hands, kissed any of these partners on the mouth and told any of these partners that they loved him or her, the partners were considered romantic partners, provided that the adolescent had reported fewer than three ro-

mantic partners. If they had not held hands, kissed on the mouth and told any of these partners that they loved him or her, the partners were considered nonromantic. Interviewers also asked detailed questions about the characteristics of these partners, the timing of the relationships and the activities within the relationships.

•*Duration of relationship.* The duration of the relationship was measured by the number of months from first intercourse to last intercourse.

•*Age.* Data on age were coded in single years for both adolescents and their partners. Age differences between partners were coded as more than two years older, within two years of age and more than two years younger.

•*Race and ethnicity.* Data on adolescents' and their partners' race and ethnicity were coded as white, black, Latino and "other." These data were collected from the adolescents' interview responses.

•*Grade.* For both adolescents and their partners, grade in school was coded as relative to one another—in a lower grade, in the same grade or in a higher grade—or as not in school, if that was the case.

•*School.* Adolescents were asked if they

and their partners attended the same school.

•*Neighborhood.* Adolescents were asked if they and their partners lived in the same neighborhood.

•*Condom use.* Two condom use variables were considered for analysis: Whether condoms were ever used with the partner, and whether condoms were used every time. These variables were coded from responses to several questions, including "Did you ever use birth control?" "What method?" "Did you ever use a condom?" and "Did you use one every time?" Because results from the two analyses were similar, only the results from ever-use of condoms are presented here.

•*Contraceptive use.* Two variables were considered for contraceptive use: Whether a contraceptive method was ever used and whether a condom was used in combination with another contraceptive method. The questions from which these variables were coded were the same as those for condom use. Since the results were similar for both variables, we present here only the results from ever-use of a method.

•*Dual method use.* Dual method use included the use of a condom at the same

**Table 2. Percentage distribution of adolescents' relationships, by characteristics of relationship between adolescents and their heterosexual partner, according to age, sex and race and ethnicity**

Agreement	Total (N=17,266)	Age				$\chi^2$	Sex			Race and ethnicity				$\chi^2$
		≤14 (N=1,178)	15–16 (N=5,496)	≥17 (N=10,590)			Male (N=8,785)	Female (N=8,481)		White (N=8,265)	Black (N=4,315)	Latino (N=2,978)	Other (N=1,700)	
<b>Race/ethnicity</b>														
Same	78.3	73.8	77.0	79.6	7.23*	77.9	78.7	0.35	86.6	84.6	57.5	23.4	95.80**	
Different	21.7	26.2	23.0	20.4		22.1	21.4		13.4	15.4	42.5	76.6		
<b>Age difference</b>														
≥2 years younger	12.6	2.7	7.2	16.8	104.70**	21.7	3.8	155.60**	12.1	12.3	16.4	11.3	6.96	
Within 2 years	55.3	56.5	55.3	55.2		63.9	47.1		55.3	55.7	54.7	55.4		
≥2 years older	32.1	40.9	37.6	28.1		14.5	49.1		32.6	32.1	28.9	33.3		
<b>Grade difference</b>														
≥2 grades lower	7.1	3.2	4.4	9.1	140.20**	11.9	2.5	134.30**	6.7	8.4	8.1	5.3	36.34**	
Within 2 grades	52.6	61.0	54.4	50.4		63.1	42.5		51.8	53.4	51.2	58.7		
≥2 grades higher	22.1	29.1	28.8	17.5		10.8	32.9		22.8	24.3	16.2	19.3		
Not in school	18.3	6.8	12.3	23.1		14.2	22.1		18.7	13.9	24.5	16.7		
<b>Neighborhood</b>														
Same	30.0	34.4	32.0	28.3	11.48**	29.5	30.6	0.76	29.0	30.3	33.3	32.3	3.29	
Different	70.0	65.6	68.0	71.7		70.5	69.4		71.0	69.7	66.7	67.7		
<b>School</b>														
Same	39.9	42.4	41.2	38.9	2.69	43.9	35.7	28.60**	41.2	39.0	35.3	38.5	6.79	
Different	60.1	57.6	58.9	61.2		56.1	64.3		58.8	61.0	64.7	61.5		
<b>Partner type</b>														
Romantic	80.6	80.6	81.0	80.5	0.29	78.0	83.4	26.66**	81.1	78.4	82.4	80.9	7.06	
Nonromantic	19.4	19.4	19.0	19.5		22.0	16.6		19.0	21.6	17.6	19.1		
<b>Duration of relationship</b>														
<1 month	41.8	53.4	44.7	38.6	50.53**	45.8	37.6	55.73**	40.0	46.9	42.0	42.1	21.51**	
1–6 months	25.3	24.5	25.4	25.4		25.4	25.3		26.6	21.4	24.7	26.1	(0.00)	
>6 months	32.9	22.1	29.9	36.0		28.8	37.1		33.4	31.7	33.3	31.8		
Total	100.0	100.0	100.0	100.0	na	100.0	100.0	na	100.0	100.0	100.0	100.0	na	

\*p<.05. \*\*p<.01. Note: na=not applicable.

time as use of another contraceptive method. Adolescents were asked specifically if they had used more than one method at the same time.

## Results

### Respondent Characteristics

Of the 8,024 adolescents who reported sexual relationships and who were included in our analysis, 11% were aged 14 or younger, 36% were aged 15–16 and 54% were 17 and older. More than half of the sample was white (62%), 19% were black, 12% were Latino and 7% were of “other” race or ethnicity (Table 1).

### Partner Characteristics

Seventy-eight percent of adolescents’ reported relationships were with someone of the same race or ethnicity and 22% were with someone of a different race or ethnicity (Table 2). Age differences between partners were common: Fifty-five percent of relationships involved a partner within two years of age, but 32% involved partners who were two or more years older and 13% partners who were two or more years younger.

The majority of relationships (53%) were between young people who were within two grade levels of one another. Having partners in higher grades and partners not in school was more common than having partners in lower grades. Adolescents reported that 70% of their partners lived in a different neighborhood from their own and 40% attended the same school.

In addition, adolescents reported that 81% of their relationships were romantic. The duration of their relationships varied from shorter than one month (42%) to 1–6 months (25%) and longer than six months (33%).

Adolescents’ age was associated with several partner characteristic variables. Adolescents aged 17 or older were somewhat more likely to have a partner of the same ethnicity (80%) than were adolescents aged 14 and younger (74%). Adolescents’ age also was related to age differences between them and their partners. The youngest adolescents (aged 14 or younger) were more likely to have partners two or more years older (41%) and less likely to have partners two or more years younger (3%) than were adolescents aged 17 or older (28% and 17%, respectively). In addition, compared with adolescents of other age-groups, adolescents in the oldest age-group (17 and older) reported a substantially larger proportion of partners who were two or more years be-

hind them in school (9%), than did adolescents aged 14 and younger (3%) and adolescents aged 15–16 (4%).

The proportion of romantic partners reported did not vary significantly across age-groups. However, older adolescents reported relationships of longer duration: Among adolescents who were age 17 years or older, 36% had relationships of longer than six months, compared with 22% of those aged 14 or younger and 30% of those aged 15–16.

Male and female adolescents reported similar proportions of partners who were of the same or different ethnicity. However, females were more likely than males to report that their partners were two or more years older than they were (49% vs. 15%), while males were more likely than females to report having partners who were two or more years younger than they were (22% vs. 4%). Similarly, females were more likely to report that their partners were two or more grades ahead of them in school or not in school than were males, while males were more likely to report having partners who were in two or more grades below their own.

Adolescents’ sex was not related to whether their partners lived in the same neighborhood as theirs, but was related to whether their partners attended the same school. Female adolescents were more likely to report having partners who did not attend their own school (64% vs. 56%). In addition, females were more likely to report that their partners were romantic, rather than nonromantic, and to report relationships of longer duration.

Adolescents’ race and ethnicity was related to several partner characteristics. White and black adolescents reported small proportions of partners of different races and ethnicities (13% of white adolescents and 15% of black adolescents), while Latino adolescents and adolescents of “other” race and ethnicity reported higher proportions of partners who were of a different race or ethnicity from their own (43% and 77%, respectively).

Partner’s age did not differ among ethnic groups, but the partner’s grade in school did. Compared with adolescents

**Table 3. Percentage of adolescent relationships in which condoms were ever used, condoms were ever used with other methods and any contraceptive method was ever used, by sex and race and ethnicity of respondent**

Characteristic	Any condom use		Condom use plus other contraceptive		Any contraceptive use	
	%	SE	%	SE	%	SE
<b>Total</b>	<b>59.4</b>	<b>0.9</b>	<b>25.3</b>	<b>0.9</b>	<b>63.9</b>	<b>0.9</b>
<b>Sex</b>						
Male	60.0	1.3	23.2	1.1	63.3	1.2
Female	58.8	1.1	27.5	1.1	64.6	1.1
<b>Race/ethnicity</b>						
White	61.6	1.3	27.0	1.2	66.6	1.3
Black	56.6	1.4	24.9	1.8	59.9	1.2
Latino	54.5	3.0	20.6	1.8	58.1	2.7
<b>Race/ethnicity by sex</b>						
White male	63.2	1.8	24.6	1.4	66.8	1.8
White female	60.1	1.4	29.1	1.5	66.5	1.5
Black male	55.9	2.2	24.1	2.2	58.5	2.1
Black female	57.5	2.5	25.9	2.3	61.6	2.5
Latino male	55.1	3.0	18.6	2.4	57.8	2.8
Latino female	53.6	4.1	23.3	2.2	58.5	3.5

Note: SE=standard error.

of other races and ethnicities, Latinos reported more partners who were not in school (25% vs. 14–19%). Adolescents of different racial and ethnic groups were equally likely to choose a partner from the same neighborhood. Furthermore, there were only small variations by race and ethnicity in choosing a partner from a different school, with Latino adolescents reporting the highest proportion (65%). Small, nonsignificant differences were noted among racial and ethnic groups in reports of romantic and nonromantic partners, with Latino adolescents reporting more romantic partners. However, there were significant racial and ethnic differences in the duration of adolescents’ relationships. Black adolescents reported the largest percentage of relationships lasting less than one month.

### Condom Use

Condoms were used in more than half of the relationships (59%) (Table 3). Dual method use—condom use along with another method—occurred in one-quarter of the relationships. Use of any method at all, including condoms, occurred in 64% of relationships. As has been found in other national studies,<sup>9</sup> compared with other racial or ethnic groups, Latinos were less likely to use condoms. Latino male adolescents were least likely to report use of a condom and another contraceptive (19%) compared with male and female adolescents of other racial and ethnic groups (23–29%).

In the multivariate GEE model for condom use, we tested two-way interactions.

**Table 4. Odds ratios from generalized estimating equations models of the effects of partner's characteristics and respondent's characteristics on condom ever-use, by partner type**

Variables	All partners		Romantic partners		Nonromantic partners	
	Odds ratio	p	Odds ratio	p	Odds ratio	p
<b>Partner race/ethnicity</b>						
Same	1.00		1.00		1.00	
Different	1.16	.03	1.08	.28	1.34	.08
<b>Partner age</b>						
≥2 years younger	0.97	.76	1.21	.06	0.59	.00
Within 2 years	1.00		1.00		1.00	
≥2 years older	0.79	.01	0.87	.10	0.74	.02
<b>Partner grade</b>						
≥2 grades lower	na	na	0.79	.07	na	na
Within 2 grades	na	na	1.00		na	na
≥2 grades higher	na	na	0.95	.59	na	na
Not in school	na	na	0.73	.00	na	na
<b>Partner neighborhood</b>						
Same	1.00		1.00		1.00	
Different	1.15	.01	1.13	.07	1.09	.48
<b>Partner school</b>						
Same	1.00		1.00		1.00	
Different	0.79	.00	0.75	.00	1.15	.27
<b>Relationship duration</b>						
<1 month	0.64	.00	0.68	.00	0.67	.02
1–6 months	0.66	.00	0.63	.00	0.84	.47
>6 months	1.00		1.00		1.00	
<b>Relationship type</b>						
Romantic	1.88	.00	na	na	na	na
Nonromantic	1.00		na	na	na	na
<b>Respondent race/ethnicity</b>						
White	1.00		1.00		1.00	
Black	1.00	.98	0.91	.30	1.82	.00
Latino	0.71	.02	0.72	.01	0.80	.27
Other	0.88	.43	0.73	.01	0.97	.91
<b>Respondent sex</b>						
Male	1.00		1.00		1.00	
Female	0.82	.00	0.90	.20	0.66	.00
<b>Respondent age</b>						
≤14 years	0.88	.25	0.76	.05	1.16	.50
15–16 years	1.00	.99	1.01	.93	0.84	.17
≥17 years	1.00		1.00		1.00	
<b>Interaction of partner age and respondent race/ethnicity</b>						
≥2 years younger						
White	1.00		na	na	na	na
Black	1.52	.04	na	na	na	na
Latino	0.85	.36	na	na	na	na
Other	0.64	.11	na	na	na	na
Within 2 years of age						
White	1.00		na	na	na	na
Black	1.00		na	na	na	na
Latino	1.00		na	na	na	na
Other	1.00		na	na	na	na
≥2 years older						
White	1.00		na	na	na	na
Black	1.16	.18	na	na	na	na
Latino	1.11	.52	na	na	na	na
Other	0.83	.47	na	na	na	na
Chi square (df)	589.2 (20)		274.4 (16)		126.3 (13)	
p-value	.00		.00		.00	
R <sup>2</sup>	.04		.02		.05	
N	14,437		11,305		3,348	

Note: na=not applicable.

Because many independent variables had interactions with partner type, we present models for each type. One interaction,

and adolescents in romantic relationships were more likely to report condom use (odds ratio, 1.88).

partner age by adolescent ethnicity, is included in the main model.

Several partner characteristics were significantly associated with use of a condom in the relationship (Table 4). Adolescents whose partners were of a different race or ethnicity from their own were more likely to report having ever used a condom (odds ratio, 1.16). In contrast, adolescents whose partners were more than two years older were less likely to report condom use (odds ratio, 0.79). When we considered the interaction of partner age and adolescent race and ethnicity, we found that, compared with white and Latino adolescents and adolescents of "other" race and ethnicity who were two or more years older than their partner, black adolescents who were two or more years older had elevated odds of having ever used a condom (odds ratio, 1.52). Adolescents were more likely to report condom use with partners who were from a different neighborhood than their own (odds ratio, 1.15). In contrast, they were less likely to report condom use with partners who attended a different school than they did (odds ratio, 0.79).

The two relationship variables had a significant association with condom use. Adolescents' likelihood of using condoms increased with the duration of the relationship (odds ratios, 0.64 for one month or less, 0.66 for 1–6 months and 1.0 for longer than six months),

In addition, two respondent characteristics were associated with condom use. Latino adolescents were less likely to have ever used condoms (odds ratio, 0.71) than were adolescents of other racial or ethnic groups, while females were less likely than males to have done so (odds ratio, 0.82). Adolescents' age was not significantly associated with condom use.

Results for romantic partners were somewhat different from those for nonromantic partners. The models for romantic partners include the variable partner's grade. (Adolescents were not asked about what grade their nonromantic partners were in.) When adolescents' romantic partners were not in school or attended a different school, adolescents were less likely to report condom use (odds ratios, 0.73 and 0.75, respectively). Adolescents were more likely to report condom use in romantic relationships that were longer than six months in duration. White and black adolescents in romantic relationships were more likely to use condoms than adolescents of other racial and ethnic groups. The youngest adolescents (those 14 years of age or younger) also were less likely to use condoms with their romantic partners.

In relationships involving nonromantic partners, adolescents were less likely to report condom use with both younger partners (odds ratio, 0.59) and older partners (odds ratio, 0.74) than with partners who were within two years of adolescents' age. Adolescents reported condom use less often in nonromantic relationships of less than one month's duration. Females were less likely to report condom use with nonromantic partners than were males (odds ratio, 0.66). Adolescents were marginally more likely to report condom use with nonromantic partners whose race or ethnicity was different from their own (odds ratio, 1.34, p=.08).

**Contraceptive Use**

Among all adolescents, any contraceptive was less likely to be used in relationships involving partners who were more than two years older (odds ratio, 0.71) (Table 5). If the relationship involved a partner who did not attend the same school or if the relationship was of short duration, adolescents were less likely to report that contraceptives were used (odds ratios, 0.76 and 0.61, respectively). Likewise, Latino adolescents, female adolescents and the youngest adolescents were less likely to report contraceptive use. By contrast, contraceptives were more likely to be used in romantic relationships (odds ratio, 1.97).

Adolescents were less likely to report contraceptive use in romantic relationships involving partners who were not in school and partners who did not attend the same school (odds ratios, 0.75 and 0.74, respectively). Contraceptives were less likely to be used in romantic relationships of short duration and in romantic relationships reported by adolescents who were black or Latino. The youngest adolescents also were less likely to report contraceptive use in romantic relationships.

Adolescents in nonromantic relationships involving partners of a different racial or ethnic group were more likely to use a contraceptive method (odds ratio, 1.43). However, adolescents in nonromantic relationships with partners who were two or more years younger were less likely to use contraceptives (odds ratio, 0.62). Adolescents also were less likely to report contraceptive use in nonromantic relationships of short duration (odds ratio, 0.63). Black adolescents were more likely to use contraceptives with nonromantic partners than were white adolescents (odds ratio, 1.56). Females were less likely than males to report contraceptive use in nonromantic relationships (odds ratio, 0.70).

## Conclusion

Existing theory predicted that similarity and propinquity should influence the demographic characteristics of adolescents' partners. In our analysis of a national sample of American youth, we found that while there is some similarity between adolescents and their partners, it is also quite common for adolescents to have partners whose characteristics are different from their own. Similarity can be found in the ethnicity of the partners of white and black adolescents. However, Latinos and adolescents of "other" race or ethnicity more frequently have partners from a racial or ethnic group different from their own. These results are consistent with research on American adults and urban youth.<sup>10</sup> In contrast, having partners of different ages and grade levels was observed among adolescents from all racial and ethnic groups and particularly among females. Compared with younger adolescents, older adolescents reported having partners of a wider range of ages. Propinquity was also an important factor in partner selection. The majority of adolescents reported having partners from the same school.

Romantic partners were more likely to have similar characteristics and a shared school or neighborhood than nonromantic partners. This may be because roman-

tic relationships take longer to develop, and closer proximity may create opportunities for this development.

There were several differences between younger and older adolescents. Older adolescents were more likely to find partners outside of their own school or neighborhood than were younger adolescents. Because sexual partners often are drawn from social networks,<sup>11</sup> as adolescents become older, increased mobility may increase the heterogeneity of the persons in these networks. Thus older adolescents' broader networks may increase their risk of exposure to sexually transmitted infections.<sup>12</sup>

Partner's age was related to the use of condoms and other contraceptives. In another national study, adolescents were less likely to use contraceptives at first intercourse when their partner was significantly older or was in a different grade.<sup>13</sup> We also made this observation for relationships where there was an age difference of two or more years. Differences in age may reflect differences in power or communication, which may affect the ability of one of the partners to protect herself or himself.

A lower level of familiarity with the partner was associated with reduced condom and contraceptive use. Romantic partners were much more likely to use condoms or other contraceptive methods than were nonromantic partners, possibly because when partners form romantic relationships, they may have more time to plan for protection during sexual activity.

Furthermore, adolescents were less likely to report use of condoms or other con-

**Table 5. Odds ratios from generalized estimating equations models of the effects of partner's characteristics, respondent's characteristics and relationship characteristics on ever-use of any contraceptive methods, by partner type**

Variables	All partners		Romantic partners		Nonromantic partners	
	Odds ratio	p	Odds ratio	p	Odds ratio	p
<b>Partner race/ethnicity</b>						
Same	1.00		1.00		1.00	
Different	1.13	.09	1.02	.76	1.43	.03
<b>Partner age</b>						
≥2 years younger	0.94	.45	1.21	.08	0.62	.01
Within 2 years	1.00		1.00		1.00	
≥2 years older	0.71	.00	0.94	.48	0.84	.16
<b>Partner grade</b>						
≥2 grades less	na	na	0.76	.07	na	na
Within 2 grades	na	na	1		na	na
≥2 grades more	na	na	0.97	.75	na	na
Not in school	na	na	0.75	.00	na	na
<b>Partner neighborhood</b>						
Same	1.00		1.00		1.00	
Different	1.09	.17	1.07	.34	1.05	.37
<b>Partner school</b>						
Same	1.00		1.00		1.00	
Different	0.76	.00	0.74	.00	1.05	.66
<b>Relationship duration</b>						
<1 month	0.61	.00	0.66	.00	0.63	.02
1–6 months	0.63	.00	0.60	.00	0.79	.32
≥6 months	1.00		1.00		1.00	
<b>Relationship type</b>						
Romantic	1.97	.00	na	na	na	na
Nonromantic	1.00		na	na	na	na
<b>Respondent race/ethnicity</b>						
White	1.00		1.00		1.00	
Black	0.97	.70	0.79	.01	1.56	.01
Latino	0.65	.00	0.67	.00	0.67	.05
Other	0.85	.25	0.77	.07	1.13	.59
<b>Respondent sex</b>						
Male	1.00		1.00		1.00	
Female	0.81	.01	0.98	.83	0.70	.01
<b>Respondent age</b>						
≤14 years	0.76	.03	0.63	.01	1.16	.55
15–16 years	0.89	.07	0.88	.00	0.82	.12
≥17 years	1.00		1.00		1.00	
<b>Interaction of partner age and respondent sex</b>						
≥2 years younger						
Male	1.00		na	na	na	na
Female	1.03	.90	na	na	na	na
Within 2 years of age						
Male	1.00		na	na	na	na
Female	1.00		na	na	na	na
≥2 years older						
Male	1.00		na	na	na	na
Female	1.38	.02	na	na	na	na
<i>Chi square (df)</i>	593.2 (16)		273.1 (16)		100.3 (13)	
<i>p-value</i>	.00		.00		.00	
<i>R<sup>2</sup></i>	.04		.02		.04	
<i>N</i>	14,437		11,305		3,348	

Note: na=not applicable.

traceptives in relationships involving partners who attended a different school from their own or who were in a different grade. Differences in familiarity may be associated with problems in communication or differences in planning for sexual activity that

(continued on page 132)

## Characteristics of Adolescents' ...

(continued from page 105)

may lead to reduced levels of protection.

In both romantic and nonromantic relationships, males were more likely to report use of condoms in the relationship. This may be because males overreported condom use or because females are less involved in condom use.

While the majority of adolescent heterosexual relationships are with romantic partners with similar characteristics, many adolescents have relationships with partners whose characteristics differ. This becomes more common as adolescents age. When adolescents' partners' characteristics differ from their own, it can result in reduced use of condoms and other contraceptive methods. Adolescents should be made aware of the vulnerability of the younger partner in relationships involving partners of different ages, and of the need for both partners to be aware of the responsibility for protection from

pregnancy and sexually transmitted diseases. Counseling for adolescents should include a discussion of relationships where partners differ in age, grade in school or other characteristics that may affect communication and power dynamics in the relationship.

### References

1. Abma JC et al., Fertility, family planning and women's health: new data from the 1995 National Survey of Family Growth, *Vital and Health Statistics*, 1997, Vol. 23, No. 19; and Sonenstein FL et al., Changes in sexual behavior and condom use among teenaged males: 1988 to 1995, *American Journal of Public Health*, 1998, 88(6):956-959.
2. Hallinan M and Williams RA, Interracial friendship choices in secondary school, *American Sociological Review*, 1989, 54(1):67-78.
3. Abma J, Driscoll A and Moore K, Young women's degree of control over first intercourse: an exploratory analysis, *Family Planning Perspectives*, 1998, 30(1):12-18.
4. Macaluso M et al., Partner type and condom use, *AIDS*, 2000, 14(5):537-546; and Plichta SB et al., Partner specific condom use among adolescent clients of a family planning clinic, *Journal of Adolescent Health*, 1992, 13(6):506-11.
5. Ford K, Rubinstein S and Norris A, Sexual behavior

and condom use among urban, low-income, African American and Hispanic youth, *AIDS Education and Prevention*, 1994, 6(3):219-229.

6. Bearman PS, Jones J and Udry JR, The National Longitudinal Study of Adolescent Health: research design, 1997, <http://www.cpc.unc.edu/addhealth>, accessed Mar. 30, 2001.
7. Diggle P, Liang K-Y and Zeger SL, *Analysis of Longitudinal Data*, Oxford, UK: Clarendon Press, 1994.
8. Shah BV, Barnwell BG and Bieler GS, *SUDAAN Software for Statistical Analysis of Correlated Data, User's Manual*, Research Triangle Park, NC: Research Triangle Institute, 1997.
9. Abma JC et al., 1997, op. cit. (see reference 1); and Sonenstein FL et al., 1998, op. cit. (see reference 1).
10. Laumann EO et al., *The Social Organization of Sexuality*, Chicago: University of Chicago Press, 1994; and Ford K and Norris AE, Sexual networks of African American and Hispanic youth, *Sexually Transmitted Diseases*, 1997, 24(6):327-333.
11. Laumann EO et al., 1994, op. cit. (see reference 10).
12. Morris M, Zavisca J and Dean L, Social and sexual networks: their role in the spread of HIV among young men, *AIDS Education and Prevention*, 1995, 7(Suppl.):S24-S35.
13. Abma J, Driscoll A and Moore K, 1998, op. cit. (see reference 3).